thermokon®

Keep in touch with the future

PRODUCTS

valid from 1st April 2015

PLEASE VISIT OUR WEBSITE:
WWW.THERMOKON.COM

THERMOKON AT A GLANCE

Thermokon Headquarters in Mittenaar-Offenbach

Managing Directors: Harald Zygan and Jörg Teichmann
Employees: approx. 150

1987	Company founded in Mittenaar
1994	New building in Aarstraße 6 in Mittenaar-Bicken
1997	Extension of company building
2000	Extension of company building to 2000 sqm office and production space
2007	Extension of the building by 600 sqm
2011	Another extension of the building by 600 sqm
2014	New company building in Mittenaar-Offenbach, 5.600m² space for office, production and warehouse space

Susidiaries:

1998	Thermokon Components GmbH, Austria
2002	Thermokon-Danelko Elektronik AB, Sweden
2011	Thermokon Automation Equipment Co. Ltd., China
2013	Thermokon Americas LP, USA
2013	Thermokon Sensortechnik Schweiz AG, Switzerland
2014	Thermokon Norge AS, Norway

ENERGY EFFICIENCY made in Germany

Export Initiative Energy Efficiency
Thanks to energy-efficient products and services in the field of energy efficiency, Thermokon also contributes internationally to a safe and cost-effective energy supply, which is of paramount importance to the climate protection.

Thermokon: We help to build the future – by sensors made in Germany!

KEEP IN TOUCH WITH THE FUTURE

The drive of any business is essential for its performance and innovative strength. Our drive represents supporting future generations and the opportunity to shape the future. Our innovative power and the daily pursuit of improvement leads to four simple ways of thinking that we believe to be trendsetting and the future:

URBANIZATION

More people are moving from the countryside into cities. Today approx. 280 million people live in megacities – defined as cities with more than 10 million inhabitants. This movement arises from better job opportunities, housing options and living standards in metropolises. These urban conurbations are a huge push factor for the economy due to helping improve the housing situation and also ensuring most efficient solutions for energy saving and utilities.

DEMOGRAPHIC CHANGE

A healthy and conscious lifestyle along with improved health and a massive increase in life expectancy. In 1950 life expectancy was approx 46.6 years old, experts now predict life expectancy of 72 years by 2025. This does not only increase the population from 6 billion to about 8 billion by 2025, but also changes the requirements for age-appropriate living and adapted technologies in different areas of building automation.

GLOBALIZATION

The desire to see the unattainable, to discover foreign cultures and to promote worldwide business, led to an increase of global trading volume by more than 28 times over the past 50 years. The number of German „global players“ - Internationally operating companies - rose from 17,000 in 1980 to over 70,000.

Language barriers must be overcome and customer satisfaction must be secured in different ways. Globalization is an incredible and exciting topic for all companies worldwide.

CLIMATE CHANGE

Even though the subject of climate change isn't as present in media as it was a couple of years ago, it represents the most important factor in our actions and innovation initiative. Annual natural disasters clearly demonstrate the need for more efficient and sustainable technologies.

Earth's atmosphere now has the highest CO_2 concentration for 350000 years, due to industrialization and unlimited progress. Industrialized countries currently benefit, allowing a shift to more efficient technologies and waste management strategies, which is urgently required and also now affordable.

To us, these ideas lead to exciting approaches for innovative and efficient products that can be produced and distributed sustainably worldwide.

Managing Director and Founder
Harald Zygan

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INTEROPERABLE SYSTEM INTEGRATION

World's leading companies in building services united to EnOcean Alliance in spring 2008. Self powered, battery less, wireless EnOcean technology for flexible room layouts and maintenance-free sensing solutions. EnOcean Alliance represents the development of interoperable standards as well as the future security of an innovative wireless sensor technology. Thermokon is one of the founding members of the EnOcean Alliance and also employs Vice Chairman Frank Neudecker, who works closely together with the Chairman Graham Martin and the EnOcean Alliance.

BACnet Interest Group Europe (BIG-EU) is the European industry association for application of the global BACnet standard ISO 16484-5 (since January 2003). BACnet is a manufacturer-independent communication protocol specifically designed for building automation.
BACnet was and is developed by the American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE). Development began in June 1987 to provide a single uniform company-neutral standard for data communication.

KNX technology is a worldwide standard for all applications in the field of home and building control, including the control of lighting, water, blinds, heating, ventilation, as well as air conditioning, monitoring, alarming, and security systems, energy management and household appliances, audio / video and more.
KNX is the worldwide standard for home and building control with a single manufacturer- and product-independent commissioning tool (ETS), with a complete set of transmission media (TP, PL, RF and IP) as well as a complete set of configuration modes (system and easy mode). KNX is a European Standard (CENELEC EN 50090 and CEN EN 13321-1) and accepted as an international standard (ISO / IEC 14543-3).

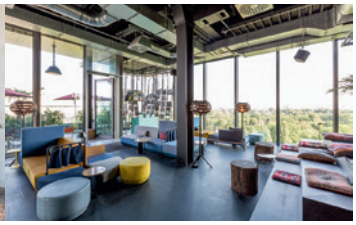
LonMark represents LON technology, a globally spread and standardized communication and automation protocol with a variety of comprehensive applications in any type of building or property.
The idea of LON development is interoperability. Thousands of companies around the world develop and deliver interoperable LON devices. LonMark system integrators use these products to leverage building automation solutions, such as control of primary systems, the management level or sub-segments such as room automation.

Since the development of Modbus protocol in 1979, it is now a standard for industrial communication. It is available free of charge. Modbus/TCP significantly enhanced Ethernet communication in the building automation industry. The combination of a versatile and wide spread network (Ethernet) along with a universal network standard (TCP/IP) and a manufacturer-independent representation of data (Modbus) make up an open system for the exchange of process data. Furthermore, it is easy to implement all devices supported by TCP / IP which currently provides fast, flexible and effective communication in industrial networks.

REFERENCE PROJECTS

Bikini House
Berlin, Germany

Monkey Bar
Berlin, Germany

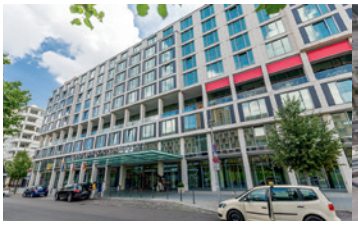


Monkey Bar
Berlin, Germany

Waldorf Astoria
Berlin, Germany

European Central Bank, New Building
Frankfurt, Germany

European Patent Office
Munich, Germany



Scandic
Berlin, Germany

Airport Franz Josef Strauß
Munich, Germany

Museum Folkwang
Essen, Germany

Alte Oper
Frankfurt, Germany

Semperoper
Dresden, Germany

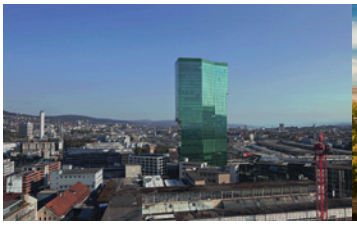
Liebfrauenkirche (World Cultural Heritage)
Trier, Germany

REFERENCE PROJECTS

4 Towers Business Area
Madrid, Spain

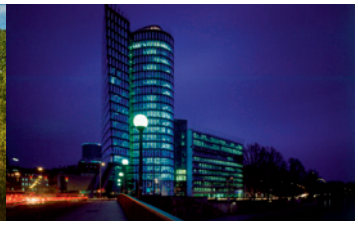
The White House
Washington D.C., USA

Airport Roissy Charles de Gaulle
Paris, France



Prime Tower
Zurich, Switzerland

The National Gallery of Art
Washington D.C., USA



Uniqa Tower
Vienna, Austria

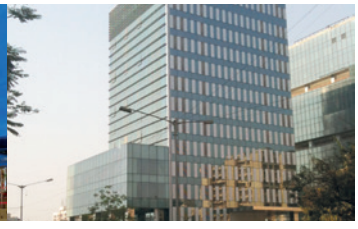
Hotel Savoyen
Vienna, Austria

Ascot Racecourse
Ascot, England

University of Canterbury
Christchurch, New Zealand

Jebel Ali Hotel,
Dubai, UAE

Changi City Point Shopping Mall
Singapore



First Rand Bank,
Mumbai, India

NEWS 2015

NEW

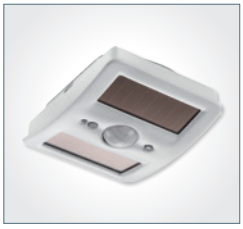
New products / news – EasySens

airScan
Software for measurement and visualization of field strength
(pages 18-19, 91)

airConfig
Remote commissioning software for EnOcean products
(pages 20-21)

LC-SR04 / LC-SR04 rH
Low cost wireless temperature and humidity sensors
(pages 38-45)

SR06 LCD
Premium wireless room sensor
(page 30)



SR-MDS solar
Wireless ceiling multi sensor (light & motion)
(page 49)

STC-BACnet IP
Bidirectional gateway with BACnet IP-interface
(page 74)

STC-MSG Server UP
Control of up to 5 EnOcean valve actuators
(page 87)

SRE-Repeater UP
Signal amplification of radio telegrams between transmitters and receivers
(page 90)

SR65-Familie
Temperature sensors for various applications, outdoor light and humidity sensors are now available
(pages 39-42, 46, 52)

New products – AIR QUALITY

LK-SX
Duct air quality sensor with up to 4x 0..10 V outputs for detection of CO2, VOC, humidity and temperature
(page 250, 254-256)

New products – HUMIDITY

FTK-SX
Duct humidity sensor for detection of humidity and temperature, outputs: 0..10 V or 4..20 mA
(page 212)

New products – PRESSURE

DPA
Transducer for differential pressure, outputs: 0..10 V / 4..20 mA adjustable or RS485 Modbus
(page 224)

New products – ROOM OPERATING UNITS (THERMOSTATS)

Joy
Premium heating/ fan coil room thermostat
(page 119)

LCF Touch
Fan coil room thermostat
(page 120)

LCF
Fan coil room thermostat
(page 121)

LCT
Electrical room thermostat
(page 122)

YOUR + AT THERMOKON

WHAT CHARACTERIZES THERMOKON

+ Quality- & design oriented products

+ Qualified contact persons in sales and support

+ Most temperature sensors with SI-Protection against external humidity

+ Products made in Germany, German Engineering

+ Tailor-made room solutions supporting all common BUS systems

+ Technically experienced representatives in every field = close contact with you

+ 5 year warranty

+ Product variety to equip complete buildings from one hand

+ Quick delivery time for standard sensors and BigPoint items

+ 28 years of market experience

+ Customized types & special solutions for your desired switch design

+ Fast cost estimation due to uniform price and discount groups

+ more than 250.000 wireless sensors in the field

+ International distribution network and global support in more than 20 countries

EasySens Transmitter

Innovative self-powered wireless technology generates energy by means of harvesting ambient light or motion. Interoperable, cost-effective and energy-efficient solutions in building automation are available using our wireless sensor system EasySens.

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EasySens –
EASYSENS – WIRELESS SENSOR SYSTEM

Innovative wireless solar technology enables the control of temperature and ventilation in buildings using ambient light as power source. Time-consuming, expensive installation costs such as wiring and cabling are unnecessary.
Low material costs and time saving installations enable competitively priced system solutions. EasySens offers significantly more flexibility in regards to the sensor location, allowing for a variable room layout in modern buildings.
Even in historically protected buildings where no architectural changes are allowed, sensors for air-conditioning technology can be easily integrated.

The EasySens system uses a standard data profile conforming to EnOcean (IEC Standard 14543-3-10). Therefore, it is guaranteed that the wireless sensors and receivers by Thermokon can be combined with devices of other manufacturers without any problems.
There are different devices for monitoring of temperature, relative humidity, light, set point adjustment and status detection.
Among others, receivers are available with LON-, EIB/KNX-, RS485-, or BACnet interface and are designed as a gateway to be integrated with superior control systems. Connection to other bus systems is feasible without any problems.

» ADVANTAGES AT A GLANCE

- » No batteries, thus almost maintenance-free
- » Simple installation, no wiring
- » Flexibility of installation layout
- » Significant reduction in energy consumption
- » Flush mounting possible whereever needed (no cables)
- » Cost-effective system solutions
- » Environmental and protection of ressources
- » Frequencies available: 868 MHz; 902 MHz (North America); 928 MHz (Japan); 315 MHz on request
- » Minimal transmitting power (10 mW) with safe radio transmission
- » Transmitting range up to 30 m in buildings and up to 300 m in free field
- » Interoperable
- » International standard (IEC 14543-3-10)

enocean® alliance
No Wires. No Batteries. No Limits.

ASHRAE BACnet KNX® LONMARK® Modbus

EasySens –
SMART ACKNOWLEDGE

The self-powered room operating unit SR06 LCD has the ability to illustrate data on the display such as presence or window statuses. There is also an option for external reset of given set points.

For bidirectional communication of energy-autonomous devices EnOcean offers Smart-Acknowledge technology. As usual the control unit periodically transmits data and measured values to a gateway (1) and goes back to sleep. After a short break of a few milliseconds, set by learning in the SR06 LCD wakes up again and transmits a second, so called reclaim-telegram (2). This shows the gateway that the device is ready for reception. The SR06 LCD is now ready to receive telegrams for a few milliseconds, so the gateway has to answer immediately without delay (3). If the gateway does not respond instantly, the SR06 LCD goes back to sleep, to save energy. The use of repeaters is not possible in this application, due to delays in signal run time in both directions.

Compatibility

Pending the availability of Smart-Acknowledge-enabled gateways, the first generation of SR06 LCD is delivered as a unidirectional version. From now on energy independent room operating units support Smart-Acknowledge and are capable of communicating bidirectional as well as illustrating commands and messages on the display.

Before using a bidirectional SR06 LCD, check if the device supports Smart-Acknowledge technology.

airScan

EFFICIENT ORGANIZATION & TIME SAVING

The intuitive software application for computers based on Windows software is designed for uncomplicated organization and implementation of EasySens projects. Communication is done by a wireless radio USB flash drive, which can be mounted on site in the receiver position using a USB extension cable. Free software updates will keep the user up to date with the latest technological developments.

The self-explaining interface shows all relevant information and data. The signal strength of the transmitters are illustrated with traffic light colored values (RSSI) which give an indication of the correct placement of transmitter and receiver. All received telegrams are listed and directly assigned to the product and the details of the telegrams are displayed in text. The bidirectional USB flash drive AirScan also includes an integrated repeater function for which it can be used as a receiver, for processing and transmission of EnOcean telegrams.

» BENEFITS AT A GLANCE

- Support for optimum mounting of EnOcean products
- Monitoring function for simple evaluation of radio telegrams in text format
- Generation and transmission of EnOcean telegrams
- Compatible with all manufacturers
- Supports the EEP2.6.1 standard
- Data logging function
- Email report and FTP upload function
- Export of data for further processing/ analysis in CSV, XML or XLS file formats
- Free software updates
- USB flash drive compatible to airConfig

» USER-ORIENTED DESIGN

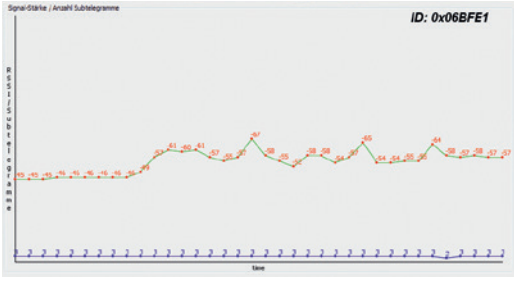
» AirScan shows signals in various display options

» Colour symbols or graphs provide information for the signal strength, respectively RSSI values of a received EnOcean telegram

airScan illustrates signals in different display variants

» PROFESSIONAL EVALUATION

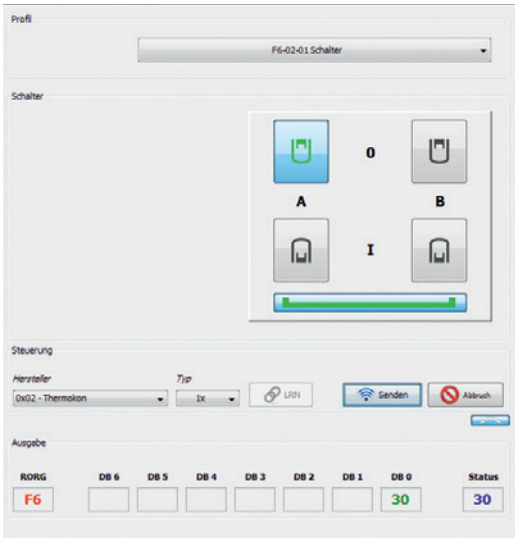
airScan records all incoming telegrams. Telegrams can be evaluated (classification of data bytes, RSSI values, sub-telegrams, and more...). In addition to the manual export function, collected data can be forwarded automatically to a FTP server or an email account.



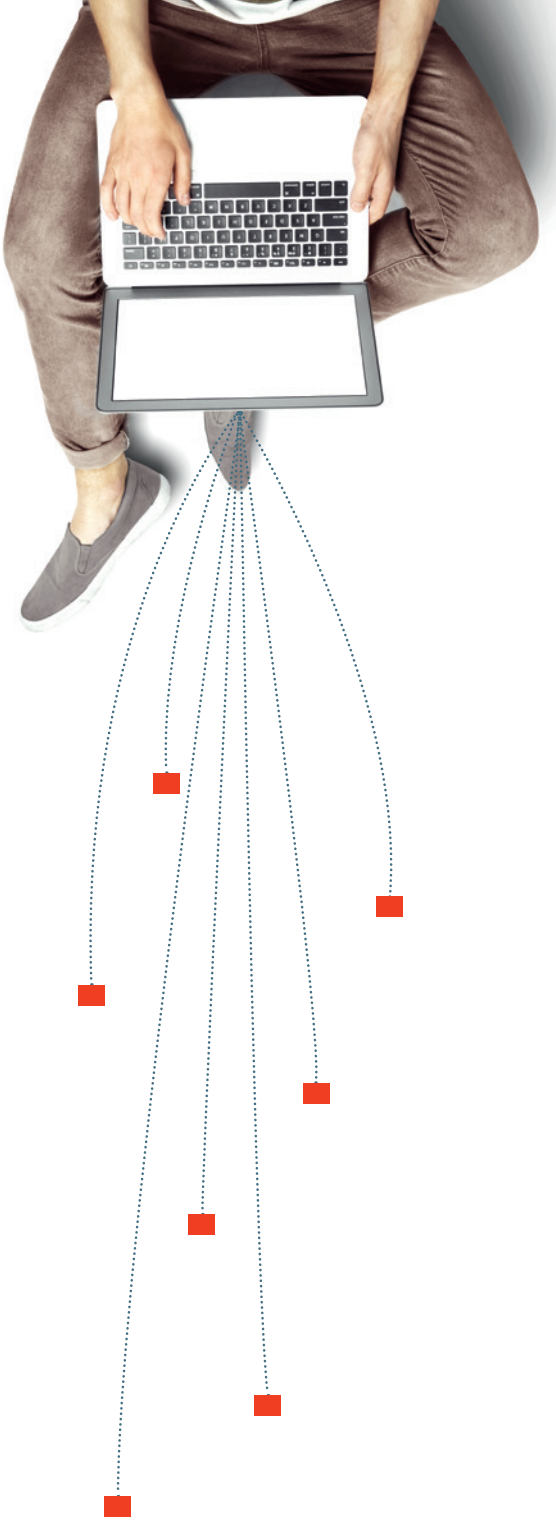
airScan saves all received telegrams in the back

» GENERATION OF TELEGRAMS

airScan allows to simply generate and transmit telegrams quickly. With a configurator, the user can take all EnOcean profiles from a predefined EEP selection and define the selected telegram content through input boxes. AirScan immediately generates the corresponding telegram and shows the values when required. The telegram can be easily transferred into BMS software.



using the configurator the user is able to define telegram data for transmission



airConfig

COMMISSIONING MADE EASY

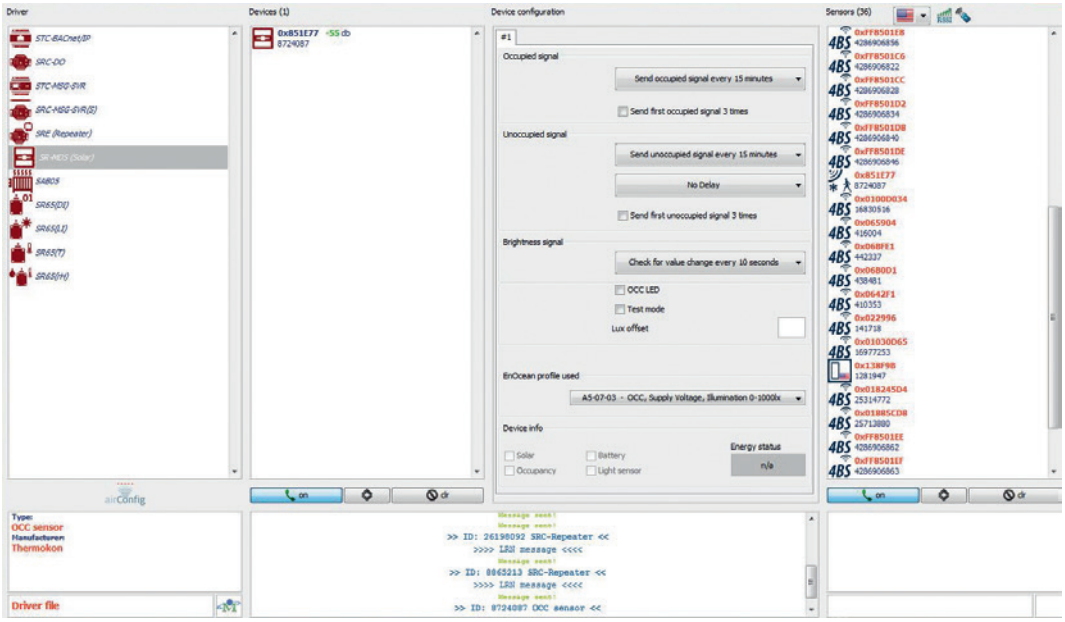
In addition to the field strength-measuring tool airScan, Thermokon now offers the new free software tool airConfig which allows remote commissioning of EasySens EnOcean products. Remote commission means parameterization respectively learning of sensors into a receiver without interacting directly with the device.

airConfig uses EnOcean radio technology to parameterize devices through special remote commissioning commands. Only the AirScan USB transceiver and the free airConfig software (which can be downloaded from the download centre on www.thermokon.de) are required.

The software is available for all Windows-based computers and also runs on the Microsoft Surface Tablet.

» BENEFITS AT A GLANCE

- Reduced storage: one receiver, multiple functions (e.g. control of heating, ventilation, lighting and more)
- Flexibility
- Variable parameters – simple on screen
- PC configuration



Using EnOcean radio devices are configured via specal remote software

» START-UP AND CONFIGURATION

- » Secure communication with unlimited devices
- » Selected device blocked for other learning processes
- » Selectable functions
  e.g.measuring range strength, EEPs
- » Individual designation of devices/ information text
- » Choice of EnOcean timing
- » Configuration of time & date
- » Programming of sensors via drag & drop
- » Remote maintenance & programming without additional tools
- » Project file: Saving/Export of all settings with all shortcuts
- » Restoration/Import of devices from other project files
- » Password protection
- » Identification by visual and/or acoustic feedback
- » Configuration for transmitting identical/duplicate settings to multiple devices simultaneously

Programming and configuration of sensors using airConfig is done easily by drag & drop, no tools are required. Configuration parameters such as wakeup cycles, measuring ranges or output functions can be adapted directly in the settings of the device and transmitted by radio signals via airConfig.

» FLEXIBILITY

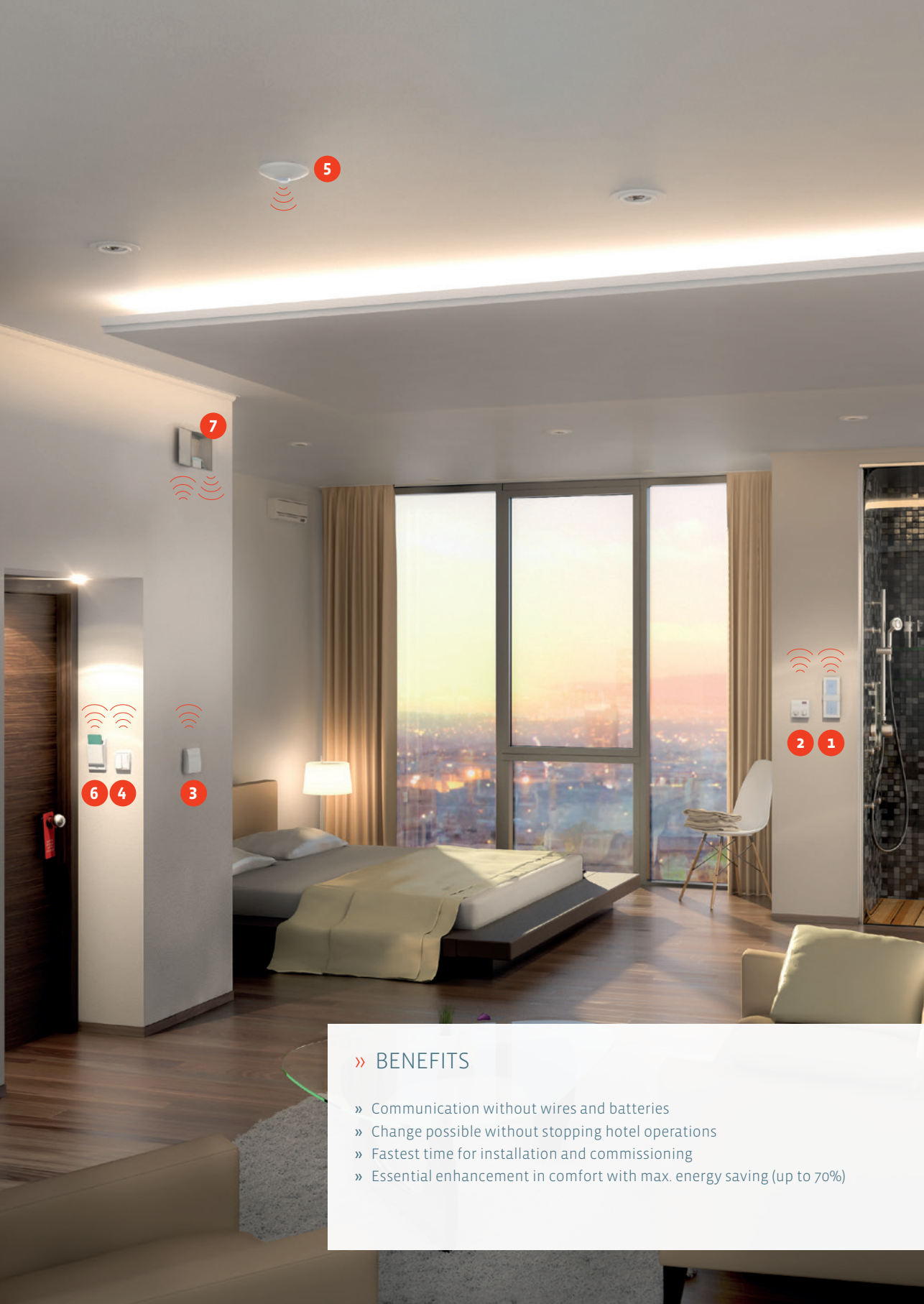
- » later changes of product functionality is no problem
- » Products can be configurated before mouting at the customer
- » Changes of specification can be fulfilled in the field

» SAFTEY

- » Protect your projects and products using password
- » EnOcean Rolling-Code encryption to protect communication
- » Prevents unauthorized persons to access network

» SUPPORT

- » Decentralized access to products and project information via remote access
- » Identification via visual or acoustic feedback
- » Structured display of installed products showing unique device ID



» BENEFITS

- » Communication without wires and batteries
- » Change possible without stopping hotel operations
- » Fastest time for installation and commissioning
- » Essential enhancement in comfort with max. energy saving (up to 70%)

1

Thanos L

High-end touch screen room operating unit, types available for wireless or BUS systems or wireless+BUS system

2

SR04

Surface-mounted wireless room sensor for temperature & rel. humidity
Available with various control elements and features

3

SR04 CO2

Room sensor CO2/temperature/ rel. humidity
Available with display and traffic light function

4

Mini

Wireless switch 2-/4-channel lighting/blinds
Available in various colours

5

SR-MDS

Ceiling multi sensor for light and motion detection for room/space applications

6

SR-KCS

Wireless switch for key card activation to regulate lighting and air-conditioning e.g. in hotel rooms

7

BACnet
KNX
LonMark
Modbus

STC65-BUS

Gateway for evaluation of EasySens transmitters/switches and connection to the defined BUS system

PLACE TO FEEL COMFORTABLE – YOUR HOTEL

All EasySens devices wirelessly communicate via EnOcean radio. Temperature, set point, air quality, occupancy and switching signals are received and transmitted to superior communication protocols such as KNX, BACnet, LON or Modbus. This system ensures the possibility to reset all used automation elements to standard values

» BENEFITS

- » Communication without wires and batteries
- » Change possible without stopping hotel operations
- » Fastest time for installation and commissioning
- » Essential enhancement in comfort with max. energy saving (up to 70%)

1

SR06 LCD 2T/4T

Self powered room operation unit, for setpoint and fan stage adjustment, switch 55x55 mm of several manufacturers possible

2

Mini

Wireless switch 2-/4-channel lighting/blinds
Available in various colours

3

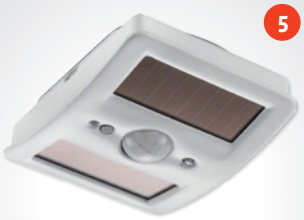
SRG01

Wireless window handle for status monitoring, available in several colours

4

SRW01

Wireless window contact for status monitoring of windows and doors



5

SR-MDS Solar

Ceiling multi sensor detecting light and motion in space/office applications

BACnet
KNX
LonMark
Modbus

PLACE TO FEEL COMFORTABLE – YOUR HOTEL

All EasySens devices wirelessly communicate via EnOcean radio. Temperature, set point, air quality, occupancy and switching signals are received and transmitted to superior communication protocols such as KNX, BACnet, LON or Modbus. This system ensures the possibility to reset all used automation elements to standard values

thanos S white

thanos L black

thanos LQ white

thanos SR

The touch screen room operating unit thanos is designed for detection of temperature and humidity as well as integrated operation of HVAC, lighting and blinds for room control. High-graded optics ideal for design-oriented applications. Programmable operating functions can be flexibly adapted to suit various room applications.

TECHNICAL DATA	
Model	thanos L: 195x80x17 mm thanos LQ: 80x195x17 mm thanos S: 125x80x17 mm
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Protocol	LON, RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) 80..240 V ~ on request (not available for BUS versions)
Power consumption	typ. 2,0 W (24 V =) | 4,0 VA (24 V ~)
Measured values	Temperature rel. humidity (rH) optional
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,5 K
Accuracy humidity	±3% at range 20..80% rH (typ. at 21 °C)
Control functions	Light ON/OFF/DIM Calling scenes Blinds UP/DOWN/SET Fan stages Switching order Setpoint
Clip material	Anodized aluminium
Clip functions	Configurable (occupancy, light on/off,...)
Occupancy buttons	Individually configurable using PC software
Digital inputs	Can be set to window contact, dew point guard, key card switch, room frequency, alarm, event
Display	3,5" TFT, 320x640 pixel, capacitive touch technology
Display showing	Showing room temperature, setpoint, operation mode, fan stage, occupancy, error, date and time,... ECO note (several steps, red to green) Graphic and foto: Instead of date and time individual colour graphics (175x50 or 320x240 pixel) can be shown (e.g. company logo or hotel name)
Buttons labelling	L/LQ: Flexible insert (for up to 8 touch buttons below/beside clip)
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	white, black
Enclosure material	PC, Glass
Installation type	Flush mounted with standard EU box
Notes	For details see software description (www.thermokon.com)

for thanos without radio please refer to „Room Operating Units“

Highlights

Versions
The device can communicate independently with a receiver, as a stand-alone solution, or it can be integrated into a BUS system along with a gateway.

New functions / button configuration
Scene buttons / scene channels (0..9), operating mode (heating, cooling, dehumidifying, off), along with the previous universal on/off, there is now a new universal +/-.

Graphics / images
Customer specific graphics can be illustrated in the upper display area (e.g. company logo or hotel name).

ECO display
Several stages from red to green.

thanos

thanos SR 15..24 V – measuring temperature		
Type	Item No.	€
thanos SR L black	471596	613,80
thanos SR L white	471589	613,80
thanos SR LQ black	471619	613,80
thanos SR LQ white	471602	613,80
thanos SR S black	471633	569,20
thanos SR S white	471626	569,20

thanos SR 80..240 V (MVolt) – measuring temperature		
Type	Item No.	€
thanos SR L black MVolt	493024	613,80
thanos SR L white MVolt	493017	613,80
thanos SR LQ black MVolt	493048	613,80
thanos SR LQ white MVolt	493031	613,80
thanos SR S black MVolt	493062	569,20
thanos SR S white MVolt	493055	569,20

thanos SR LON – measuring temperature		
Type	Item No.	€
thanos SR L black LON	471879	670,70
thanos SR L white LON	471862	670,70
thanos SR LQ black LON	471893	670,70
thanos SR LQ white LON	471886	670,70
thanos SR S black LON	471923	626,10
thanos SR S white LON	471916	626,10

thanos SR RS485 Modbus – measuring temperature		
Type	Item No.	€
thanos SR L black RS485 Modbus	472425	632,30
thanos SR L white RS485 Modbus	472418	632,30
thanos SR LQ black RS485 Modbus	472449	632,30
thanos SR LQ white RS485 Modbus	472432	632,30
thanos SR S black RS485 Modbus	472463	587,70
thanos SR S white RS485 Modbus	472456	587,70

thanos SR

thanos SR 15..24 V – measuring temperature and humidity		
Type	Item No.	€
thanos SR rH L black	471664	678,40
thanos SR rH L white	471640	678,40
thanos SR rH LQ black	471688	678,40
thanos SR rH LQ white	471671	678,40
thanos SR rH S black	471718	633,80
thanos SR rH S white	471695	633,80

thanos SR 80..240 V (MVolt) – measuring temperature and humidity		
Type	Item No.	€
thanos SR rH L black MVolt	523103	678,40
thanos SR rH L white MVolt	523110	678,40
thanos SR rH LQ black MVolt	523127	678,40
thanos SR rH LQ white MVolt	523134	678,40
thanos SR rH S black MVolt	523141	633,80
thanos SR rH S white MVolt	523158	633,80

thanos SR LON – measuring temperature and humidity		
Type	Item No.	€
thanos SR rH L black LON	471985	735,40
thanos SR rH L white LON	471978	735,40
thanos SR rH LQ black LON	472012	735,40
thanos SR rH LQ white LON	472005	735,40
thanos SR rH S black LON	472043	690,70
thanos SR rH S white LON	472036	690,70

thanos SR RS485 Modbus – measuring temperature and humidity		
Type	Item No.	€
thanos SR rH L black RS485 Modbus	472487	696,90
thanos SR rH L white RS485 Modbus	472470	696,90
thanos SR rH LQ black RS485 Modbus	472500	696,90
thanos SR rH LQ white RS485 Modbus	472494	696,90
thanos SR rH S black RS485 Modbus	472524	652,30
thanos SR rH S white RS485 Modbus	472517	652,30

ACCESSORIES			
Type	Item No.	On stock	€
Software/Plug-In for konfiguration (free)			0,00
SD-Card (One SD-Card inlcusive)	500098	●	11,30

thanos SR

thanos L black

thanos L white

thanos L white

thanos S black

SR06 LCD 2 T, Berker B.1

SR06 LCD 4 T, Gira Esprit Glas

SR06 LCD 4 T, Gira E2 Aluminium

SR06 LCD

Self powered Room temperature and humidity sensor with LCD display and optional, set point and fan stage adjustment for room/space applications. Compatible with various design frames 55x55 mm.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measured values	Temperature rel. humidity (rH) optional
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,4 K
Accuracy humidity	±5% at 30..70% rH
Frame design Berker	S1 B3 B7 Glas
Frame design Gira	E2 Standard55 Esprit Event
Frame design Jung	LS990 LS-design A500 AS500 Aplus A creation
Frame design Merten	M-Smart M-Arc M-Plan
Control functions	Fan stages Setpoint
No. of buttons	2 (type 2T) 4 (type 4T)
Interval	Every 100 sec. at change >0.8 K. Every 1000 sec. at change <1.6 K Configurable
LCD	29x12 mm, monochrome (optional)
Ambient temperature	-25..+65 °C
Protection	IP20
Enclosure colour	pure white brilliant aluminium anthracite
Enclosure material	PC
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	The devices are supplied with an integrated battery backup For configuration an optional adapter cable is necessary Energy storage can be reloaded with a separate USB-Cable Customer-specific labelling possible on request

SR06 LCD

Prices/delivery incl. frame design Gira E2, other designs on request

SR06 LCD – measuring temperature		
Type	Item No.	€
SR06 LCD 2T pure white brilliant	572002	190,20
SR06 LCD 2T aluminium	593236	190,20
SR06 LCD 2T anthracite	593243	190,20
SR06 LCD 4T pure white brilliant	572019	204,60
SR06 LCD 4T aluminium	593250	204,60
SR06 LCD 4T anthracite	593267	204,60

SR06 LCD rH– measuring temperature and humidity		
Type	Item No.	€
SR06 LCD rH 2T pure white brilliant	572026	272,50
SR06 LCD rH 2T aluminium	593274	272,50
SR06 LCD rH 2T anthracite	593281	272,50
SR06 LCD rH 4T pure white brilliant	572033	286,90
SR06 LCD rH 4T aluminium	593298	286,90
SR06 LCD rH 4T anthracite	593304	286,90

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR1632	597814	●	4,00
Programming interface for configuration and charging	597838	●	34,80

SR07 P, Gira E2

SR07 x

Room temperature sensor with set point adjustment and humidity sensor (optional) for room/space applications. Also available with slide switch („day/night"). Compatible with various design frames (55x55 mm) of different manufacturers.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measured values	Temperature rel. humidity (rH) optional
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,4 K
Accuracy humidity	±5% at 30..70% rH
Frame designs	Berker S1, B3, B7 Glas Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Siemens Delta-Profil, Delta-Style, Delta-Miro, Delta-Vita, Delta-Line For other frame designs please request
Setpoint (P)	Rotation angle 0...270°, resolution 1,1°
Slide switch (MS)	Max. 2 switch stages (e.g. Day, Night)
Button (T)	for occupancy status
Interval	Every 100 sec. at change >0.8 K. Rotation angle setpoint >3°. Switch stage rotation or slide switch Every 1000 sec. at change of <0,8 K or rotation angle <3°
Ambient temperature	-25..+65 °C
Protection	IP20
Enclosure colour	pure white aluminium anthracite
Enclosure material	PC
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	The devices are supplied with an integrated battery backup

SR07 x

Prices/delivery incl. frame design Gira E2, other frame designs on request

SR07 – measuring temperature		
Type	Item No.	€
SR07 pure white	593847	139,60
SR07 P pure white	572040	156,10
SR07 PT pure white	572057	164,40
SR07 PT MS pure white	572064	172,70
SR07 aluminium	on request	139,60
SR07 P aluminium	593311	156,10
SR07 PT aluminium	593335	164,40
SR07 PT MS aluminium	593359	172,70
SR07 anthracite	on request	139,60
SR07 P anthracite	593328	156,10
SR07 PT anthracite	593342	164,40
SR07 PT MS anthracite	593366	172,70

For types without operating elements please refer to „EasySens transmitter – Temperature“

SR07 – measuring temperature and humidity		
Type	Item No.	€
SR07 rH pure white	593182	221,90
SR07 P rH pure white	597722	238,40
SR07 PT rH pure white	597739	246,70
SR07 PT MS rH pure white	597746	255,00
SR07 rH aluminium	593205	221,90
SR07 P rH aluminium	597753	238,40
SR07 PT rH aluminium	597760	246,70
SR07 PT MS rH aluminium	597777	255,00
SR07 rH anthracite	593199	221,90
SR07 P rH anthracite	597784	238,40
SR07 PT rH anthracite	597791	246,70
SR07 PT MS rH anthracite	597807	255,00

For types without operating elements please refer to „EasySens transmitter – Temperature“

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR1632	597814	●	4,00

NEW

SR04 PST

SR04 P MS

SR04 x

Room temperature sensor with optional, set point and fan stage adjustment as well as manual over ride for room/space applications.

TECHNISCHE DATEN	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measured values	Temperature
Measuring range temperature	0..+40 °C
Accuracy temperature	±0,6 K
Setpoint (P)	Rotation angle 0...270°, resolution 1,1°
Slide switch (MS)	Max. 2 switch stages (e.g. Day, Night)
Rotary switch (S)	for fan, max. 5 fan stages, standard legend 'Auto,0,1,2,3'
Button (T)	for occupancy status
Interval	Every 100 sec. Rotation angle setpoint >3°. Switch stage rotation or slide switch Every 1000 sec. at change of <0,8 K or rotation angle <3° With change of fan stage within 10 seconds
Ambient temperature	-25..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	Integrated battery backup for usage in dark rooms Customized labelling available

SR04 – measuring temperature			
Type	Item No.	On stock	€
SR04 P	226172	●	139,60
SR04 T	229968		136,00
SR04 PT	227353	●	147,90
SR04 PS	250900		165,60
SR04 P MS	312219		147,90
SR04 PST	226851		177,40

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW

SR04 P MS

SR04 PT

SR04 x rH

Room temperature and humidity sensor with optional, set point and fan stage adjustment as well as manual override for room/space applications.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measured values	Temperature rel. humidity (rH)
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,6 K
Accuracy humidity	±5% at 30..70% rH
Setpoint (P)	Rotation angle 0...270°, resolution 1,1°
Slide switch (MS)	Max. 2 switch stages (e.g. Day, Night)
Rotary switch (S)	for fan, max. 5 fan stages, standard legend 'Auto,0,1,2,3'
Button (T)	for occupancy status
Interval	Every 100 sec. at change >0.8 K. Rotation angle setpoint >3°. Switch stage rotation or slide switch Every 1000 sec. at change <1.6 K Every 100 sec. at change >0,8 K or >1,6% rH With change of fan stage within 10 seconds
Ambient temperature	+5..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	Integrated battery backup for usage in dark rooms Customized labelling available

SR04 rH – measuring temperature and humidity				
Type	Item No.	On stock	Price cut	€
SR04 P rH	252331	●	▼	236,60
SR04 PT rH	261593		▼	251,90
SR04 P MS rH	361644		▼	251,90

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

SR07, Gira E2 Aluminium

SR07

Room temperature sensor with set point adjustment for room/space applications. Also available with slide switch ("day/night"). Compatible with various design frames (55x55 mm) of different manufacturers.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell, Battery: Coin cell CR1632
Measuring range temperature	0..+40 °C
Accuracy temperature	±0,4 K
Frame designs	Berker S1, B3, B7 Glas Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Siemens Delta-Profil, Delta-Style, Delta-Miro, Delta-Vita, Delta-Line For other frame designs please request
Interval	Every 100 sec. at change >0.8 K. Every 1000 sec. when change <0,8 K
Ambient temperature	-25..+65 °C
Protection	IP20
Enclosure colour	pure white aluminium anthracite
Enclosure material	PC
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	The devices are supplied with an integrated battery backup

SR07 – measuring temperature		
Typ	Item No.	€
SR07 pure white	593847	139,60
SR07 aluminium	on request	139,60
SR07 anthracite	on request	139,60

Types with operation units please refer to „EasySens Transmitter – Room Operating Units“
Prices/delivery incl. frame design Gira E2, other frame designs on request

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR1632	597814	●	4,00

NEW

SR04

SR04

Room sensor for temperature detection in room/space applications

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	0..+40 °C
Accuracy temperature	±0,6 K
Interval	Every 100 sec. at change >0.8 K. Every 1000 sec. when change <0,8 K
Ambient temperature	-25..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	Integrated battery backup for usage in dark rooms

SR04 – measuring temperature			
Type	Item No.	On stock	€
SR04	228848		118,30

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098		8,15

NEW

LC-SR04

LC-SR04

Room sensor for temperature detection in illuminated room/space applications. No operating elements are possible, transmitting intervals are not adjustable and no battery expansion is available.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	0..+40 °C
Accuracy temperature	±0,5 K at range +17..+27 °C
Interval	Every 100 sec. at change >0.8 K. Every 1000 sec. when change <0,8 K
Ambient temperature	-25..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	No operating elements possible. Telegram intervals not adjustable. No battery backup available

LC-SR04 – measuring temperature		
Type	Item No.	€
LC-SR04	566698	81,80

NEW

SR65

SR65

airConfig

For temperature detection in outdoor areas, cold stores, green houses, production plants and warehouses. Self powered Enocean wireless technology. To be parametrized via airConfig.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	-20..+60 °C Configured via airConfig
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Interval	Every 100 sec. at change >1.6 K Every 1000 sec. at change <1.6 K Configured via airConfig
Ambient temperature	-25..+65 °C
Protection	IP65
Upper housing	Material PC, transparent quick lock screws
Lower housing	Material PA6, colour pure white
Pocket	Stainless steel 1.4571, Ø=6 mm, L=40 mm
Notes	Integrated battery backup for usage in dark rooms

SR65 – measuring temperature			
Type	Item No.	On stock	€
SR65	230001	●	136,00

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW

SR65 AKF

SR65 AKF

airConfig

Self powered wireless Enocean duct sensor to measure the temperature in gaseous media of heating, ventilation and air-conditioning systems. To be parameterized via airConfig.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	+10..+90 °C Configured via airConfig
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Interval	Every 100 sec. at change >1.6 K Every 1000 sec. at change <1.6 K Configured via airConfig
Ambient temperature	-25..+65 °C
Protection	IP65
Upper housing	Material PC, transparent quick lock screws
Lower housing	Material PA6, colour pure white
Pocket	Stainless steel 1.4571, Ø=7 mm, L=135 mm
Notes	Integrated battery backup for usage in dark rooms Additional probe lengths available on request

SR65 AKF - measuring temperature		
Type	Item No.	€
SR65 AKF, mounting length 135 mm	254632	144,30

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW

SR65 TF

SR65 TF

airConfig

Self powered wireless Enocean cable temperature sensor for refrigeration , data centre and remote applications. To be parameterized via airConfig.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	-20..+60 °C Configured via airConfig
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Interval	Every 100 sec. at change >1.6 K Every 1000 sec. at change <1.6 K Configured via airConfig
Ambient temperature	-25..+65 °C
Protection	IP65
Upper housing	Material PC, transparent quick lock screws
Lower housing	Material PA6, colour pure white
Pocket	Stainless steel 1.4571, Ø=6 mm, L=50 mm
Notes	Integrated battery backup for usage in dark rooms Additional probe and cable lengths available on request

SR65 TF – measuring temperature			
Type	Item No.		€
SR65 TF, mounting length 50 mm, connection wire 2 m	245647		138,00

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW

SR65 VFG

SR65 VFG

airConfig

Self powered wireless En ocean clamp on pipe temperature sensor. To be parameterized via airConfig.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	+10..+90 °C Configured via airConfig
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Interval	Every 100 sec. at change >1.6 K Every 1000 sec. at change <1.6 K Configured via airConfig
Ambient temperature	-25..+65 °C
Protection	IP65
Upper housing	Material PC, transparent quick lock screws
Lower housing	Material PA6, colour pure white
Pocket	Brass, spring loaded sensor
Notes	Integrated battery backup for usage in dark rooms

SR65 VFG – measuring temperature		
Type	Item No.	€
SR65 VFG	239615	136,00

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

SR07 rH, Gira E2 Aluminium

SR07 rH

Room sensor for humidity and temperature detection in room/space applications. Compatible with various frame designs 55x55 mm or 63x63 mm.

Probably available from III.2015.

TECHNISCHE DATEN	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell Battery: Coin cell CR1632
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,4 K
Accuracy humidity	±5% at 30..70% rH
Frame designs	Berker Busch-Jaeger Gira Jung Merten Siemens
Interval	Every 100 sec. at change >0,8 K or >1,6% rH otherwise every 1000 sec.
Ambient temperature	-25..+65 °C
Protection	IP20
Enclosure colour	pure white aluminium anthracite
Enclosure material	PC
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	The devices are supplied with an integrated battery backup

SR07 rH – measuring temperature and humidity		
Type	Item No.	€
SR07 rH pure white	593182	221,90
SR07 rH anthracite	593199	221,90
SR07 rH aluminium	593205	221,90

For types with operating elements refer to „EasySens Transmitter – Room Operating Units"

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR1632	597814	●	4,00

NEW

SR04 rH

SR04 rH

Room sensor for humidity and temperature detection in room/space applications

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,6 K
Accuracy humidity	±5% at 30..70% rH
Interval	Every 100 sec. at change >0,8 K or >1,6% rH otherwise every 1000 sec.
Ambient temperature	-25..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	The devices are supplied with an integrated battery backup

SR04 rH – measuring temperature and humidity				
Type	Item No.	On stock	Price cut	€
SR04 rH	252317	●	▼	200,50

For types with operating elements refer to „EasySens Transmitter – Room Operating Units"

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW

LC-SR04 rH

LC-SR04 rH

Room sensor for humidity and temperature detection in illuminated room/space applications. With the device no operating elements are possible, transmitting intervals are not adjustable and no battery expansion is available.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,5 K at range +17..+27 °C
Accuracy humidity	±5% at 30..70% rH
Interval	Every 100 sec. at change >0,8 K or >1,6% rH otherwise every 1000 sec.
Ambient temperature	-25..+65 °C
Protection	IP30
Enclosure colour	pure white
Enclosure material	ASA
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	No operating elements possible. Telegram intervals not adjustable. No battery backup available

LC-SR04 rH – measuring temperature and humidity			
Type	Item No.	Price cut	€
LC-SR04 rH	555975	▼	132,70

NEW

SR65 rH
image similar

SR65 rH

airConfig

Radio sensor for detection of temperature and rel. humidity in outdoor areas, cold stores, greenhouses, production plants and warehouses. Self powered Enocean wireless technology. To be parametrized via airConfig.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measuring range temperature	-20..+60 °C 0..+40 °C
Measuring range humidity	0..100% rH
Accuracy temperature	depending on setup
Accuracy humidity	±5% at 30..70% rH
Interval	Configured via airConfig
Ambient temperature	-20..+70 °C
Protection	IP30
Enclosure colour	pure white Cover transparent
Enclosure material	ASA

SR65 rH – measuring temperature and humidity		
Type	Item No.	€
SR65 rH	540391	245,00

SR04 Co2 LCD

SR04 Co2-Z

SR04 CO2

For detection of CO2 and temperature (optional) and humidity (optional) integrated into one unit.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 1,5 W (24 V =) | 3,6 VA (24 V ~)
Measuring range CO2	0..2550 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±3% at range 20..80% rH (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
LCD	29x12 mm, monochrome (optional)
Traffic light functionality (-Z)	3 LEDs showing air quality (opt.)
Ambient temperature	0..+50 °C
Ambient humidity	>85% rH
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Installation type	Installation on standard flush mounting box. Base part can be mounted and wired separately Surface mounting

SR04 CO2 – measuring CO2 and temperature			
Type	Item No.	Price cut	€
SR04 CO2	442510	▼	279,70
SR04 CO2 LCD	467131	▼	308,50
SR04 CO2-Z	436557	▼	286,90

SR04 CO2 rH – measuring CO2, temperature and humidity			
Type	Item No.	Price cut	€
SR04 CO2 rH	434768	▼	331,10
SR04 CO2 rH LCD	462228	▼	359,90
SR04 CO2 rH-Z	516143	▼	338,30

SR-MDS

SR-MDS

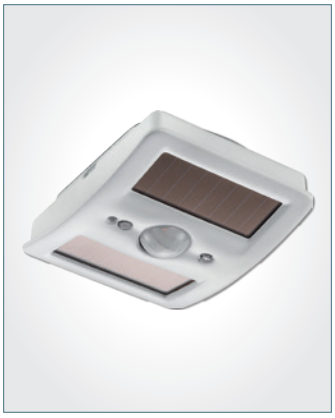
Ceiling multi sensor for light and motion detection using EnOcean radio technology.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..240 V ~ (±10%) 3x battery LS14250, 3,6 V
Measured values	Light Motion
Detection range RDI	Ø=5 m at a sensor height of approx. 2,7 m
Measuring range light	0..512 Lux
Sensor type	PIR (passive infrared)
Interval	Every 10 sec. at change of brightness >10 lux in case of detected motion Every 100 sec. at change of brightness <10 lux in case of detected motion Every 1000 sec. at change of brightness <10 lux in case of no motion detected Every 100 sec. at change of brightness >10 lux in case of detected motion Immediately at status change from no motion to motion or reverse.
Ambient temperature	+10..+50 °C
Protection	IP20
Enclosure colour	pure white black
Enclosure material	ABS
Notes	Appropriate for constant light control

SR-MDS – measuring light and motion			
Type	Item No.	On stock	€
SR-MDS	396486	●	256,20
SR-MDS BAT	396462	●	256,20

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

NEW



SR-MDS Solar

SR-MDS Solar

airConfig

The Enocean self powered multi sensor detects light and motion. With battery back up option.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Detection range RDI	Ø=10 m at a sensor height of approx. 2,4 m
Measuring range light	0..512 Lux
Sensor type	PIR (passive infrared)
Interval	Every 10 sec. at change of brightness >10 lux in case of detected motion Every 100 sec. at change of brightness <10 lux in case of detected motion Every 1000 sec. at change of brightness <10 lux in case of no motion detected Every 100 sec. at change of brightness >10 lux in case of detected motion
Ambient temperature	0..+50 °C
Enclosure colour	pure white
Installation type	Surface mounting

SR-MDS Solar – measuring light and motion		
Type	Item No.	€
SR-MDS Solar	591577	256,20

SR-MOC Solar

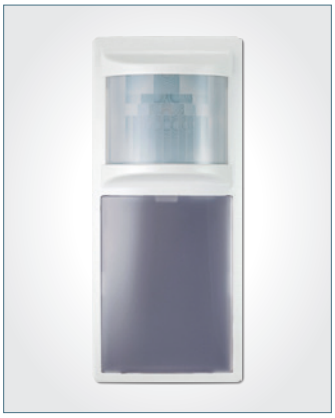
SR-MOC Solar

Solar ceiling sensor with battery backup (optional) for motion detection using EnOcean radio technology.

TECHNISCHE DATEN	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solar cell Battery: Coin cell CR2032 (optional) terminal block for external power supply 3..5 V =
Detection range RDI	Ð=5 m at a sensor height of approx. 2,5 m
Sensor type	PIR (passive infrared)
Interval	Immediately at status change from no motion to motion or reverse.
Ambient temperature	+10..+50 °C
Protection	IP50
Enclosure colour	pearl white
Enclosure material	PC
Installation type	Surface mounting To be mounted flat onto the surface using adhesive foil or screws

SR-MOC Solar – measuring motion		
Type	Item No.	€
SR-MOC Solar	566070	163,50

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR2032	347013	●	3,00



SR-MOW Solar

SR-MOW Solar

Solar wall sensor with battery backup (optional) for motion detection using EnOcean radio technology.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell Battery: Coin cell CR2032 (optional)
Detection range RDI	Wide angle lens up to 15 m, field lens up to 30 m when mounted at height 2,10 m
Sensor type	PIR (passive infrared)
Interval	Immediately at status change from no motion to motion or reverse.
Ambient temperature	-10..+40 °C
Protection	IP20
Enclosure colour	pearl white
Enclosure material	PC
Installation type	Surface mounting To be mounted flat onto the surface using adhesive foil or screws

SR-MOW Solar – measuring motion		
Type	Item No.	€
SR-MOW Solar	566094	142,90

ACCESSORIES			
Type	Item No.	On stock	€
Coin cell CR2032	347013	●	3,00

NEW

SR65 Li
image similar

SR65 Li

airConfig

Wireless light sensor for blind systems. Can also be used to control light at sunset. Configured via airConfig.

TECHNISCHE DATEN	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solarcell
Measured values	Light
Measuring range	0..510 Lux 0..1000 Lux (10 Bit) 0..1020 Lux 0..30.000 Lux 0..60.000 Lux
Interval	Configured via airConfig
Ambient temperature	-20..+70 °C
Protection	IP30
Enclosure colour	pure white Cover transparent
Enclosure material	ASA
Notes	Resolution: 8 or 10 Bit

SR65 Li – measuring light		
Type	Item No.	€
SR65 Li	598354	168,50

SR-MI

SR-MI

Wireless module for evaluation of pulse signals for gas, water, electric and BTU meters with So interfaces.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	0,2 W / 0,4 VA
Inputs	3x So-interface
Ambient temperature	0..+50 °C
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	white
Enclosure material	ABS
Mounting	Mounting on DIN rail
Included standard accessories	External transmitting antenna 2,5 m

SR-MI		
Type	Item No.	€
SR-MI	471428	169,90

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30

SR65-3AI

SR65-3AI

The module has 3x 0..10 V inputs. The input values are transmitted wirelessly to an EasySens receiver. This allows standard analogue signals to simply integrate into a wireless EnOcean network .

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	0,2 W / 0,4 VA
Interval	Every 100 sec. Configurable
Inputs	3x 0..10 V
Ambient temperature	-25..+65 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Notes	Attention: not supported by all receiver types

SR65-3AI		
Type	Item No.	€
SR65-3AI	527071	136,00

NEW

SR65 DI

SR65 DI

airConfig

Binary module for transmission of binary switching status.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Battery LS14250, 3,6 V
Interval	at status change Every 1000 sec.
Digital inputs	2-wire connection for potential free contacts, contact amp max. 0,5mA, contact resistance max. 1000Ohm
Ambient temperature	-25..+65 °C
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Notes	Only battery version available.

SR65 DI		
Type	Item No.	€
SR65 DI	267731	136,00

ACCESSORIES			
Type	Item No.	On stock	€
Battery LS14250	315098	●	8,15

SRG01 Aluminium pure white

SRG01 Aluminium steel grey

SRG01 stainless steel

SRG01

Window handle for status monitoring of windows.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Sensor type	Energy generator
Interval	At turning the window handle.
Coating	pure white powder coated steel grey anodized
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	0..+30 °C
Enclosure colour	Aluminium pure white painted Aluminium steel grey Stainless steel
Notes	Lockable (option) Also available as sliding door handle (on request) sideways with position precision.

SRG01		
Type	Item No.	€
SRG01 aluminium steel grey	362948	84,10
SRG01 aluminium pure white	362931	84,10
SRG01 stainless steel	362955	141,30

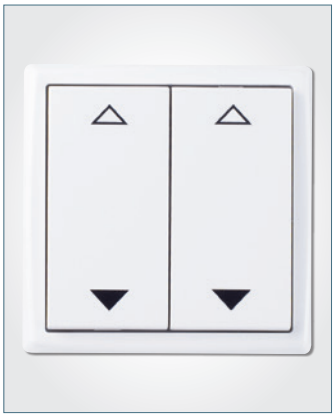
SRW01

SRW01

Window contact for status monitoring of windows and doors.

TECHNISCHE DATEN	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Solar cell Type BAT: Coin cell CR1220
Sensor type	Reed contact
Interval	Every 1000 sec. at status change
Ambient temperature	-25..+65 °C
Protection	IP40
Enclosure colour	pure white
Enclosure material	ABS
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	Custom paint possible

SRW01		
Type	Item No.	€
SRW01	248051	67,90



4-channel blind, pure white

2-channel light, aluminium

2-channel blind, anthracite

Mini

Lighting and blind control. The self powered wireless technology enables flexible installation on glass and wall plaster via double-sided adhesive pads or screws.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Labelling	O, I (version light) ▲▼ (version blinds) special printing available
Actuation force	7 N
Actuation range	2 mm
Operating cycle quantity	>50.000
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	-25..+65 °C
Enclosure colour	pure white brilliant aluminium anthracite
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	Prices including frame
Dimensions	61x61x15 mm incl. frame

Mini

Mini 2-channel		
Type	Item No.	€
Mini 2 -channel light pure white brilliant	430647	64,60
Mini 2 -channel light aluminium varnished	430661	64,60
Mini 2 -channel light anthracite	430623	64,60
Mini 2 -channel blind pure white brilliant	430630	64,60
Mini 2 -channel blind aluminium varnished	430654	64,60
Mini 2 -channel blind anthracite	430302	64,60

Mini 4-channel		
Type	Item No.	€
Mini 4 -channel light pure white brilliant	430838	66,80
Mini 4 -channel light aluminium varnished	430852	66,80
Mini 4 -channel light anthracite	430814	66,80
Mini 4 -channel blind pure white brilliant	430821	66,80
Mini 4 -channel blind aluminium varnished	430845	66,80
Mini 4 -channel blind anthracite	430807	66,80

2-channel blind, Gira E2 pure white

4-channel light, Gira E2 aluminium

4-channel blind, Gira E2 anthracite

55x55

Lighting and blind control. The wireless technology enables a flexible installation on glass and wall plaster via double-sided adhesive pads or screws.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Frame designs	Berker Feller Gira Jung Merten Peha
Frame design Berker	S1 B1 B3 B7 Glas K1
Frame design Feller	Edizio Due
Frame design Gira	E2 Standard55 Esprit Event
Frame design Jung	A500 AS500 Aplus A creation
Frame design Merten	M-Smart M-Arc M-Plan
Frame design Peha	Aura
Frame design Siemens	Delta-Profile Delta-Style Delta-Miro Delta-Vita Delta-Line
Labelling	O, I (version light) ▲▼ (version blinds) special printing available
Actuation force	7 N
Actuation range	2 mm
Operating cycle quantity	>50.000
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	-25..+65 °C
Enclosure colour	pure white pure white brilliant aluminium anthracite
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	When ordering other switch programmes, please specify colour Prices incl. frame Gira E2
Dimensions	55x55x18 mm

55x55

Prices/delivery incl. frame Gira E2, other frame designs on request

55x55 2-channel		
Type	Item No.	€
55x55 2-channel light pure white	302852	74,50
55x55 2-channel light pure white glossy	363051	74,50
55x55 2-channel light aluminium	302807	74,50
55x55 2-channel light anthracite	302814	74,50
55x55 2-channel blind pure white	302845	74,50
55x55 2-channel blind pure white glossy	364577	74,50
55x55 2-channel blind aluminium	302821	74,50
55x55 2-channel blind anthracite	302838	74,50

55x55 4-channel		
Type	Item No.	€
55x55 4-channel light pure white	302883	76,70
55x55 4-channel light pure white glossy	363068	76,70
55x55 4-channel light aluminium	302869	76,70
55x55 4-channel light anthracite	302876	76,70
55x55 4-channel blind pure white	302913	76,70
55x55 4-channel blind pure white glossy	364591	76,70
55x55 4-channel blind aluminium	302890	76,70
55x55 4-channel blind anthracite	302906	76,70

4-channel blind, Future-linear studio white

4-channel light, Future-linear alu silver

2-channel blind, Future-linear anthracite

Busch-Jaeger

Lighting and blind control. The self powered wireless technology enables flexible installation on glass and wall plaster via double-sided adhesive pads or screws.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Frame design ABB/Busch-Jaeger	Solo Future-linear Axcent Carat
Labelling	O, I (version light) ▲▼ (version blinds)
Actuation force	7 N
Actuation range	2 mm
Operating cycle quantity	>50.000
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	-25..+65 °C
Enclosure colour	studio white ivory white aluminium silver anthracite
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	white (studio) and matt black available on request Prices incl. frames. Frame designs Solo, Future and Axcent at the same price, ask for Carat
Dimensions	63x63 mm

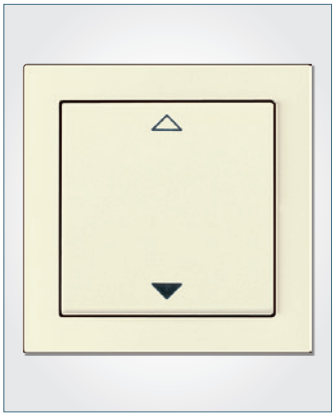
Busch-Jaeger

Prices/delivery incl. frame Busch-Jaeger Future-linear, other frame designs on request

Busch-Jaeger 2-channel		
Type	Item No.	€
Busch-Jaeger 2 -channel light studio white	342971	76,70
Busch-Jaeger 2 -channel light ivory white	342858	76,70
Busch-Jaeger 2 -channel light aluminium silver	338783	76,70
Busch-Jaeger 2 -channel light anthracite	324571	76,70
Busch-Jaeger 2 -channel blind studio white	469630	76,70
Busch-Jaeger 2 -channel blind ivory white	469661	76,70
Busch-Jaeger 2 -channel blind aluminium silver	469548	76,70
Busch-Jaeger 2 -channel blind anthracite	469593	76,70

Busch-Jaeger 4-channel		
Type	Item No.	€
Busch-Jaeger 4 -channel light studio white	342988	78,90
Busch-Jaeger 4 -channel light ivory white	365529	78,90
Busch-Jaeger 4 -channel light aluminium silver	327404	78,90
Busch-Jaeger 4 -channel light anthracite	324595	78,90
Busch-Jaeger 4 -channel blind studio white	469647	78,90
Busch-Jaeger 4 -channel blind ivory white	469685	78,90
Busch-Jaeger 4 -channel blind aluminium silver	469586	78,90
Busch-Jaeger 4 -channel blind anthracite	469609	78,90

4-channel light, LS990 alpin white



2-channel blind, LS-design white

2-channel light, LS990 light grey

Jung

Lighting and blind control. The self powered wireless technology enables flexible installation on glass and wall plaster via double-sided adhesive pads or screws.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Frame design Jung	LS990 LS-design
Labelling	O, I (version light) ▲▼ (version blinds) special printing available
Actuation force	7 N
Actuation range	2 mm
Operating cycle quantity	>50.000
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	-25..+65 °C
Enclosure colour	white alpin white light grey black
Installation type	To be mounted flat onto the surface using adhesive foil or screws
Notes	LS990 aluminium varnished and stainless steel varnished on request. Switch programme LS-design on request Prices incl. frame LS990.
Dimensions	70x70 mm

Jung

Prices/delivery incl. frame Jung LS990, other frame designs on request

Jung 2-channel		
Type	Item No.	€
Jung 2-channel light white	435390	95,80
Jung 2-channel light alpin white	435376	95,80
Jung 2-channel light light grey	435413	95,80
Jung 2-channel light black	435437	95,80
Jung 2-channel blind white	435406	95,80
Jung 2-channel blind alpin white	435383	95,80
Jung 2-channel blind light grey	435420	95,80
Jung 2-channel blind black	435444	95,80

Jung 4-channel		
Type	Item No.	€
Jung 4-channel light white	435475	98,00
Jung 4-channel light alpin white	435451	98,00
Jung 4-channel light light grey	435499	98,00
Jung 4-channel light black	435512	98,00
Jung 4-channel blind white	435482	98,00
Jung 4-channel blind alpin white	435468	98,00
Jung 4-channel blind light grey	435505	98,00
Jung 4-channel blind black	435529	98,00

Hand-held

Hand-held

The EasySens hand-held switch provides remote function for switch signals based on the self powered EnOcean technology.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Labelling	A B C D
Actuation force	7 N
Actuation range	2 mm
Operating cycle quantity	>50.000
Energy harvester	Maintenance-free, electrodynamic energy generator
Enclosure colour	black

Hand-held transmitter			
Type	Item No.	Price cut	€
Hand-held transmitter 4 channel	314602	▼	98,70

SR-KCS

SR-KCS

Wireless switch for key card activation for regulation of lighting and air-conditioning applications in room control. The self powered wireless technology enables a flexible installation on glass and wall plaster via double-sided adhesive pads or screws.

TECHNICAL DATA	
Technology	EnOcean, 868 MHz (IEC 14543-3-10)
Interval	at status change
Energy harvester	Maintenance-free, electrodynamic energy generator
Ambient temperature	-25..+65 °C
Enclosure colour	pure white
Enclosure material	PC
Installation type	To be mounted flat onto the surface using adhesive foil or screws

SR-KCS			
Type	Item No.	Price cut	€
SR-KCS	573573	▼	81,30

EasySens Receiver

Innovative self-powered wireless technology generates energy by means of harvesting ambient light or motion. Interoperable, cost-effective and energy-efficient solutions in building automation is available using our wireless sensor system EasySens.

Sample applications 69

Gateways

STC65-Modbus	Gateway RS485 Modbus	70
STC65-RS485 EVC	Gateway RS485	71
STC65-FTT LON	Gateway LON FTX	72
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» BENEFITS

- » Communication without batteries or cables
- » Interoperable
- » Energy-efficient control of heating and lighting
- » High working and learning comfort through air conditioning and blind control as required

1

SR04 CO2

Room sensor CO2/temperature/ rel. humidity
Available with display and traffic light function

2

SR04

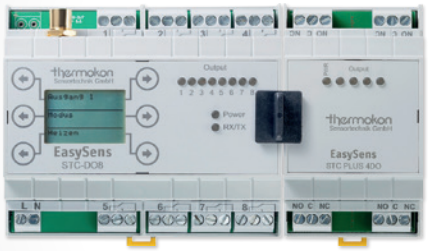
Surface-mounted wireless room sensor for temperature & rel. humidity
Available with various control elements and features

3

Mini

Wireless switch 2-/4-channel lighting/blinds
Available in various colours

4



STC-DO8 / STC-PLUS 4DO

Universal receiver with 8 digital outputs, with expansion module STC-Plus 4DO for control of heating/ cooling/ fan coils, for switching lights/ blinds, signal contact and more.

5

SRC-DO / SRC-AO

Flush-mounted receiver (24 V or 230 V) with digital or analogue outputs for control of thermostats, humidistats, fans or temperature, for switching of lights or blinds, and more

BACnet KNX LONMARK® Modbus

CONCENTRATION

All devices used communicate wirelessly via EnOcean technology. Temperature, set point, air quality, occupancy and switch signals for lighting and blinds, are transmitted via bidirectional receivers, STC-DO8/ STC-Plus 4DO resp. SRC-DO/ SRC-AO as standalone with local digital or analogue outputs or to superior communication protocols such as KNX, BACnet, LON or Modbus. This system allows a substantial increase in comfort along with optimum energy savings.

STC65-RS485 Modbus

STC65-RS485 Modbus

With interface RS485, Modbus protocol, IP42-enclosure. For evaluation of up to 32 EasySens sensors or wireless switches. Transmission of field-programmed telegrams to 8 addresses. Incl. ext. receiving antenna (2.5 m).

TECHNICAL DATA	
Network technology	RS485 Modbus
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,6 W (24 V =) | 1,5 VA (24 V ~)
Antenna	External antenna 2,5 m
Direction	Bidirectional
Receive channels	32 (Rx)
Transmit channels	32 (Tx) 32 (SAB)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	-20..+60 °C
Protection	IP42
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white Cover transparent
Enclosure material	PA6 PC with quick lock screws
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC65-RS485 Modbus			
Type	item No.	On stock	€
STC65-RS485 Modbus	385695	●	241,90

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC65-RS485 EVC

STC65-RS485 EVC

With serial interface RS485, bi-directional interface „Multiple Access“, IP42-enclosure. For connection of up to 32 EasySens sensors or wireless switches to different controllers with RS485 interface. Transmission of field-programmed telegrams to 127 addresses. Incl. ext. receiving antenna (2.5 m).

TECHNICAL DATA	
Network technology	RS485 EVC
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,8 W (24 V =) | 2,0 VA (24 V ~)
Antenna	External antenna 2,5 m
Direction	Bidirectional
Receive channels	Gateway mode: ∞ (Rx) Filter mode: 32 (Rx)
Transmit channels	Filter mode: 128 (Tx) Gateway mode: 128 (Tx)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	-20..+60 °C
Protection	IP42
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white Cover transparent
Enclosure material	PA6 PC with quick lock screws
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC65-RS485 EVC			
Type	item No.	On stock	€
STC65-RS485 EVC	393898	●	241,90

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC65-FTT LON

STC65-FTT LON

Bidirectional gateway for EnOcean-based Sensors and actuators as well as controllers and control systems with LON interface. The STC65-FTT enables the receipt and transmission of radio telegrams corresponding to the EnOcean communication protocol. With predefined sensor objects (sensor, switch, ...) and corresponding output variables (SNVT) for communication in a LON system.

TECHNICAL DATA	
Network technology	LON - FT 5000
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,5 W (24 V =) | 0,82 VA (24 V ~)
Antenna	External antenna 2,5 m
Direction	Bidirectional
Receive channels	11 (Rx)
Transmit channels	11 (Tx)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	-20..+60 °C
Protection	IP42
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white Cover transparent
Enclosure material	PA6 PC with quick lock screws
Included standard accessories	External receiving antenna 2,5 m Plug-in for turbo LONmaker
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC65-FTT LON			
Type	item No.	On stock	€
STC65-FTT LON (FT 5000)	393904	●	289,70

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC04-FTT LON

STC04-FTT LON

Bidirectional gateway for EnOcean-based sensors and actuators as well as controllers and control systems with LON interface. The STC65-FTT enables the receipt and transmission of radio telegrams corresponding to the EnOcean communication protocol. With predefined sensor objects (sensor, switch, ...) and corresponding output variables (SNVT) for communication in a LON system.

TECHNICAL DATA	
Network technology	LON
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,5 W (24 V =) | 0,82 VA (24 V ~)
Antenna	External
Direction	Bidirectional
Receive channels	11 (Rx)
Transmit channels	11 (Tx)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ABS ASA
Installation type	Installation on standard flush mounting box. Surface mounting

LONMARK®

STC04-FTT LON		
Type	item No.	€
STC04-FTT LON	415118	258,10

NEW

STC-BACnet IP

STC-BACnet IP

airConfig

Enocean to BACnet IP gateway/transceiver for radio sensors and switches communicating on EnOcean radio technology and controllers with BACnet IP interface. Protocol details are available in the software documentation. Incl. ext. receiving antenna (25 m).

TECHNICAL DATA	
Network technology	BACnet IP
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Interface	BACnet IP TCP/IP
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 3 W (24 V =) | 5 VA (24 V ~)
Antenna	External antenna 2,5 m
Direction	Bidirectional
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Connection	RJ45
Enclosure colour	light grey
Enclosure material	ABS
Installation type	Mounting on DIN rail.
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC-BACnet IP		
Type	item No.	€
STC-BACnet IP	593632	318,70

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

SRC65-BACnet MS/TP

SRC65-BACnet MS/TP

Enocean to BACnet MSTP gateway/receiver for radio sensors and switches communicating on EnOcean radio technology and controllers with BACnet MS/TP interface. Protocol details are available in the software documentation.

TECHNICAL DATA	
Network technology	BACnet MS/TP
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 1 W (24 V =) | 1,3 VA (24 V ~)
Antenna	External antenna 2,5 m
Direction	Unidirectional
Receive channels	32 (Rx)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	-20..+60 °C
Protection	IP42
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white Cover transparent
Enclosure material	PA6 PC with quick lock screws
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

SRC65-BACnet MS/TP		
Type	item No.	€
SRC65-BACnet MS/TP	396431	262,80

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC-Ethernet

STC-Ethernet

With IP/Ethernet interface. Bi-directional gateway for evaluation of up to 30 EasySens sensors or wireless switches. Incl. external receiving antenna (2.5 m).

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	80..240 V ~ 15..24 V = oder 24 V ~ auf Anfrage
Power consumption	max. 5 VA
Antenna	External antenna 2,5 m
Direction	Bidirectional
Receive channels	Gateway mode: ∞ (Rx) Filter-Modus: 30 (Rx)
Transmit channels	Gateway mode: 128 (Tx) Filter mode: 128 (Tx)
Display	LED „Valid“ to show valid EnOcean telegrams
Ambient temperature	0..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Connection	RJ45
Enclosure colour	white
Enclosure material	ABS
Mounting	Mounting on DIN rail
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC-Ethernet			
Type	item No.	On stock	€
STC-Ethernet	403191	●	307,50

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC-KNX

STC-KNX

For connection of up to 32 EasySens sensors or wireless switches to the EIB/KNX-Bus.
The device offers additional control functions, which can be set to:

- switch and dim
- blind UP/DOWN
- presence button/switch
- set point adjustment
- stage switch
- humidity sensor
- window contact/handle
- binary input
- light sensor
- motion sensor

TECHNICAL DATA	
Network technology	KNX
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	Supply via BUS
Direction	Bidirectional
Receive channels	32 (Rx)
Transmit channels	32 (Tx)
Display	Graphic display monochrome (internal)
Ambient temperature	-5..+45 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Installation type	Installation on standard flush mounting box. Surface mounting

STC-KNX		
Type	item No.	€
STC-KNX	535076	406,10

SRC-DO 24 V

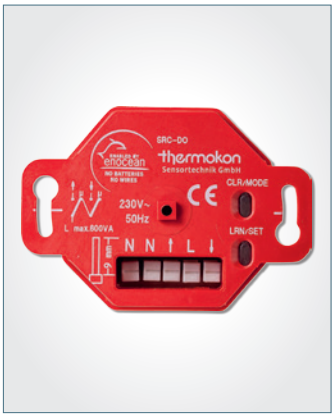
SRC-DO

airConfig

Receiver with digital outputs. Various types for Heating (PWM), Heating ON/OFF, signal contact, humidistat control, heating/cooling (PWM) or fan stage control. Flush mounted.

TECHNICAL DATA	
Relay output	max. 10 A
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) 100..240 V ~ (not potential free)
Power consumption	100..240 V: typ. 9,8 VA; 15..24 V =: typ. 1,5 W; 24 V ~: typ. 3,4 VA
Antenna	Internal
Direction	Bidirectional
Functions	Heating/cooling ON/OFF Heating/cooling with PWM output Hygrostat controller Fan release Signal contact Switch actuator configured via airConfig
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-DO (Relais)		
Type	item No.	€
SRC-DO airConfig 24 V	593731	139,60
SRC-DO airConfig 230 V	593748	139,60



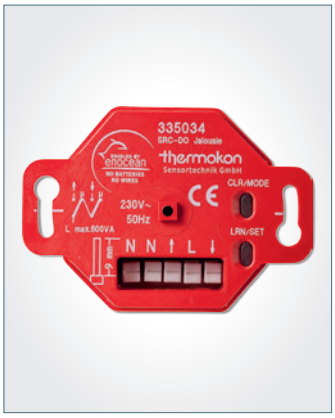
SRC-DO Light

SRC-DO Light

Flush mounted receiver module for EnOcean switch telegrams. For switch control of Lighting applications

TECHNICAL DATA	
Relay output	max. 10 A (230 V)
Analogue output	Lighting
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	100..240 V ~
Power consumption	Standby <0,5 W
Antenna	Internal
Direction	Bidirectional
Functions	Lighting Fan control Switch actuator Staircase light
Ambient temperature	-20..+40 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-DO Light (Relais)		
Type	item No.	€
SRC-DO Light 230 V	593762	139,60



SRC-DO Blind

SRC-DO Blind

Flush mounted receiver module for EnOcean switch telegrams. For switch control of blinds.

TECHNICAL DATA	
Relay output	max. 1 A (230 V)
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	100..240 V ~
Power consumption	Standby <0,5 W
Antenna	Internal
Direction	Bidirectional
Functions	Blinds/Shutter Slat changing Switch actuator
Ambient temperature	-20..+40 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-DO Blind (Relais)		
Type	item No.	€
SRC-DO Blind 230 V	593755	139,60

SRC-AO Climate

SRC-AO Climate

Thermostat temperature control for room applications. 0..10 V output, supply voltage 24 V ~ / 24 V =.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV)
Analogue output	V: Heating or cooling VV: Heating and cooling
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 1 W (24 V =) | 1,5 VA (24 V ~)
Antenna	Internal
Direction	Unidirectional
Receive channels	32 (Rx)
Transmit channels	32 (Tx)
Functions	Heating/cooling continuously 0..10 V
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-AO Climate (0..10 V)		
Type	item No.	€
SRC-AO Climate V	508278	139,20
SRC-AO Climate VV	508285	163,20

SRC-AO Dim

SRC-AO Dim

For control of one 0..10 V dim actuator / driver connection of up to 32 wireless switches, supply voltage 24 V ~/24 V =.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV)
Analogue output	1-fold dim actuator 2-fold dim actuator Lighting
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 1 W (24 V =) | 1,5 VA (24 V ~)
Antenna	Internal
Direction	Unidirectional
Receive channels	32 (Rx)
Transmit channels	32 (Tx)
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-AO Dim (0..10 V)		
Type	item No.	€
SRC-AO Dim V	499606	139,60
SRC-AO Dim VV	502931	163,20

SRC-AO Multi

SRC-AO Multi

Multi functional actuator with 0..10 V output of different values/enocean sensors e.g. temperature, humidity, setpoint) .

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV)
Analogue output	Multi actuator
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 1 W (24 V =) | 1,5 VA (24 V ~)
Antenna	Internal
Direction	Unidirectional
Functions	Output of various values (e.g. temperature, set-point, humidity, actuating variable, dimming value)
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRC-AO Multi (0..10 V)		
Type	item No.	€
SRC-AO Multi V	508315	139,60
SRC-AO Multi VV	508322	163,20

STC-DO8

STC-DO8 with extension module STC-PLUS 4DO

STC-DO8

Bi-directional receiver with 8 digital outputs (or 12 with extension module STC-Plus 4DO). For heating/cooling control, fan coil control, control of lights and blinds etc. Incl. ext. receiving antenna (2.5 m).

TECHNICAL DATA	
Relay output	8 relays max. 6 A (resistive load) 12 relays with additional module STC-PLUS 4DO max. 10 A (resistive load)
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	100..240 V ~ 15..24 V = oder 24 V ~ auf Anfrage
Power consumption	typ. 2,0 W / 3,5 VA
Antenna	External
Direction	Bidirectional
Display	Graphic display monochrome
Functions	Switch actuator Lighting/Blinds/Shutter Dim/Heating/Cooling (PI) Fan-Coil controller Heating/cooling with PWM Heating with PWM
Function types	Switch actuator Heating/cooling with PWM output Fancoil
Ambient temperature	0..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	white
Enclosure material	ABS
Installation type	Mounting on DIN rail.
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC-DO8/STC-PLUS 4DO (Relais)		
Type	item No.	€
STC-DO8 100..240 V type heating/cooling	490030	324,10
STC-DO8 100..240 V type fancoil, heating/cooling	490047	324,10
STC-DO8 100..240 V type switch actuator	490054	324,10
STC-PLUS 4DO	517690	145,40

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

STC-ADO

STC-ADO

Universal receiver with analogue outputs 0..10 V and up to 4 relay outputs 230 V / 5 A. For connection of EasySens sensors resp. switches. Dependent on the type with a fan coil controller and change over function or dimming/heating/cooling (PI).

TECHNICAL DATA	
Output voltage	4x 0..10 V (4xV)
Relay output	2 or 4 relays max. 5 A (resistive load)
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	80..240 V ~ 15..24 V = oder 24 V ~ auf Anfrage
Antenna	External
Direction	Unidirectional
Display	LED „Valid“ to show valid EnOcean telegrams
Functions	Lighting/Blinds/Shutter Dim/Heating/Cooling (PI) Fan-Coil controller Heating ON/OFF Heating with PWM Heating/cooling with PWM
Function types	Change-Over Dimming Fancoil Heating/cooling with PWM output
Ambient temperature	0..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	white
Enclosure material	ABS
Installation type	Mounting on DIN rail.
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC-ADO (0..10 V / Relais)			
Type	item No.		€
STC-ADO 4AA/2DA type dim/heating/ cooling	267502		314,60
STC-ADO 4AA/4DA type dim/heating/cooling	273275		338,20
STC-ADO 4AA/2DA type fancoil, change-over	423236		314,60
STC-ADO 4AA/4DA type fancoil, change-over	423243		338,20

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

NEW

STC-MSG Server

STC-MSG Server

airConfig

The STC-MSG Server is a wireless controlled heating/cooling circuit controller and designed for evaluation of wireless room sensors with control of up to 8 / 16 SABox EnOCean actuators. For efficient energy saving a time switch is integrated. Furthermore, it is possible to make use of the function "energy stop" by seamlessly connecting a wireless window contact SRW01 and wireless window handle SRG01, i.e. if the window is opened, the SABox closes the valves. Parameterization of the individual functions is made via an easy to handle configuration menu.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	100..240 V ~
Power consumption	typ. 3,5 VA
Antenna	External
Direction	Bidirectional
Receive channels	8/16 (Rx)
Transmit channels	8/16 (Tx)
Display	Graphic display monochrome
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	light grey
Enclosure material	ABS
Mounting	Mounting on DIN rail
Included standard accessories	External receiving antenna 2,5 m
Notes	Magnetic antenna plate form L, 180x180 mm, recommended to improve radio coverage

STC-MSG Server (8/16 valve actuator)		
Type	item No.	€
STC-MSG Server 8-Channel	501590	269,40
STC-MSG Server 16-Channel	507080	306,40

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

NEW

STC-MSG Server UP

STC-MSG Server UP

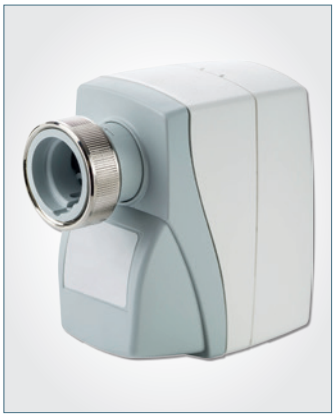
airConfig

Wirelessly controlled heating regulator for control of up to 5 SABox valve actuators within one room in connection with wireless room sensors. Furthermore, it is feasible to make use of the function „energy stop“ by seamlessly connecting window contacts SRW01 and handles SRG01 to the SAB05, resulting in an automated closing of the valves, if a window is open. STC-MSG Server UP can learn in the following sensors: 5 EnOcean valve actuators (SAB05), 1 room operating sensor type SR04 x, SR06 x or SR07 x, 10 digital input modules SR65DI, EnOcean switches, motion sensors (e.g. SR-MDS, SR-MOW), 20 window contacts SRW01 or window handles SRG01.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	110..240 V ~
Power consumption	max. 0,5 VA
Antenna	Internal
Direction	Bidirectional
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

STC-MSG Server UP (5 valve actuator)		
Type	item No.	€
STC-MSG Server UP	550048	132,70

NEW



SAB05

SAB05

SAB05

airConfig

Wireless valve acutator for bidirectional EnOcean communication. The SAB05 combines with message server and enocean transmitter.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	3 batteries (type AA)
Antenna	Internal
Direction	Bidirectional
Feedback in case of error	via radio telegram
Regulation distance	max. 3 mm automatic adaption by initialisation
Regulation time	10 mm/s
Valve acuator	battery powered Motor with electronic turn-off low noise operation battery status message
Operating mode	Actuator or selfcontrol mode
Functions and characteristics	Frost detection 8 °C Wake-Up-Timer Self control mode configurable Valve connection M30x1,5
Ambient temperature	0..+50 °C
Protection	IP40
Enclosure colour	white light grey
Installation type	Screw mounting, M30 x 1,5 Optional adapters available
Included standard accessories	3 batteries (AA)

SAB05		
Type	item No.	€
SAB05	513753	143,30

ACCESSORIES			
Type	item No.	On stock	€
Vandal protection for SAB05	595605	●	16,90
Battery protection for SAB05	595612	●	18,50

NEW

SRE-Repeater

SRE-Repeater

airConfig

The repeater amplifies EnOcean radio signals between senders and receivers. Typical usage is when sensors are installed out of range or for solving problems in already existing wireless networks.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	80..240 V ~
Power consumption	max. 2 VA
Antenna	Internal External
Direction	Bidirectional
Operating mode	1-level 2-level Smart Repeating Rule based, max. 10 rules
Ambient temperature	-20..+60 °C
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 PC with quick lock screws
Included standard accessories	External receiving antenna 2,5 m (only version with external antenna)

SRE-Repeater		
Type	item No.	€
SRE-Repeater internal Ant. MultiLevel	593809	133,70
SRE-Repeater external Ant. MultiLevel	593830	153,30

ACCESSORIES			
Type	item No.	On stock	€
Antenna extension 10 m	257206	●	56,10
Antenna extension 20 m	257213	●	68,30
Magnetic antenna holder form L, 180x180 mm	255097	●	14,30

NEW

SRE-Repeater UP

SRE-Repeater UP

airConfig

The flush mounted repeater amplifies EnOcean radio signals between senders and receivers. Typical usage is when sensors are placed out of range or for solving problems in already existing wireless networks.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) 80..240 V ~
Power consumption	max. 2 VA
Antenna	Internal
Direction	Bidirectional
Operating mode	1-level 2-level Smart Repeating Rule based, max. 10 rules
Ambient temperature	-20..+60 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	red
Installation type	Flush mounted with standard EU box (Ø=55 mm)

SRE-Repeater UP		
Type	item No.	€
SRE-Repeater UP internal Ant. 230 V MultiLevel	556736	112,10

airScan

airScan

Field Strength measuring tool for Visualizing EnOcean radio telegrams on a laptop or PC. A USB-Dongle allows for bidirectional communication, data logging and reporting.

TECHNICAL DATA	
Application	Thermokon airScan consists of an USB transmitter/receiver with windows software to turn a windows personal computer to a field strength measuring tool. Measuring frequency ranges the tool is used to define best mouting places for EnOcean transmitter and receiver. airScan gives a quick overview of EnOcean telegrams, reading status, ID, field strength and manufacturer for EnOcean products.
System requirements	min. Windows XP, Adobe Flash, min. USB 2.0
Shipment	USB-Stick, Software via Download
Accessories	USB extension (3 m) for optimal positioning of the transmitter/receiver, even at the ceiling.

airScan (USB-Dongle + Software)		
Type	item No.	Net €
airScan (net price)	566704	100,80

ACCESSORIES			
Type	item No.	On stock	Net €
USB extension 3 m (net price)	574044	●	13,40

EPM120

EPM120

Field strength measuring instrument for finding optimal mounting places for transmitter and receiver, display of relevant data of EasySens radio telegrams, with integrated repeater for test installations.

TECHNICAL DATA	
Radio technology	EnOcean, 868 MHz (IEC 14543-3-10)
Power supply	USB plug of a PC USB plug 2 batteries (type AA)
Keyboard	4 buttons, touch technology
Display	Diagonal 5,2 cm Graphic display monochrome
Memory	All logged telegrams on a USB stick (>365 days)
Shipment standard	2 Batteries (Type AA) Nano USB stick (1 GB) USB cable

EPM120		
Type	item No.	Netto €
EPM120 (net price)	462006	634,50

Room Operating Units

Our room operating units are used for temperature detection and integrated operation of HVAC, lighting and blinds for single room control. A variety of sophisticated and high end designs and optional features are available.

Sample applications 95

Premium Design

thanos	High-end room operating unit	98
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Surface mounting

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Thermostats / Fancoil

JOY	Fan coil-/heating room thermostat	119
LCF Touch	Touch fan coil room thermostat	120
LCF	Fan coil room thermostat	121
LCT	Room thermostat heating	122

» BENEFITS

- » Compatible with multiple bus systems
- » Various control elements to suit a wide range of applications
- » Flexible design options with various colours and design frames
- » Custom labels/engravings

1

Thanos L
Touch screen room operating unit,
available as wireless,
BUS and wireless + BUS combined.

2

WRF06 LCD
Flush-mounted room operating unit for flexible room control, compatible to various design frames of numerous manufacturers

BACnet KNX LONMARK® enocean alliance Modbus

PERFECT WORKING CONDITIONS

The multifunctional room operating units combine high grade design along with sophisticated technology: Integrated sensors for temperature and humidity, switching signals for lighting and blinds, touch-sensitive surfaces in custom design variations. Communications via standard network technology: Create the perfect working environment.

» BENEFITS

- » Compatible with multiple bus systems
- » Various control elements to suit a wide range of applications
- » Flexible design options with various colours and design frames
- » Custom labels/engravings

1

WRF08

Multifunctional room operating unit
used for operation of HVAC,
control of lighting and blinds,
available in various colours and numerous design frames

2

WRF07

Flush-mounted room operating unit,
compatible with various switch designs
from many manufacturers,
numerous control elements and
custom labels are available.

BACnet KNX LonMark® enocean alliance Modbus

HIGH LEVEL COMMUNICATION

The multifunctional room operating units combine high grade design along with sophisticated technology: Integrated sensors for temperature and humidity, switching signals for lighting and blinds, touch-sensitive surfaces in custom design variations. Communications via standard network technology: Create the perfect working environment.

thanos S black

thanos L white

thanos LQ white

thanos

The Thanos touch screen room operating unit has integrated temperature and optional humidity sensors for operation of HVAC, lighting and blind control. By menas of the high-grated optics, the Thanos is ideal for high end design applications. Programmable operating function keys allowing flexibility for custom room designs.

TECHNICAL DATA	
Model	thanos L: 195x80x17 mm thanos LQ: 80x195x17 mm thanos S: 125x80x17 mm
Measured values	Temperature, rel. humidity (rH) optional
Protocol	KNX, LON, RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 2,0 W (24 V =) | 4,0 VA (24 V ~)
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±0,5 K
Accuracy humidity	±3% at range 20..80% rH (typ. at 21 °C)
Control functions	Occupancy signalling, Light ON/OFF/DIM, Setup scenarios, Blinds UP/DOWN/SET, Fan stages, Setpoint
Clip material	Anodized aluminium
Clip functions	Configurable (occupancy, light on/off,...)
Occupancy buttons	Individually configurable using PC software
Digital inputs	Window contact, dew point guard, key card switch, room frequency, alarm, event
Display	3,5“ TFT, 320x640 pixel, capacitive touch technology
Display showing	Room temperature, setpoint, operation mode, fan stage, occupancy, error, date and time,... ECO note (several steps, red to green) Graphic and photo: Instead of date and time individual colour graphics (175x50 or 320x240 pixel) can be shown (e.g. company logo or hotel name)
Buttons labelling	L/LQ: Flexible insert (for up to 8 touch buttons below/beside clip)
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	white, black
Enclosure material	PC, Glass
Installation type	Flush mounted with standard EU box (Ø=55 mm)
Notes	For details see software description (www.thermokon.com)

for thanos with radio please refer to „EasySens - Transmitter“

Highlights

New functions / button configuration
Scene buttons / scene channels (0..9), operating mode (heating, cooling, dehumidifying, off), along with the previous universal on/off, there is now a new universal +/-.

Graphics / images
Customer specific graphics can be illustrated in the upper display area (e.g. company logo or hotel name).

ECO display
Several stages from red to green

thanos

thanos KNX – measuring temperature			
Type		item No.	€
thanos L black KNX	Temp	472067	606,10
thanos L white KNX	Temp	472050	606,10
thanos LQ black KNX	Temp	472081	606,10
thanos LQ white KNX	Temp	472074	606,10
thanos S black KNX	Temp	472104	561,80
thanos S white KNX	Temp	472098	561,80

thanos LON – measuring temperature			
Type		item No.	€
thanos L black LON	Temp	471749	606,10
thanos L white LON	Temp	471725	606,10
thanos LQ black LON	Temp	471763	606,10
thanos LQ white LON	Temp	471756	606,10
thanos S black LON	Temp	471787	561,80
thanos S white LON	Temp	471770	561,80

thanos RS485 Modbus – measuring temperature			
Type		item No.	€
thanos L black RS485 Modbus	Temp	472302	567,70
thanos L white RS485 Modbus	Temp	472296	567,70
thanos LQ black RS485 Modbus	Temp	472326	567,70
thanos LQ white RS485 Modbus	Temp	472319	567,70
thanos S black RS485 Modbus	Temp	472340	523,10
thanos S white RS485 Modbus	Temp	472333	523,10

thanos

thanos rH KNX – measuring temperature and humidity			
Type		item No.	€
thanos rH L black KNX	Temp + rH	472111	670,70
thanos rH L white KNX	Temp + rH	448550	670,70
thanos rH LQ black KNX	Temp + rH	472135	670,70
thanos rH LQ white KNX	Temp + rH	472128	670,70
thanos rH S black KNX	Temp + rH	472159	626,10
thanos rH S white KNX	Temp + rH	472142	626,10

thanos rH LON – measuring temperature and humidity			
Type		item No.	€
thanos rH L black LON	Temp + rH	471800	670,70
thanos rH L white LON	Temp + rH	471794	670,70
thanos rH LQ black LON	Temp + rH	471824	670,70
thanos rH LQ white LON	Temp + rH	471817	670,70
thanos rH S black LON	Temp + rH	471848	626,10
thanos rH S white LON	Temp + rH	471831	626,10

thanos rH RS485 Modbus – measuring temperature and humidity			
Type		item No.	€
thanos rH L black RS485 Modbus	Temp + rH	472364	632,30
thanos rH L white RS485 Modbus	Temp + rH	472357	632,30
thanos rH LQ black RS485 Modbus	Temp + rH	472388	632,30
thanos rH LQ white RS485 Modbus	Temp + rH	472371	632,30
thanos rH S black RS485 Modbus	Temp + rH	472401	587,70
thanos rH S white RS485 Modbus	Temp + rH	472395	587,70

thanos

thanos L black

thanos L white

thanos L white

thanos S black

WRF08 12T, pure white
without design frame

WRF08 12T, pure white
frame fluted glass

WRF08 8T, aluminium
frame Midnight

WRF08

WRF08 Room operating unit for temperature measurement and operation of HVAC, Lighting and blind control. High quality optics and design available with various glass, stone, or stainless steel designed frames for high end applications. Programmable operating function keys allowing flexibility for custom room designs. The universal WRF08 is available in LON, Modbus and BACnet communications thus allowing programmable control.

TECHNICAL DATA	
Output BUS	BACnet MS/TP LON RS485 Modbus
Measured values	Temperature
Power supply	BACnet: 15..24 V = (±10%) or 24 V ~ (±10%) LON: 15..24 V = (±10%) or 24 V ~ (±10%) Modbus: 15..24 V = (±10%)
Power consumption	max. 1,5 W (24 V =) | 2,9 VA (24 V ~)
Measuring range temperature	0..+50 °C
Accuracy temperature	±0,5 K
Frame designs (optional)	Glass grooved. Satin stainless steel Midnight (Corian) Dusk (Corian)
Control functions	Various switching functions, e.g.: Light ON/OFF/DIM Blinds UP/DOWN/SET Fan stages Setpoint
No. of buttons	2 (WRF08 2T) 4 (WRF08 4T) 8 (WRF08 8T) 12 (WRF08 12T)
LCD	51x39 mm, monochrome
Display showing	Room temperature, setpoint, operation mode, fan stage, occupancy, error, date and time,...
Buttons labelling	Individually with printable inlay transparency
Ambient temperature	0..+50 °C
Protection	IP30
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white anthracite aluminium
Enclosure material	ABS
Installation type	Flush mounted with standard EU box (Ø=55 mm)

WRF08

WRF08 8T, anthracite
frame dusk

WRF08 12T, anthracite
frame polished stainless steel

WRF08 2T, pure white
without design frame

Prices WRF08 without design frame

WRF08 BACnet – measuring temperature			
Type		Price cut	€
WRF08 2T BACnet	2 buttons		357,70
WRF08 4T BACnet	4 buttons		365,00
WRF08 8T BACnet	8 buttons		373,40
WRF08 12T BACnet	12 buttons		392,70

WRF08 LON – measuring temperature			
Type		Price cut	€
WRF08 2T LON	2 buttons		379,80
WRF08 4T LON	4 buttons		387,10
WRF08 8T LON	8 buttons		395,40
WRF08 12T LON	12 buttons		414,20

WRF08 RS485 Modbus – measuring temperature			
Type		Price cut	€
WRF08 2T RS485 Modbus	2 buttons		338,20
WRF08 4T RS485 Modbus	4 buttons		345,50
WRF08 8T RS485 Modbus	8 buttons		353,80
WRF08 12T RS485 Modbus	12 buttons		372,60

OPTIONS	
Type	€
Design frame - fluted glass	34,30
Design frame - polished stainless steel	28,90
Design frame - Midnight	28,90
Design frame - dusk	28,90

WRF06 LCD, Type 2
frame Gira Esprit Alu

WRF06 LCD, Type 1
frame Peha Aura Glass

WRF06 LCD, Type 1
frame Gira E2

LONMARK® Modbus

WRF06 LCD

Room and space temperature measurement with set point adjustment, fan speed, LCD display and manual override. Integrated heating/cooling controller and digital inputs for window contacts, dew point detection and analogue, relay or triac outputs for control valves. Available as a standalone or LON or Modbus communications. Fits into switch frames 55x55 mm.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) heating/cooling
Output BUS	LON RS485 Modbus
Measured values	Temperature
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	VV/RS485 Modbus: typ. 0,8 W (24 V =) | 2,5 VA (24 V ~) LON: typ. 1,3 W / 1,5 VA
Measuring range temperature	0..+50 °C
Accuracy temperature	±0,5 K
Frame designs	Berker S1, B3, B7 Glas Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Peha Aura For other frame designs please request
No. of buttons	4
Types	2V: 2 inputs, 2 outputs 0..10 V AO2V: 2 inputs, 2 outputs 0..10 V DI4: 4 inputs (digital) DO2T: 2 inputs, 2 outputs Triac DO2R: 2 inputs, 2 outputs relay OVR: 2 inputs, 2 outputs (1x 0..10 V, 1 relay) OVT: 2 inputs, 2 outputs (1x 0..10 V, 1 Triac)
LCD	34x21 mm, monochrome
Display showing	Room temperature, setpoint, operation mode, fan stage, occupancy, alarm
Ambient temperature	0..+50 °C
Protection	IP30
Terminal block	Pluggable screwing terminal, max. 1,5mm²
Enclosure colour	pure white anthracite aluminium
Installation type	Flush mounted with standard EU box (Ø=55 mm)
Notes	Please indicate print layout in order Please specify frame design in order. Prices incl. frame Gira E2 WRF06 LCD 2V only with label design type 1 and type 3 available

WRF06 LCD

Prices/delivery incl. frame design Gira E2, other designs on request
Price cut due to change in price-/discountgroup

WRF06 LCD active						
Type	Input	0..10 V	Relais	Triac	Price cut	€
WRF06 LCD 2V	2	2	-	-	▼	208,90

LONMARK®

WRF06 LCD LON						
Type	Input	0..10 V	Relais	Triac	Price cut	€
WRF06 LCD LON AO2V	2	2	-	-	▼	271,80
WRF06 LCD LON DI4	4	-	-	-	▼	271,80
WRF06 LCD LON DO2R	2	-	2	-	▼	301,50
WRF06 LCD LON DO2T	2	-	-	2	▼	301,50
WRF06 LCD LON OVR	2	1	1	-	▼	301,50
WRF06 LCD LON OVT	2	1	-	1	▼	301,50

Modbus

WRF06 LCD RS485 MODBUS						
Type	Input	0..10 V	Relais	Triac	Price cut	€
WRF06 LCD RS485 Modbus AO2V	2	2	-	-	▼	244,60
WRF06 LCD RS485 Modbus DI4	4	-	-	-	▼	244,60
WRF06 LCD RS485 Modbus DO2R	2	-	2	-	▼	274,30
WRF06 LCD RS485 Modbus DO2T	2	-	-	2	▼	274,30
WRF06 LCD RS485 Modbus OVR	2	1	1	-	▼	274,30
WRF06 LCD RS485 Modbus OVT	2	1	-	1	▼	274,30

OPTIONS	
Type	€
Switch programme Busch-Jaeger Reflex SI	8,75
Switch programme Busch-Jaeger Solo/Future/Impuls/Axcent	14,30
Switch programme Gira Esprit	35,10
Switch programme stainless steel	28,50
Other switch programmes	12,80

WRF06 LCD with IO-Expansion

Type 1 (all)

Type 2 (not with 2V)

Type 3 (only with 2V)

WRF07 P3T3D, Busch-Jaeger alpha nea

WRF07 PSD, Merten Artec,
Special legend

WRF07 PT, Jung LS stainless steel
Special legend

WRF07

Room and space temperature measurement with set point adjustment, fan speed and manual override.

TECHNICAL DATA	
Output voltage	1x 0..10 V (TRV) 2x 0..10 V (VV) pass. Sensor (S)
Output BUS	BACnet MS/TP LON RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	BACnet: typ. 0,9 W (24/ V =) | 1 VA (24 V ~) LON: typ. 0,7 W / 2,5 VA RS485 Modbus: typ. 0,9 W (24 V =) | 1 VA (24 V ~)
Measuring range temperature	0..+50 °C
Accuracy temperature	±0,5 K TRV: ±0,1% of measuring range depending on used sensor (passive)
Frame designs	Berker S1, B3, B7 Glas Busch-Jaeger Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Siemens
Setpoint (P)	for set point adjustment; standard values 1, 5, 10 kOhm (please contact for more), 3-wire connection with active output 0..10 V (optional)
Rocker switch (S)	for changing fan stages, 2 or 3 stages, output max. 5 VA
Button (T)	for presence detection; 2-wire, output max. 600 mW
LED (D)	Status feedback, multiple LEDs possible, different colours available.
Types	TRV: 1 output 0..10 V AO2V: 2 inputs, 2 outputs 0..10 V DI4: 4 inputs (digital) Inputs: floating switch contact
Label	Standard frame manufacturers Special legend possible
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Installation type	Flush mounted with standard EU box (Ø=55 mm)
Notes	Additional sensors, frames and operating elements on request Rocker switch „S“ not available with ABB/ Busch-Jaeger frames

BACnet LONMARK® Modbus

WRF07 passive

Prices based on switch programme Busch-Jaeger Duro 2000 SI

WRF07 – ohne Sensor			
Type	Operating elem.	Sensor	€
WRF07	P	without sensor	65,80
WRF07	PTD	without sensor	95,80
WRF07	PSD	without sensor	99,10

WRF07 – PT100			
Type	Operating elem.	Sensor	€
WRF07	P	PT100	72,80
WRF07	PTD	PT100	102,80
WRF07	PSD	PT100	106,10

WRF07 – PT100 1/3 DIN			
Type	Operating elem.	Sensor	€
WRF07	P	PT100 1/3 DIN	76,50
WRF07	PTD	PT100 1/3 DIN	106,50
WRF07	PSD	PT100 1/3 DIN	109,90

WRF07 – PT1000			
Type	Operating elem.	Sensor	€
WRF07	P	PT1000	75,00
WRF07	PTD	PT1000	105,00
WRF07	PSD	PT1000	108,30

WRF07 – PT1000 1/3 DIN			
Type	Operating elem.	Sensor	€
WRF07	P	PT1000 1/3 DIN	78,00
WRF07	PTD	PT1000 1/3 DIN	108,00
WRF07	PSD	PT1000 1/3 DIN	111,30

WRF07 – Ni1000			
Type	Operating elem.	Sensor	€
WRF07	P	Ni1000	74,70
WRF07	PTD	Ni1000	104,70
WRF07	PSD	Ni1000	108,00

WRF07 – Ni1000TK5000			
Type	Operating elem.	Sensor	€
WRF07	P	Ni1000TK5000	78,20
WRF07	PTD	Ni1000TK5000	108,20
WRF07	PSD	Ni1000TK5000	111,50

WRF07 – FeT			
Type	Operating elem.	Sensor	€
WRF07	P	FeT	81,10
WRF07	PTD	FeT	111,10
WRF07	PSD	FeT	114,40

WRF07 – NTC1,8k			
Type	Operating elem.	Sensor	€
WRF07	P	NTC1,8k	72,80
WRF07	PTD	NTC1,8k	102,80
WRF07	PSD	NTC1,8k	106,10

WRF07 – NTC10k			
Type	Operating elem.	Sensor	€
WRF07	P	NTC10k	71,50
WRF07	PTD	NTC10k	101,50
WRF07	PSD	NTC10k	104,80

WRF07 – NTC10k Precon			
Type	Operating elem.	Sensor	€
WRF07	P	NTC10k Precon	71,50
WRF07	PTD	NTC10k Precon	101,50
WRF07	PSD	NTC10k Precon	104,80

WRF07 – NTC20k			
Type	Operating elem.	Sensor	€
WRF07	P	NTC20k	71,50
WRF07	PTD	NTC20k	101,50
WRF07	PSD	NTC20k	104,80

WRF07 – LM235Z			
Type		Sensor	€
WRF07	P	LM235Z	73,30
WRF07	PTD	LM235Z	103,20
WRF07	PSD	LM235Z	106,60

P Setpoint
PTD Setpoint, Button, LED
PSD Setpoint, Rocker switch, LED

WRF07 active

Prices based on switch programme Busch-Jaeger Duro 2000 SI

WRF07 – TRV3 (0..50 °C)				
Type		Input (digital)	0..10 V	€
WRF07 P	TRV3	-	1	136,00
WRF07 PTD	TRV3	-	1	165,90
WRF07 PSD	TRV3	-	1	169,30

BACnet

WRF07 – AO2V BACnet				
Type		Input (digital)	0..10 V	€
WRF07 P	AO2V BACnet	2	2	202,10
WRF07 PTD	AO2V BACnet	2	2	212,50

LonMark

WRF07 – DI4 LON				
Type		Input (digital)	0..10 V	€
WRF07 P	DI4 LON	4	-	224,60
WRF07 PTD	DI4 LON	4	-	236,10

Modbus

WRF07 – RS485 Modbus				
Type		Input (digital)	0..10 V	€
WRF07 P	DI4 RS485 Modbus	4	-	196,60
WRF07 PTD	DI4 RS485 Modbus	4	-	212,50
WRF07 P	AO2V RS485 Modbus	2	2	202,10
WRF07 PTD	AO2V RS485 Modbus	2	2	212,50

OPTIONS	
Type	€
Active Potentiometer 0..10 V (VV)	22,40
Switch programme Busch-Jaeger Reflex SI	8,75
Switch programme Busch-Jaeger Solo/Future/Impuls/Axcent	14,30
Switch programme Gira Esprit	35,10
Switch programme stainless steel	28,50
Other switch programmes	12,80

P Setpoint
PTD Setpoint, Button, LED
PSD Setpoint, Rocker switch, LED

WRF06 3T3D, Gira E2/Esprit, special label

WRF06 4T4D, Jung AS500, special label

WRF06 S2D, Berker K.1, special label

WRF06 x

Room operating unit for room/space temperature measurement with fan stage adjustment and manual override. Designed for control and monitoring systems.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,9 W / 1 VA
Measuring range temperature	depending on used sensor (passive)
Accuracy temperature	depending on used sensor (passive)
Frame designs	Berker S1, B3, B7 Glas Busch-Jaeger Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Siemens
Rotary switch (S)	for fan stage adjustment, max. 5 fan stages optional with active output (0..10 V; s. options)
Button (T)	Operating element for presence detection or fan stage adjustment, 2-wire, output max. 600 mW
LED (D)	Status feedback, 2-wire, several LEDs possible, colour green, red or yellow
Ambient temperature	-35..+70 °C
Protection	IP20
Terminal block	Pluggable screwing terminal, max. 1,5mm²
Installation type	Flush mounted with standard EU box (Ø=55 mm)
Notes	Additional sensors, frames and operating elements on request

WRF06 x

Prices based on switch programme Busch-Jaeger Duro 2000 SI
For types without operating elemnts please see „Temperature – Room Sensors“

WRF06 x - Sensor			
Type	Operating elem.	Sensor	€
WRF06	S	ohne Sensor	70,00
WRF06	TD	without sensor	51,10
WRF06	TD	PT100	58,10
WRF06	TD	PT100 1/3 DIN	61,80
WRF06	TD	PT1000	60,30
WRF06	TD	PT1000 1/3 DIN	63,30
WRF06	TD	Ni1000	59,90
WRF06	TD	Ni1000TK5000	63,50
WRF06	TD	FeT	66,40
WRF06	TD	NTC1,8k	58,10
WRF06	TD	NTC5k	56,80
WRF06	TD	NTC10k	56,80
WRF06	TD	NTC10k Precon	56,80
WRF06	TD	NTC20k	56,80
WRF06	TD	LM235Z	58,50

OPTIONS	
Type	€
Switch programme Busch-Jaeger Reflex SI	8,75
Switch programme Busch-Jaeger Solo/Future/Impuls/Axcent	14,30
Switch programme Gira Esprit	35,10
Switch programme stainless steel	28,50
Other switch programmes	12,80

S Rotary switch
TD Button, LED

WRF04 x

Room and space temperature measurement with optional set point adjustment, fan speed and manual override.

WRF04PSTD

WRF04PST3D,
Special design

WRF04 alusilver
special painting

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output BUS	BACnet MS/TP, LON RS485 Modbus
Measured values	Temperature
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TR/V: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) BACnet: typ. 0,4 W (24/ V =) | 0,6 VA (24 V ~) LON: typ. 0,6 W / 1,7 VA RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~)
Measuring range temperature	0..+50 °C
Accuracy temperature	±1% of m easuring range (typ. at 21 °C)
Setpoint (P)	for set point adjustment; standard values 1, 5, 10 kOhm (please contact for more), 3-wire connection with active output 0..10 V (optional)
Rotary switch (S)	for fan stage adjustment, max. 5 fan stages, optionally with active output 0..10 V
Button (T)	for presence detection; 2-wire, output max. 600 mW
LED (D)	Status feedback, 2-wire, several LEDs possible, colour green, red or yellow
Types	TRV3: 1 output 0..10 V (0..50 °C) TRA3: 1 output 4..20 mA (0..50 °C) AO2V: 2 inputs, 2 outputs 0..10 V DO2T: 2 inputs, 2 outputs Triac DO2R: 2 inputs, 2 outputs relay OVR: 2 inputs, 2 outputs (1x 0..10 V, 1 relay) OVT: 2 inputs, 2 outputs (1x 0..10 V, 1 Triac) Inputs: floating switch contact
Label	Switch: 0,I or 0,I,II or 0,I,II,III or Auto,0,I,II,III Potentiometer: - , 0 , +
Ambient temperature	-35..+70 °C
Protection	IP30
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Installation type	Surface mounted on flush-mounting box (Ø=55 mm)
Notes	Custom label available on request Custom paint available on request Additional sensors and operating elements on request

WRF04 x passive (without sensor, PTxxx, Nixxx)

WRF04 – without sensor			
Type	Operating elem.	Sensor	€
WRF04		without sensor	12,70
WRF04	P	without sensor	36,10
WRF04	S	without sensor	51,80
WRF04	TD	without sensor	39,60
WRF04	PSD	without sensor	79,00
WRF04	PTD	without sensor	60,10
WRF04	PSTD	without sensor	95,00

WRF04 – PT100				
Type	Operating elem.	Sensor	On stock	€
WRF04		PT100	⛁	19,70
WRF04	P	PT100		43,10
WRF04	S	PT100		58,80
WRF04	TD	PT100		46,60
WRF04	PSD	PT100		86,00
WRF04	PTD	PT100		67,10
WRF04	PSTD	PT100		102,00

WRF04 – PT100 1/3 DIN			
Type	Operating elem.	Sensor	€
WRF04		PT100 1/3 DIN	23,40
WRF04	P	PT100 1/3 DIN	46,80
WRF04	S	PT100 1/3 DIN	62,60
WRF04	TD	PT100 1/3 DIN	50,40
WRF04	PSD	PT100 1/3 DIN	89,80
WRF04	PTD	PT100 1/3 DIN	70,80
WRF04	PSTD	PT100 1/3 DIN	105,70

WRF04 – PT1000				
Type	Operating elem.	Sensor	On stock	€
WRF04		PT1000	⛁	21,90
WRF04	P	PT1000		45,30
WRF04	S	PT1000		61,00
WRF04	TD	PT1000		48,80
WRF04	PSD	PT1000		88,20
WRF04	PTD	PT1000		69,30
WRF04	PSTD	PT1000		104,20

WRF04 – PT1000 1/3 DIN			
Type	Operating elem.	Sensor	€
WRF04		PT100 1/3 DIN	23,40
WRF04	P	PT1000 1/3 DIN	48,30
WRF04	S	PT1000 1/3 DIN	64,00
WRF04	TD	PT1000 1/3 DIN	51,80
WRF04	PSD	PT1000 1/3 DIN	91,20
WRF04	PTD	PT1000 1/3 DIN	72,30
WRF04	PSTD	PT1000 1/3 DIN	107,20

WRF04 – Ni1000				
Type	Operating elem.	Sensor	On stock	€
WRF04		Ni1000	⛁	21,60
WRF04	P	Ni1000		45,00
WRF04	S	Ni1000		60,70
WRF04	TD	Ni1000		48,50
WRF04	PSD	Ni1000		87,90
WRF04	PTD	Ni1000		69,00
WRF04	PSTD	Ni1000		103,90

WRF04 – Ni1000TK5000				
Type	Operating elem.	Sensor	On stock	€
WRF04		Ni1000TK5000	⛁	19,70
WRF04	P	Ni1000TK5000		48,50
WRF04	S	Ni1000TK5000		64,20
WRF04	TD	Ni1000TK5000		52,00
WRF04	PSD	Ni1000TK5000		91,40
WRF04	PTD	Ni1000TK5000		72,50
WRF04	PSTD	Ni1000TK5000		107,40

P Setpoint
S Rotary switch
T Button
D LED

WRF04 x passive (FeT, NTCxk, LM235Z)

WRF04 – FeT			
Type	Operating elem.	Sensor	€
WRF04		FeT	18,40
WRF04	P	FeT	51,40
WRF04	S	FeT	67,10
WRF04	TD	FeT	55,00
WRF04	PSD	FeT	94,30
WRF04	PTD	FeT	75,40
WRF04	PSTD	FeT	110,30

WRF04 – NTC1,8K				
Type	Operating elem.	Sensor	On stock	€
WRF04		NTC1,8k	⛁	25,10
WRF04	P	NTC1,8k		43,10
WRF04	S	NTC1,8k		58,80
WRF04	TD	NTC1,8k		47,40
WRF04	PSD	NTC1,8k		86,00
WRF04	PTD	NTC1,8k		67,10
WRF04	PSTD	NTC1,8k		102,00

WRF04 – NTC5k			
Type	Operating elem.	Sensor	€
WRF04		NTC5k	28,00
WRF04	P	NTC5k	41,80
WRF04	S	NTC5k	57,50
WRF04	TD	NTC5k	46,10
WRF04	PSD	NTC5k	84,70
WRF04	PTD	NTC5k	65,80
WRF04	PSTD	NTC5k	100,70

WRF04 – NTC10k				
Type	Operating elem.	Sensor	On stock	€
WRF04		NTC10k	⛁	18,40
WRF04	P	NTC10k		41,80
WRF04	S	NTC10k		57,50
WRF04	TD	NTC10k		46,10
WRF04	PSD	NTC10k		84,70
WRF04	PTD	NTC10k		65,80
WRF04	PSTD	NTC10k		103,90

WRF04 – NTC10k Precon			
Type	Operating elem.	Sensor	€
WRF04		NTC10k Precon	18,40
WRF04	P	NTC10k Precon	41,80
WRF04	S	NTC10k Precon	57,50
WRF04	TD	NTC10k Precon	46,10
WRF04	PSD	NTC10k Precon	84,70
WRF04	PTD	NTC10k Precon	65,80
WRF04	PSTD	NTC10k Precon	100,70

WRF04 – NTC20k				
Type	Operating elem.	Sensor	On stock	€
WRF04		NTC20k	⛁	18,40
WRF04	P	NTC20k		41,80
WRF04	S	NTC20k		57,50
WRF04	TD	NTC20k		46,10
WRF04	PSD	NTC20k		84,70
WRF04	PTD	NTC20k		65,80
WRF04	PSTD	NTC20k		100,70

WRF04 – LM235Z				
Type	Operating elem.	Sensor	On stock	€
WRF04		LM235Z	⛁	20,20
WRF04	P	LM235Z		43,70
WRF04	S	LM235Z		59,30
WRF04	TD	LM235Z		48,00
WRF04	PSD	LM235Z		87,30
WRF04	PTD	LM235Z		68,40
WRF04	PSTD	LM235Z		103,90

P Setpoint
S Rotary switch
T Button
D LED

WRF04 x active/BUS

WRF04 – active (0..10 V)							
Type			Input	0..10 V		On stock	€
WRF04		TRV MultiRange	-	1		≡	64,60
WRF04	P	TRV3	-	1			106,40
WRF04	PSD	TRV3	-	1			150,00
WRF04	PTD	TRV3	-	1			131,10
WRF04	PSTD	TRV3	-	1			188,40

BACnet

WRF04 – BACnet AO2V						
Type		Input	0..10 V	Relais	Triac	On stock	€
WRF04	BACnet AO2V	2	2	-	-		149,90
WRF04 P	BACnet AO2V	2	2	-	-		154,20
WRF04 PSD	BACnet AO2V	2	2	-	-		179,40
WRF04 PTD	BACnet AO2V	2	2	-	-		161,90
WRF04 PSTD	BACnet AO2V	2	2	-	-		195,40

LonMark

WRF04 – LON			
Type		Output	€
WRF04	LON	LON	173,80
WRF04 P	LON	LON	177,80
WRF04 PSD	LON	LON	203,30
WRF04 PTD	LON	LON	185,90
WRF04 PSTD	LON	LON	211,40

Modbus

WRF04 – RS485 Modbus AO2V								
Type		Input	0..10 V	Relais	Triac	On stock	Price cut	€
WRF04	RS485 Modbus AO2V	2	2	-	-	≡	▼	149,90
WRF04 P	RS485 Modbus AO2V	2	2	-	-		▼	154,20
WRF04 PSD	RS485 Modbus AO2V	2	2	-	-		▼	179,40
WRF04 PTD	RS485 Modbus AO2V	2	2	-	-		▼	161,90
WRF04 PSTD	RS485 Modbus AO2V	2	2	-	-		▼	195,40

Modbus

WRF04 – RS485 Modbus DO2R							
Type		Input	0..10 V	Relais	Triac	Price cut	€
WRF04 P	RS485 Modbus DO2R	2	-	2	-	▼	195,80
WRF04 PSD	RS485 Modbus DO2R	2	-	2	-	▼	221,00
WRF04 PTD	RS485 Modbus DO2R	2	-	2	-	▼	203,50

WRF04 x Modbus

WRF04 – RS485 Modbus DO2T							
Type		Input	0..10 V	Relais	Triac	Price cut	€
WRF04 P	RS485 Modbus DO2T	2	-	-	2		195,80
WRF04 PSD	RS485 Modbus DO2T	2	-	-	2		221,00
WRF04 PTD	RS485 Modbus DO2T	2	-	-	2		203,50

WRF04 – RS485 Modbus OVR							
Type		Input	0..10 V	Relais	Triac	Price cut	€
WRF04 P	RS485 Modbus OVR	2	1	1	-		195,80
WRF04 PSD	RS485 Modbus OVR	2	1	1	-		221,00
WRF04 PTD	RS485 Modbus OVR	2	1	1	-		203,50

WRF04 – RS485 Modbus OVT							
Type		Input	0..10 V	Relais	Triac	Price cut	€
WRF04 P	RS485 Modbus OVT	2	1	-	1		195,80
WRF04 PSD	RS485 Modbus OVT	2	1	-	1		221,00
WRF04 PTD	RS485 Modbus OVT	2	1	-	1		203,50

OPTIONS	
Type	€
Active Potentiometer 0..10 V (VV)	22,40

ACCESSORIES			
Type	item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209		0,80
Frame for surface mouting WRF04	111584		12,40
Ball stroke protection BS100 (only for WRF04)	103312		33,20

WRF04 LCD PSD

BACnet

LonMark®

Modbus

WRF04 LCD x

Room and space temperature measurement with optional set point adjustment, fan speed, LCD display and manual override.

TECHNICAL DATA	
Output voltage	1x 0..10 V (TRV)
Output BUS	BACnet MS/TP LON RS485 Modbus
Measured values	Temperature
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TR/V: typ. 0,6 W (24 V =) | 1,0 VA (24 V ~) BACnet: typ. 0,4 W (24/ V =) | 0,6 VA (24 V ~) LON: typ. 0,8 W / 2,0 VA RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~)
Measuring range temperature	0..+50 °C
Accuracy temperature	±1% of m easuring range (typ. at 21 °C)
Setpoint (P)	for set point adjustment; standard values 1, 5, 10 kOhm (please contact for more), 3-wire connection with active output 0..10 V (optional)
Rotary switch (S)	for fan stage adjustment, max. 5 fan stages, optionally with active output 0..10 V
Button (T)	for presence detection; 2-wire, output max. 600 mW
LED (D)	Status feedback, 2-wire, several LEDs possible, colour green, red or yellow
Types	TRV3: 1 output 0..10 V (0..50 °C) AO2V: 2 inputs, 2 outputs 0..10 V DO2T: 2 inputs, 2 outputs Triac DO2R: 2 inputs, 2 outputs relay OVR: 2 inputs, 2 outputs (1x 0..10 V, 1 relay) OVT: 2 inputs, 2 outputs (1x 0..10 V, 1 Triac) Inputs: floating switch contact
LCD	29x12 mm, monochrome
Label	Switch: 0,I or 0,I,II or 0,I,II,III or Auto,0,I,II,III Potentiometer: - , 0 , +
Ambient temperature	-35..+70 °C
Protection	IP30
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Installation type	Surface mounted on flush-mounting box (Ø=55 mm)
Notes	Custom label available on request Custom paint available on request Additional sensors and operating elements on request

WRF04 LCD x

For WRF04 without Operating elements refer to„Temperature – Room Sensors“

WRF04 LCD – TRV3						
Type		Input	0..10 V			€
WRF04 LCD P	TRV3	-	1			146,10
WRF04 LCD PSD	TRV3	-	1			189,70
WRF04 LCD PTD	TRV3	-	1			170,80
WRF04 LCD PSTD	TRV3	-	1			228,00

BACnet

WRF04 LCD – BACnet AO2V						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	BACnet AO2V	2	2	-	-	193,90
WRF04 LCD PSD	BACnet AO2V	2	2	-	-	219,10
WRF04 LCD PTD	BACnet AO2V	2	2	-	-	201,60

LONMARK®

WRF04 LCD – LON			
Type		Output	€
WRF04 LCD P	LON	LON	217,40
WRF04 LCD PSD	LON	LON	243,00
WRF04 LCD PTD	LON	LON	225,60
WRF04 LCD PSTD	LON	LON	259,00

Modbus

WRF04 LCD – RS485 Modbus AO2V						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	RS485 Modbus AO2V	2	2	-	-	193,90
WRF04 LCD PSD	RS485 Modbus AO2V	2	2	-	-	219,10
WRF04 LCD PTD	RS485 Modbus AO2V	2	2	-	-	201,60
WRF04 LCD PSTD	RS485 Modbus AO2V	2	2	-	-	235,10

Modbus

WRF04 LCD – RS485 Modbus DO2R						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	RS485 Modbus DO2R	2	-	2	-	235,50
WRF04 LCD PSD	RS485 Modbus DO2R	2	-	2	-	260,70
WRF04 LCD PTD	RS485 Modbus DO2R	2	-	2	-	243,20

Modbus

WRF04 LCD – RS485 Modbus DO2T						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	RS485 Modbus DO2T	2	-	-	2	235,50
WRF04 LCD PSD	RS485 Modbus DO2T	2	-	-	2	260,70
WRF04 LCD PTD	RS485 Modbus DO2T	2	-	-	2	243,20

WRF04 LCD x

WRF04 LCD – RS485 Modbus OVR						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	RS485 Modbus OVR	2	1	1	-	235,50
WRF04 LCD PSD	RS485 Modbus OVR	2	1	1	-	260,70
WRF04 LCD PTD	RS485 Modbus OVR	2	1	1	-	243,20

WRF04 LCD – RS485 Modbus OVT						
Type		Input	0..10 V	Relais	Triac	€
WRF04 LCD P	RS485 Modbus OVT	2	1	-	1	235,50
WRF04 LCD PSD	RS485 Modbus OVT	2	1	-	1	260,70
WRF04 LCD PTD	RS485 Modbus OVT	2	1	-	1	243,20

OPTIONS	
Type	€
Active Potentiometer 0..10 V (VV)	22,40

ACCESSORIES			
Type	item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209	≡	0,80
Frame for surface mouting WRF04	111584	≡	12,40

NEW

JOY
image similar

JOY

Room thermostat in elegant Thermokon design. Fancoil and heating/cooling type available.

Probably available in III.2015.

TECHNICAL DATA	
Relay output	Heating: 1x 250 V ~, max. 16 A Fancoil: 5x potential free relay, max. 5 A
Network technology	RS485 Modbus
Power supply	85..260 V ~
Measuring range temperature	-10..+50 °C
Accuracy temperature	±1 °C
Sensor type	NTC10k
Changeover Sensor	Digital input or NTC10k (optional)
Inputs	1: 1x DI, potential-free or NTC10k 2: 1x DI, 230 V Passive sensor
LCD	Large LCD screen White background lighting Resolution: 240x160 px
Ambient temperature	+10..+50 °C
Ambient humidity	5..95% rH
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	white
Enclosure material	PC scratch resistant acrylic glass
Installation type	Flush mounted with standard EU box (Ø=55 mm) Base part can be mounted and wired separate ly

JOY		
Type	item No.	€
JOY Heating/Cooling	on request	
JOY Fancoil Modbus	on request	

OPTIONS	
Type	€
Changeover sensor NTC10k	on request

NEW

LCF Touch

LCF Touch

Modern design flush mounting fan coil room thermostat, used for individual control of temperature in commercial, industrial and residential buildings. It is tailored for two-pipe and four-pipe fan coil units with two-wire electric valves. The device combines digital technology with a large LCD touch screen display, which enables the single room controller to be used intuitively. Integrated 7 day time clock with 4 time programs.

TECHNICAL DATA	
Relay output	Fan stage: 3x 250 V ~ 2-pipe version - Heating/Cooling: 1x 250 V ~ 4-pipe version - heating: 1x 250 V ~ + cooling: 1x 250 V ~
Network technology	RS485 Modbus
Power supply	90..265 V ~
Measuring range temperature	-10..+50 °C
Accuracy temperature	±1 °C
Sensor type	NTC10k
Changeover Sensor	NTC10k (optional)
Inputs	Passive sensor
LCD	Large LCD screen Touchscreen White background lighting
Ambient temperature	+10..+50 °C
Ambient humidity	5..95% rH
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	black
Enclosure material	ABS scratch resistant acrylic glas
Installation type	Flush mounted with standard EU box (Ø=55 mm)

LCF Touch		
Type	item No.	€
LCT Touch	575768	122,10
LCF Touch Modbus	575775	136,30

OPTIONS	
Type	€
Changeover sensor NTC10k	on request

NEW

LCF

LCF

The fan coil room thermostat has been designed for individual control of temperature in commercial, industrial and residential buildings. It is tailored for two-pipe and four-pipe fan coil with two-wire electric valves. With its flush mounted modern design the device combines digital technology with a large LCD display and additional buttons, which enables the single room controller to be used intuitively.

TECHNICAL DATA	
Relay output	Fan stage: 3x 250 V ~ 2-pipe version - Heating/Cooling: 1x 250 V ~ 4-pipe version - heating: 1x 250 V ~ + cooling: 1x 250 V ~
Power supply	90..265 V ~
Measuring range temperature	-10..+50 °C
Accuracy temperature	±1 °C
Sensor type	NTC10k
Changeover Sensor	NTC10k (optional)
Inputs	Passive sensor
LCD	Large LCD screen Whi te background lighting
Ambient temperature	-10..+50 °C
Ambient humidity	5..95% rH
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ABS scratch resistant acrylic glass
Installation type	Flush mounted with standard EU box (Ø=55 mm)

LCF		
Type	item No.	€
LCF	575751	40,00

OPTIONS	
Type	€
Changeover sensor NTC10k	on request

NEW

LCT

LCT

The electronic room thermostat is designed for controlling temperature in commercial, industrial and residential buildings and also underfloor heating applications. LCD temperature display, dial set point and relay on/off output. Additional input is available for an external temperature sensor if required.

TECHNICAL DATA	
Relay output	Heating: 1x 250 V ~, max. 16 A Heating: 1x 30 V =, 10 A
Power supply	100..240 V ~
Load current	250 V ~, 16 A
Measuring range temperature	0..+40 °C
Accuracy temperature	±1 °C
Sensor type	NTC10ok
Inputs	NTC10ok (optional)
LCD	Display for temperature and set point
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Installation type	Surface mounting
Notes	Set point adjustment for floor temperature: +5..+40 °C Set point adjustment for room temperature: +5..+30 °C

LCT		
Type	item No.	€
LCT	573382	25,20

OPTIONS	
Type	€
additional sensor NTC10ok	on request

Temperature

High-quality materials, modern production processes, and many years of experience: We produce temperature sensors for various applications in buildings for heating, refrigeration and air conditioning systems.

Sample applications 125

Room sensors

WRF04	Surface mount temperature sensor	128
WRF06	Flush mount temperature sensor	130
RDF18	Temperature sensor ceiling	132
RPF40	Pendulum temp. sensor large rooms	133
RPF100	Pendulum temp. sensor large rooms	135

Duct sensors

AKF10 – 4 mm	Air temperature sensor	137
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SI-Protection	Sensor protection against moisture	144
KFK01	Air temperature sensor	145
KFK03	Air temperature sensor	148
MWF	Averaging temperature sensor	152
RG03	High temperature sensor	154
TFR	Thermostat frost protection	156

Immersion sensors

SFK02	Temperature sensor liquid temp.	157
SFKH02	Temperature sensor liquid temp.	161
SFK01	Temperature sensor liquid temp.	165
SFKH01	Temperature sensor liquid temp.	168
SFK03	Temperature sensor liquid temp.	171
SFKH03	Temperature sensor liquid temp.	175
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Outdoor sensors

AGS43	Outdoor temp. sensor	181
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Contact sensors

VFG54	Temperature sensor pipe	185
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Cable sensors

TF14	Cable temperature sensor	193
TF25	Cable temperature sensor	197

» BENEFITS

- » Temperature sensors for various applications and harse environments
- » Numerous passive temperature sensors, active outputs and Bus systems are available
- » High protection against external factors due to special high end manufacturing processes

VFG54
Contact temperature sensor, available with LON or Modbus interfaces

AF25
Cable/Contact temperature sensor, various cable lengths are available

TF25
Cable temperature sensor, available with LON interface

OPTIMUM TEMPERATURE FOR YOUR APPLICATION

Our sensors are available in various designs and with numerous temperature sensor options, active outputs and BUS systems. Special manufacturing processes guarantee reliable operation even in demanding applications.

» BENEFITS

- » Temperature sensors for various applications and harse environments
- » Numerous passive temperature sensors, active outputs and Bus systems are available
- » High protection against external factors due to special high end manufacturing processes

AGS54 ext.
Outdoor/industrial temperature sensor, available with LON or Modbus interfaces as well as LCD

AKF10
Duct-/ immersion temperature sensor, available with LON or Modbus interfaces as well as LCD

RPF40
Room pendulum temperature sensor, various cable lengths are available

OPTIMUM TEMPERATURE FOR YOUR APPLICATION

Our sensors are available in various designs and with numerous temperature sensor options, active outputs and BUS systems. Special manufacturing processes guarantee reliable operation even in demanding applications.

WRF04

WRF04 LCD

WRF04
custom paint alusilver

WRF04

For temperature measuring, with set point and fan stage adjustment, manual override for room and office applications..

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Output BUS	BACnet MS/TP KNX LON RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) KNX: Supply via BUS TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LCD TRV: typ. 0,6 W (24 V =) | 1,0 VA (24 V ~) BACnet: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~) KNX: 0,6 W / 1,2 VA LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~) LCD LON: typ. 0,8 W / 2,0 VA RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~) LCD RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA3/TRV3: 0..+50 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device BUS: 0..+50 °C depends on used sensor (passive)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
LCD	29x12 mm, monochrome (optional)
Ambient temperature	-35..+70 °C
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP30
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	4-wire (passive) 3-wire (passive) 2-wire (passive, standard)
Enclosure colour	pure white
Enclosure material	ASA
Installation type	Installation on standard flush mounting box. Base enclosure can be mounted separately.
Notes	Stainless steel enclosure Custom paint possible

WRF04

WRF04 – passive			
Type	Item No.	On stock	Price cut	€
WRF04 without sensor	212892			12,70
WRF04 PT100	193221	≡		19,70
WRF04 PT100 1/3 DIN	197731			23,40
WRF04 PT1000	191623	≡		21,90
WRF04 PT1000 1/3 DIN	207980			24,90
WRF04 Ni1000	191616	≡		21,60
WRF04 Ni1000TK5000	236775	≡		19,70
WRF04 FeT	208017			18,40
WRF04 NTC1,8k	193214	≡		25,10
WRF04 NTC5k	218887			28,00
WRF04 NTC10k	207584	≡		18,40
WRF04 NTC10k Precon	197618			18,40
WRF04 NTC20k	193177	≡		18,40
WRF04 LM235Z	193191	≡		20,20
WRF04 DS18B20	349901		▼	19,70

WRF04 – active/BUS							
Type	Input	0..10 V	4..20 mA	Item No.	On stock	Price cut	€
WRF04 TRA MultiRange	-	-	1	479196	≡	▼	64,60
WRF04 TRV MultiRange	-	1	-	479202	≡	▼	64,60
WRF04 BACnet AO2V	2	2	-	546065		▼	149,90
WRF04 KNX				585989			173,80
WRF04 LON				193689		▼	173,80
WRF04 RS485 Modbus AO2V	2	2	-	419970		▼	149,90

WRF04 LCD – active/BUS						
Type	Input	0..10 V	4..20 mA	Item No.	Price cut	€
WRF04 LCD TRV MultiRange	-	1	-	593878		101,90
WRF04 LCD LON				398084		213,40
WRF04 LCD RS485 Modbus AO2V	2	2	-	420044	▼	189,50

OPTIONS	
Type	€
3-wire connection	1,85
4-wire connection	3,70
Stainless steel enclosure	92,80
Special painting setup costs (once)	95,00
Special painting - ordering 1..9 pcs. (per piece)	16,00
Special painting - ordering 10..49 pcs. (per piece)	11,00
Special painting - ordering 50..100 pcs. (per piece)	8,00

ACCESSORIES			
Type	Item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209	≡	0,80
Frame for surface mouting WRF04	111584	≡	12,40
Ball stroke protection BS100 (only for WRF04)	103312	≡	33,20

WRF06
Busch-Jaeger

WRF06
other switch programmes

WRF06

For temperature measuring in room and office applications. Designed for control and monitoring systems.

TECHNICAL DATA	
Output voltage	1x 0..10 V (TRV) pass. Sensor (S)
Output BUS	BACnet MS/TP LON RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) BACnet: typ. 0,9 W (24 V =) | 1 VA (24 V ~) LON: typ. 0,7 W / 2,5 VA RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~)
Measuring range temperature	0..+50 °C depending on used sensor (passive)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
Frame designs	Berker S1, B3, B7 Glas Busch-Jaeger Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Siemens For other frame designs please request
Ambient temperature	-35..+70 °C
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Installation type	Flush mounted with standard EU box (Ø=55 mm)
Remarks concerning prices	All prices on the basis of switch programme Busch-Jaeger DURO 2000 SI

WRF06

price/delivery incl. switch programme Busch-Jaeger Duro 2000 SI

WRF06 – passive		
Type	Item No.	€
WRF06 without sensor	407120	23,40
WRF06 PT100	127769	30,40
WRF06 PT100 1/3 DIN	146166	34,10
WRF06 PT1000	138765	32,60
WRF06 PT1000 1/3 DIN	590259	35,60
WRF06 Ni1000	121620	32,30
WRF06 Ni1000TK5000	139731	35,80
WRF06 FeT	167536	38,70
WRF06 NTC1,8k	305136	30,40
WRF06 NTC5k	590266	29,10
WRF06 NTC10k	200608	29,10
WRF06 NTC10k Precon	590273	29,10
WRF06 NTC20k	273459	29,10
WRF06 LM235Z	116923	31,70

WRF06 – active/BUS (0..50 °C)			
Type	Item No.	Price cut	€
WRF06 TRV3 (0..10 V)	150897		94,40
WRF06 BACnet	593892		196,50
WRF06 LON	462068	▼	175,30
WRF06 RS485 Modbus	on request		on request

OPTIONS	
Type	€
Switch programme Busch-Jaeger Reflex SI	8,75
Switch programme Busch-Jaeger Solo/Future/Impuls/Axcent	14,30
Switch programme Gira Esprit	35,10
Switch programme stainless steel	28,50
Other switch programmes	12,80

RDF18

RDF18

Ceiling temperature measurement for room and office spaces. Designed for control and monitoring applications.

TECHNICAL DATA	
Measuring range temperature	depending on used sensor
Accuracy temperature	depending on used sensor
Ambient temperature	-35..+70 °C
Protection	IP30
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC, soft
Connection wire diameter	0,25 mm²
Wires (number)	2-wire (passive, standard)
Enclosure colour	white
Enclosure material	ABS
Sensor head diameter	35 mm
Installation type	Facet mounted sensor.
Notes	Types for temperature and humidity available, see items

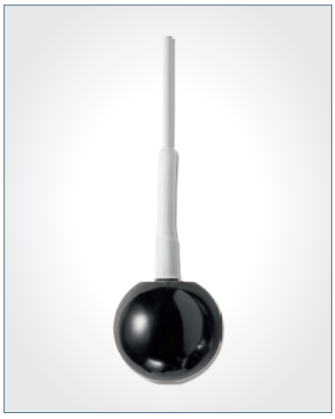
RDF18 | Length connection wire | Sensor

RDF18 – passive			
Type	Item No.	Price cut	€
RDF18 100 PT100	471237		34,60
RDF18 100 PT100 1/3 DIN	471244		38,30
RDF18 100 PT1000	459235		36,80
RDF18 100 PT1000 1/3 DIN	458276		39,80
RDF18 100 Ni1000	463669		36,80
RDF18 100 Ni1000TK5000	471251		36,50
RDF18 100 FeT	471268		42,90
RDF18 100 NTC1,8k	471275		34,60
RDF18 100 NTC5k	471299		33,20
RDF18 100 NTC10k	457828		33,20
RDF18 100 NTC10k Precon	471282		33,20
RDF18 100 NTC20k	459143		33,20
RDF18 100 LM235Z	456296		35,00

RDF18 active (Temperatur: 0..+50 °C, 1% v. Messbereich, Feuchte: 0..100%, 2% zwischen 10..90%)		
Type	Item No.	€
RDF18 rH VV (0..10 V, 15..24 V = or 24 V ~, max. 0,45 W | 0,8 VA)	427227	297,10
RDF18 rH AA (4..20 mA, 24 V =, max. 40 mA)	427845	297,10

OPTIONS	
Type	€
Cable length per additional meter	0,70

RPF40 passive



RPF40 radiation sensor

RPF40 active

RPF40

Temperature measurement for large rooms/spaces (e.g. open-plan offices, galleries, production plants). Available with black bulb for radiator or similar applications. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA3/TRV3: 0..+50 °C Range adjustable at the device depends on used sensor (passive)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
Ambient temperature	-35..+70 °C
Cable entry size	M20 (active)
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm² (active)
Colour connection wire	white grey (only radiation sensor)
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC
Connection wire diameter	0,25 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white (active)
Enclosure material	PA6 with quick lock screws (active)
Sensor head colour	white black (only radiation sensor)
Connection head diameter	40 mm
Notes	Multi-conductor connection on request Please contact us for other sensors.

RPF40 passive

RPF40 – passive			
Type	Item No.	Price cut	€
RPF40 100.04 PT100	350006		51,00
RPF40 100.04 PT100 1/3 DIN	265621		54,10
RPF40 100.04 PT1000	321068		52,80
RPF40 100.04 PT1000 1/3 DIN	329569		55,30
RPF40 100.04 Ni1000	329279		52,60
RPF40 100.04 Ni1000TK5000	144193		55,60
RPF40 100.04 FeT	359344		58,00
RPF40 100.04 NTC1,8k	334549		51,00
RPF40 100.04 NTC5k	351973		49,80
RPF40 100.04 NTC10k	351980		49,80
RPF40 100.04 NTC10k Precon	164573		49,80
RPF40 100.04 NTC20k	334792		49,80
RPF40 100.04 LM235Z	339476		50,50

RPF40 | Length connection wire | Sensor

RPF40 active (TRA/TRV)

RPF40 – active, TRA (4..20 mA) / TRV (0..10 V)		
Type	Item No.	€
RPF40 100.04 TRA	591058	113,40
RPF40 100.04 TRV	591065	113,40

RPF40 | Length connection wire | TRA/TRV

OPTIONS	
Type	€
Connection box AGS54	13,80
Cable length per additional meter	0,70

RPF100 active

RPF100

Temperature measurement for large rooms/spaces (e.g. open-plan offices, galleries, production plants).

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA3/TRV3: 0..+50 °C Range adjustable at the device depends on used sensor (passive)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
Ambient temperature	-35..+70 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm² (active)
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC
Connection wire diameter	0,25 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws (active)
Pocket material	Stainless Steel 1.4571
Pocket length	100 mm
Pocket diameter	15 mm
Notes	Multi-conductor connection on request Please contact us for other sensors.

RPF100 passive

RPF100 – passive			
Type	Item No.	Price cut	€
RPF100 100.15 PT100	81566	▼	66,30
RPF100 100.15 PT100 1/3 DIN	90780	▼	69,50
RPF100 100.15 PT1000	90827	▼	68,20
RPF100 100.15 PT1000 1/3 DIN	90865	▼	70,70
RPF100 100.15 Ni1000	90902	▼	67,90
RPF100 100.15 Ni1000TK5000	160612	▼	70,90
RPF100 100.15 FeT	90988	▼	73,40
RPF100 100.15 NTC1,8k	278331	▼	66,30
RPF100 100.15 NTC5k	91022	▼	65,20
RPF100 100.15 NTC10k	91060	▼	65,20
RPF100 100.15 NTC10k Precon	91107	▼	65,20
RPF100 100.15 NTC20k	219952	▼	65,20
RPF100 100.15 LM235Z	91145	▼	65,90

RPF100 | Length connection wire | pocket-Ø | Sensor

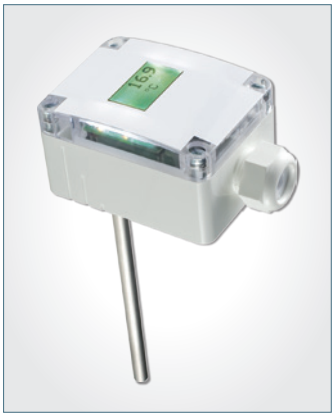
RPF100 active (TRA/TRV)

RPF100 – active, TRA (4..20 mA) / TRV (0..10 V)		
Type	Item No.	€
RPF100 100.15 TRA	591034	128,70
RPF100 100.15 TRV	591041	128,70

RPF100 | Length connection wire.pocket-Ø | TRA/TRV

OPTIONS	
Type	€
Connection box AGS54	13,80
Cable length per additional meter	0,70

AKF10



AKF10 LCD

Protection against mechanical overstress
SI-Protection
humidity and vibration

AKF10 Ø=4 mm

Duct/Immersion sensor for measurement of air temperature and other gaseous mediums for HVAC applications (e.g. supply and exhaust ducts). Can be used as a immersion temperature sensor combined with a thermowell pocket.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: max. 12 mA / 24 V =, typ. 0,42 W / 0,84 VA
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C TRA8/TRV8: -15..+35 °C depends on used sensor (passive) Range adjustable at the device
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA/TRV: ±1% of measuring range depending on used sensor (passive)
Display	34x21 mm (optional), black a/nd white, with white background
Ambient temperature	-35..+70 °C -35..+90 °C (passive)
Cable entry size	M16 M20
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6
Pocket material	Stainless Steel 1.4571
Pocket length	40 mm 90 mm 140 mm 190 mm
Pocket diameter	4 mm
Notes	Please contact us for other sensors.

AKF10 Ø=4 mm passive 160 °C / 150 °C

AKF10 | pocket length.pocket Ø | Sensor

AKF10 – passive – 160 °C – PT100		
Type	Item No.	€
AKF10 040.04 PT100	18593	33,20
AKF10 090.04 PT100	18609	35,00
AKF10 140.04 PT100	18616	36,20
AKF10 190.04 PT100	18623	37,30

AKF10 – passive – 160 °C – PT100 1/3 DIN		
Type	Item No.	€
AKF10 040.04 PT100 1/3 DIN	18630	36,90
AKF10 090.04 PT100 1/3 DIN	18647	38,70
AKF10 140.04 PT100 1/3 DIN	18654	40,00
AKF10 190.04 PT100 1/3 DIN	18661	41,00

AKF10 – passive – 160 °C – PT1000		
Type	Item No.	€
AKF10 040.04 PT1000	18678	35,40
AKF10 090.04 PT1000	18685	37,10
AKF10 140.04 PT1000	18692	38,40
AKF10 190.04 PT1000	18708	39,50

AKF10 – passive – 160 °C – PT1000 1/3 DIN		
Type	Item No.	€
AKF10 040.04 PT1000 1/3 DIN	18715	38,40
AKF10 090.04 PT1000 1/3 DIN	18722	40,10
AKF10 140.04 PT1000 1/3 DIN	18739	41,40
AKF10 190.04 PT1000 1/3 DIN	18746	42,50

AKF10 – passive – 160 °C – Ni1000		
Type	Item No.	€
AKF10 040.04 Ni1000	18753	35,10
AKF10 090.04 Ni1000	18760	36,90
AKF10 140.04 Ni1000	18777	38,10
AKF10 190.04 Ni1000	18784	39,20

AKF10 – passive – 160 °C – Ni1000TK5000		
Type	Item No.	€
AKF10 040.04 Ni1000TK5000	18791	38,60
AKF10 090.04 Ni1000TK5000	18807	40,30
AKF10 140.04 Ni1000TK5000	18814	41,60
AKF10 190.04 Ni1000TK5000	18821	42,70

AKF10 – passive – 160 °C – FeT		
Type	Item No.	€
AKF10 040.04 FeT	348355	40,40
AKF10 090.04 FeT	348379	42,10
AKF10 140.04 FeT	134071	43,40
AKF10 190.04 FeT	348409	44,50

AKF10 – passive – 150 °C – NTC1,8k		
Type	Item No.	€
AKF10 040.04 NTC1,8k	348362	33,30
AKF10 090.04 NTC1,8k	348386	35,00
AKF10 140.04 NTC1,8k	348393	36,90
AKF10 190.04 NTC1,8k	256995	37,30

AKF10 – passive – 150 °C – NTC5k		
Type	Item No.	€
AKF10 040.04 NTC5k	18838	31,90
AKF10 090.04 NTC5k	18845	33,60
AKF10 140.04 NTC5k	18852	35,60
AKF10 190.04 NTC5k	18869	35,90

AKF10 – passive – 150 °C – NTC10k		
Type	Item No.	€
AKF10 040.04 NTC10k	18876	31,90
AKF10 090.04 NTC10k	18883	33,60
AKF10 140.04 NTC10k	18890	35,60
AKF10 190.04 NTC10k	18906	35,90

AKF10 – passive – 150 °C – NTC10k Precon		
Type	Item No.	€
AKF10 040.04 NTC10k Precon	18999	31,90
AKF10 090.04 NTC10k Precon	19002	33,60
AKF10 140.04 NTC10k Precon	19019	35,60
AKF10 190.04 NTC10k Precon	19026	35,90

AKF10 – passive – 150 °C – NTC20k		
Type	Item No.	€
AKF10 040.04 NTC20k	18913	31,90
AKF10 090.04 NTC20k	18920	33,60
AKF10 140.04 NTC20k	18937	35,60
AKF10 190.04 NTC20k	18944	35,90

AKF10 Ø=4 mm active (TRA/TRV)

AKF10 | pocket length.pocket Ø | TRA/TRV

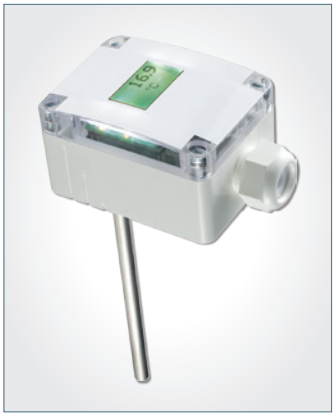
AKF10 – active – TRA MultiRange (4..20 mA)		
Type	Item No.	€
AKF10 040.04 TRA	591218	74,50
AKF10 090.04 TRA	591225	75,80
AKF10 140.04 TRA	591232	76,60
AKF10 190.04 TRA	591263	77,60

AKF10 – active – TRV MultiRange (0..10 V)		
Type	Item No.	€
AKF10 040.04 TRV	591270	74,50
AKF10 090.04 TRV	591287	75,80
AKF10 140.04 TRV	591294	76,60
AKF10 190.04 TRV	591300	77,60

OPTIONS	
Type	€
LCD	39,70
TRA/TRV: Temperature up to 260° C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF4 (brass)	102438	●	5,10

AKF10



AKF10 LCD

Protection against mechanical overstress
SI-Protection
humidity and vibration

LONMARK®

Modbus

AKF10 Ø=7 mm

Duct/Immersion sensor for measurement of air temperature and other gaseous mediums for HVAC applications (e.g. supply and exhaust ducts). Can be used as a immersion temperature sensor combined with a thermowell pocket.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Output BUS	LON RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~) RS485 Modbus: typ. 0,7 W (24 V =) | 1,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C TRA8/TRV8: -15..+35 °C depends on used sensor (passive) LON: -45..+130 °C RS485 Modbus: -20..+120 °C Range adjustable at the device
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) LON: ±0,5 K depending on used sensor (passive)
LCD	34x21 mm (optional), black and white, with white background
Ambient temperature	-35..+70 °C
Cable entry size	M16 M20 M20 double
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket material	Stainless Steel 1.4571
Pocket length	62 mm, 135 mm, 192 mm, 240 mm, 320 mm 392 mm, 465 mm
Pocket diameter	7 mm
Notes	Please contact us for other sensors.

AKF10 Ø=7 mm passive 160°C

AKF10 | pocket length.pocket Ø | Sensor

AKF10 – passive – 160 °C – PT100			
Type	Item No.	Stock	€
AKF10 062.07 PT100	9133	≡	31,90
AKF10 135.07 PT100	9140	≡	33,20
AKF10 192.07 PT100	9157	≡	34,50
AKF10 240.07 PT100	9164	≡	35,00
AKF10 320.07 PT100	9171	≡	36,60
AKF10 392.07 PT100	9188		37,80
AKF10 465.07 PT100	9195		39,40

AKF10 – passive – 160 °C – PT100 1/3 DIN		
Type	Item No.	€
AKF10 062.07 PT100 1/3 DIN	9201	35,70
AKF10 135.07 PT100 1/3 DIN	9218	36,90
AKF10 192.07 PT100 1/3 DIN	9225	38,20
AKF10 240.07 PT100 1/3 DIN	9232	38,70
AKF10 320.07 PT100 1/3 DIN	9249	40,30
AKF10 392.07 PT100 1/3 DIN	9805	41,60
AKF10 465.07 PT100 1/3 DIN	9812	43,10

AKF10 – passive – 160 °C – PT1000		
Type	Item No.	€
AKF10 062.07 PT1000	9829	34,10
AKF10 135.07 PT1000	9836	35,40
AKF10 192.07 PT1000	9843	36,70
AKF10 240.07 PT1000	9850	37,20
AKF10 320.07 PT1000	9867	38,80
AKF10 392.07 PT1000	9874	40,00
AKF10 465.07 PT1000	9881	41,60

AKF10 – passive – 160 °C – PT1000 1/3 DIN		
Type	Item No.	€
AKF10 062.07 PT1000 1/3 DIN	9898	37,10
AKF10 135.07 PT1000 1/3 DIN	9904	38,40
AKF10 192.07 PT1000 1/3 DIN	9911	39,60
AKF10 240.07 PT1000 1/3 DIN	9928	40,10
AKF10 320.07 PT1000 1/3 DIN	9935	41,80
AKF10 392.07 PT1000 1/3 DIN	9942	43,00
AKF10 465.07 PT1000 1/3 DIN	9959	44,60

AKF10 – passive – 160 °C – Ni1000			
Type	Item No.	Stock	€
AKF10 062.07 Ni1000	9966	≡	33,80
AKF10 135.07 Ni1000	9973	≡	35,10
AKF10 192.07 Ni1000	9980	≡	36,40
AKF10 240.07 Ni1000	9997	≡	36,90
AKF10 320.07 Ni1000	10009	≡	38,50
AKF10 392.07 Ni1000	10016		39,70
AKF10 465.07 Ni1000	10023		41,30

AKF10 – passive – 160 °C – Ni1000TK5000			
Type	Item No.	Stock	€
AKF10 062.07 Ni1000TK5000	10030	≡	37,30
AKF10 135.07 Ni1000TK5000	10047	≡	38,60
AKF10 192.07 Ni1000TK5000	10054	≡	39,90
AKF10 240.07 Ni1000TK5000	10061	≡	40,40
AKF10 320.07 Ni1000TK5000	10078	≡	42,00
AKF10 392.07 Ni1000TK5000	10085		43,20
AKF10 465.07 Ni1000TK5000	10092		44,80

AKF10 – passive – 160 °C – FeT		
Type	Item No.	€
AKF10 062.07 FeT	133579	40,20
AKF10 135.07 FeT	141567	41,50
AKF10 192.07 FeT	110747	42,80
AKF10 240.07 FeT	113700	43,30
AKF10 320.07 FeT	132718	44,90
AKF10 392.07 FeT	142199	46,10
AKF10 465.07 FeT	132404	47,70

AKF10 Ø=7 mm passive 150°C

AKF10 | pocket length.pocket Ø | Sensor

AKF10 – passive – 150 °C – NTC1,8k			
Type	Item No.	Stock	€
AKF10 062.07 NTC1,8k	242554		32,00
AKF10 135.07 NTC1,8k	132541		33,20
AKF10 192.07 NTC1,8k	230117		34,50
AKF10 240.07 NTC1,8k	190251		35,00
AKF10 320.07 NTC1,8k	237147		36,60
AKF10 392.07 NTC1,8k	246989		37,90
AKF10 465.07 NTC1,8k	256339		39,40

AKF10 – passive – 150 °C – NTC5k		
Type	Item No.	€
AKF10 062.07 NTC5k	10108	30,60
AKF10 135.07 NTC5k	10115	31,90
AKF10 192.07 NTC5k	10122	33,20
AKF10 240.07 NTC5k	10139	33,60
AKF10 320.07 NTC5k	10146	35,30
AKF10 392.07 NTC5k	10153	36,50
AKF10 465.07 NTC5k	10160	38,10

AKF10 – passive – 150 °C – NTC10k			
Type	Item No.	Stock	€
AKF10 062.07 NTC10k	10177		30,60
AKF10 135.07 NTC10k	10184		31,90
AKF10 192.07 NTC10k	10191		33,20
AKF10 240.07 NTC10k	10207		33,60
AKF10 320.07 NTC10k	10214		35,30
AKF10 392.07 NTC10k	10221		36,50
AKF10 465.07 NTC10k	10238		38,10

AKF10 – passive – 150 °C – NTC10k Precon		
Type	Item No.	€
AKF10 062.07 NTC10k Precon	10382	30,60
AKF10 135.07 NTC10k Precon	10399	31,90
AKF10 192.07 NTC10k Precon	10405	33,20
AKF10 240.07 NTC10k Precon	10412	33,60
AKF10 320.07 NTC10k Precon	10429	35,30
AKF10 392.07 NTC10k Precon	10436	36,50
AKF10 465.07 NTC10k Precon	10443	38,10

AKF10 – passive – 150 °C – NTC20k			
Type	Item No.	Stock	€
AKF10 062.07 NTC20k	10245		30,60
AKF10 135.07 NTC20k	10252		31,90
AKF10 192.07 NTC20k	10269		33,20
AKF10 240.07 NTC20k	10276		33,60
AKF10 320.07 NTC20k	10283		35,30
AKF10 392.07 NTC20k	10290		36,50
AKF10 465.07 NTC20k	10306		38,10

AKF10 Ø=7 mm passive 120 °C

AKF10 – passive – 120 °C – LM235Z			
Type	Item No.	Stock	€
AKF10 062.07 LM235Z	10528		32,40
AKF10 135.07 LM235Z	10535		33,60
AKF10 192.07 LM235Z	10542		34,90
AKF10 240.07 LM235Z	10559		35,40
AKF10 320.07 LM235Z	10566		37,10
AKF10 392.07 LM235Z	10573		38,30
AKF10 465.07 LM235Z	10580		39,80

AKF10 – passive – 120 °C – DS18B20 1-wire			
Type	Item No.	Price	€
AKF10 062.07 DS18B20 1-wire	300834		31,90
AKF10 135.07 DS18B20 1-wire	240550		33,20
AKF10 192.07 DS18B20 1-wire	592864		34,50
AKF10 240.07 DS18B20 1-wire	592871		35,00
AKF10 320.07 DS18B20 1-wire	593373		36,60
AKF10 392.07 DS18B20 1-wire	592888		37,80
AKF10 465.07 DS18B20 1-wire	592895		39,40

AKF10 Ø=7 mm active (TRA/TRV, BUS)

AKF10 | pocket length.pocket Ø | TRA/TRV, BUS

AKF10 – active – TRA MultiRange (4..20 mA)			
Type	Item No.	Stock	€
AKF10 062.07 TRA	479110		74,20
AKF10 135.07 TRA	479134		75,20
AKF10 192.07 TRA	479158		76,10
AKF10 240.07 TRA	589857		76,50
AKF10 320.07 TRA	479172		77,80
AKF10 392.07 TRA	590563		78,60
AKF10 465.07 TRA	590570		79,80

AKF10 – active – TRV MultiRange (0..10 V)			
Type	Item No.	Stock	€
AKF10 062.07 TRV	479127		74,20
AKF10 135.07 TRV	479141		75,20
AKF10 192.07 TRV	479165		76,10
AKF10 240.07 TRV	589871		76,50
AKF10 320.07 TRV	479189		77,80
AKF10 392.07 TRV	590587		78,60
AKF10 465.07 TRV	590594		79,80

LONMARK®

AKF10 – LON		
Type	Item No.	€
AKF10 062.07 LON	79419	186,00
AKF10 135.07 LON	95006	187,30
AKF10 192.07 LON	95013	188,60
AKF10 240.07 LON	95020	189,00
AKF10 320.07 LON	95037	190,70
AKF10 392.07 LON	95044	191,90
AKF10 465.07 LON	95051	193,40

Modbus

AKF10 – RS485 Modbus		
Type	Item No.	Price €
AKF10 062.07 RS485 Modbus	579193	74,20
AKF10 135.07 RS485 Modbus	569071	75,20
AKF10 192.07 RS485 Modbus	578738	76,10
AKF10 240.07 RS485 Modbus	579209	76,50
AKF10 320.07 RS485 Modbus	578042	77,80
AKF10 392.07 RS485 Modbus	590310	78,60
AKF10 465.07 RS485 Modbus	590327	79,80

THVA / THMS

ACCESSORIES – Immersion probes stainless steel					
Type	Length	for pocket length	Item No.	Stock	€
THVA50	50 mm	62 mm	1885		17,10
THVA120	120 mm	135 mm	1854		18,90
THVA185	185 mm	192 mm	1915		20,30
THVA220	220 mm	240 mm	1861		21,40
THVA300	300 mm	320 mm	1892		26,60
THVA375	375 mm	392 mm	1908		27,80
THVA450	450 mm	465 mm	1878		28,70

ACCESSORIES – Immersion probes brass nickel					
Type	Length	for pocket length	Item No.	Stock	€
THMS50	50 mm	62 mm	1793		7,85
THMS120	120 mm	135 mm	1809		8,95
THMS185	185 mm	192 mm	1823		9,45
THMS225	225 mm	240 mm	1816		9,75
THMS300	300 mm	320 mm	1830		11,30
THMS375	375 mm	392 mm	1847		11,60
THMS450	450 mm	465 mm	102179		11,80

AKF10 Ø=7 mm

OPTIONS	
Type	€
LCD	39,70
Temperature up to 260 °C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)	399098	≡	6,30
Mounting flange MF7 (brass)	102360	≡	6,30

SI-PROTECTION for Protection of Sensors

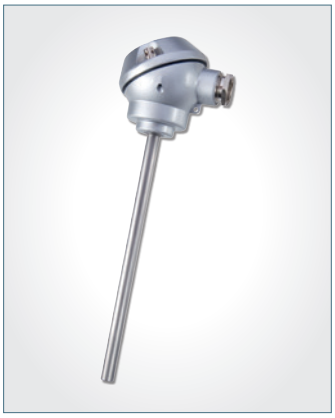
Changes in temperature are causing formation of humidity. Thus, there is a risk that the humidity can permeate in the contact point of the sensor. As a result, the sensor would corrode and oxygenate. Thus, the contact point would become unreliable. The SI-Protection procedure provides the contact point with epoxy gum and a fluidized bed coating which unites with the insulation material of the wire. Thus, a complete unit is built protecting the sensor against vibrations and humidity.

By means of this protective coating our temperature sensors can be used in cold water or outdoor applications without any problems, for example. In addition the roller-burnishing protects the pocket of the sensor against the permeation of humidity.

Protection against mechanical overstress
SI-Protection
humidity and vibration

Sensor with SI Protection

Humidity sealed pocket (rolled)



KFK01

Protection against mechanical overstress
SI-Protection
humidity and vibration

KFK01

Passive duct sensor for measurement of air temperature and other gaseous mediums for HVAC applications (e.g. supply and exhaust ducts).

TECHNICAL DATA	
Output voltage	pass. Sensor (S)
Measuring range temperature	depending on used sensor
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	depending on used sensor
Ambient temperature	-25..+90 °C (passive)
Cable entry size	M16
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head material	Aluminium
Connection head shape	Shape J, aluminium die cast metal
Pocket material	Stainless Steel 1.4571
Pocket length	62 mm, 135 mm ,192 mm, 240 mm ,320 mm , 392 mm, 465 mm
Pocket diameter	7 mm
Notes	Please contact us for other sensors.

KFK01 | pocket length.pocket Ø | Sensor

KFK01 – passive – 160 °C – PT100		
Type	Item No.	€
KFK01 062.07 PT100	30472	42,90
KFK01 135.07 PT100	27274	43,80
KFK01 192.07 PT100	27281	45,40
KFK01 240.07 PT100	27298	46,80
KFK01 320.07 PT100	27304	49,40
KFK01 392.07 PT100	27311	51,40
KFK01 465.07 PT100	27328	54,70

KFK01 – passive – 160 °C – PT100 1/3 DIN		
Type	Item No.	€
KFK01 062.07 PT100 1/3 DIN	27335	46,60
KFK01 135.07 PT100 1/3 DIN	27342	47,50
KFK01 192.07 PT100 1/3 DIN	27359	49,10
KFK01 240.07 PT100 1/3 DIN	27366	50,50
KFK01 320.07 PT100 1/3 DIN	27373	53,20
KFK01 392.07 PT100 1/3 DIN	27380	55,10
KFK01 465.07 PT100 1/3 DIN	27397	58,40

KFK01 – passive – 160 °C – PT1000		
Type	Item No.	€
KFK01 062.07 PT1000	27403	45,10
KFK01 135.07 PT1000	27410	46,00
KFK01 192.07 PT1000	27427	47,60
KFK01 240.07 PT1000	27434	49,00
KFK01 320.07 PT1000	27441	51,60
KFK01 392.07 PT1000	27458	53,30
KFK01 465.07 PT1000	27465	56,80

KFK01 – passive – 160 °C – PT1000 1/3 DIN		
Type	Item No.	€
KFK01 062.07 PT1000 1/3 DIN	27472	48,00
KFK01 135.07 PT1000 1/3 DIN	27489	48,90
KFK01 192.07 PT1000 1/3 DIN	27496	50,60
KFK01 240.07 PT1000 1/3 DIN	27502	52,00
KFK01 320.07 PT1000 1/3 DIN	27519	54,60
KFK01 392.07 PT1000 1/3 DIN	27526	56,60
KFK01 465.07 PT1000 1/3 DIN	27533	59,90

KFK01 passive 160 °C

KFK01 | pocket length.pocket Ø | Sensor

KFK01 – passive – 160 °C – Ni1000		
Type	Item No.	€
KFK01 062.07 Ni1000	27540	44,80
KFK01 135.07 Ni1000	27557	45,70
KFK01 192.07 Ni1000	27564	47,30
KFK01 240.07 Ni1000	27571	48,70
KFK01 320.07 Ni1000	27588	51,30
KFK01 392.07 Ni1000	27595	53,30
KFK01 465.07 Ni1000	27601	56,60

KFK01 – passive – 160 °C – Ni1000TK5000		
Type	Item No.	€
KFK01 062.07 Ni1000TK5000	27618	48,30
KFK01 135.07 Ni1000TK5000	27625	49,20
KFK01 192.07 Ni1000TK5000	27632	50,80
KFK01 240.07 Ni1000TK5000	27649	52,20
KFK01 320.07 Ni1000TK5000	27656	54,80
KFK01 392.07 Ni1000TK5000	27663	56,80
KFK01 465.07 Ni1000TK5000	27908	60,10

KFK01 – passive – 160 °C – FeT		
Type	Item No.	€
KFK01 062.07 FeT	145480	51,20
KFK01 135.07 FeT	142502	52,10
KFK01 192.07 FeT	188333	53,70
KFK01 240.07 FeT	200103	55,10
KFK01 320.07 FeT	171533	57,80
KFK01 392.07 FeT	349109	59,70
KFK01 465.07 FeT	196857	63,00

KFK01 passive 150 °C

KFK01 – passive – 150 °C – NTC1,8k		
Type	Item No.	€
KFK01 062.07 NTC1,8k	243537	42,90
KFK01 135.07 NTC1,8k	247672	43,80
KFK01 192.07 NTC1,8k	314466	45,40
KFK01 240.07 NTC1,8k	349093	46,80
KFK01 320.07 NTC1,8k	250757	49,50
KFK01 392.07 NTC1,8k	349116	51,40
KFK01 465.07 NTC1,8k	349123	54,70

KFK01 – passive – 150 °C – NTC5k		
Type	Item No.	€
KFK01 062.07 NTC5k	27915	41,60
KFK01 135.07 NTC5k	27922	42,50
KFK01 192.07 NTC5k	27939	44,10
KFK01 240.07 NTC5k	27946	45,50
KFK01 320.07 NTC5k	27953	48,20
KFK01 392.07 NTC5k	27960	50,10
KFK01 465.07 NTC5k	27977	53,40

KFK01 – passive – 150 °C – NTC10k		
Type	Item No.	€
KFK01 062.07 NTC10k	27984	41,60
KFK01 135.07 NTC10k	27991	42,50
KFK01 192.07 NTC10k	28004	44,10
KFK01 240.07 NTC10k	28011	45,50
KFK01 320.07 NTC10k	28028	48,20
KFK01 392.07 NTC10k	28035	50,10
KFK01 465.07 NTC10k	28042	53,40

KFK01 – passive – 150 °C – NTC10k Precon		
Type	Item No.	€
KFK01 062.07 NTC10k Precon	28196	41,60
KFK01 135.07 NTC10k Precon	28202	42,50
KFK01 192.07 NTC10k Precon	28219	44,10
KFK01 240.07 NTC10k Precon	28226	45,50
KFK01 320.07 NTC10k Precon	28233	48,20
KFK01 392.07 NTC10k Precon	28240	50,10
KFK01 465.07 NTC10k Precon	28257	53,40

KFK01 passive 150 °C / 120 °C

KFK01 | pocket length.pocket Ø | Sensor

KFK01 – passive – 150 °C – NTC20k		
Type	Item No.	€
KFK01 062.07 NTC20k	28059	41,60
KFK01 135.07 NTC20k	28066	42,50
KFK01 192.07 NTC20k	28073	44,10
KFK01 240.07 NTC20k	28080	45,50
KFK01 320.07 NTC20k	28097	48,20
KFK01 392.07 NTC20k	28103	50,10
KFK01 465.07 NTC20k	28110	53,40

KFK01 – passive – 120 °C – LM235Z		
Type	Item No.	€
KFK01 062.07 LM235Z	28332	43,30
KFK01 135.07 LM235Z	28349	44,20
KFK01 192.07 LM235Z	28356	45,80
KFK01 240.07 LM235Z	28363	47,20
KFK01 320.07 LM235Z	28370	49,90
KFK01 392.07 LM235Z	28387	51,80
KFK01 465.07 LM235Z	28394	55,10

OPTIONS	
Type	€
Temperature up to 260°C	10,90
3-wire connection	1,85
4-wire connection	3,70

THVA / THMS

ACCESSORIES – Immersion probes stainless steel					
Type	Length	for pocket length	Item No.	Stock	€
THVA50	50 mm	62 mm	1885	⛁	17,10
THVA120	120 mm	135 mm	1854	⛁	18,90
THVA185	185 mm	192 mm	1915	⛁	20,30
THVA220	220 mm	240 mm	1861	⛁	21,40
THVA300	300 mm	320 mm	1892	⛁	26,60
THVA375	375 mm	392 mm	1908	⛁	27,80
THVA450	450 mm	465 mm	1878	⛁	28,70

ACCESSORIES – Immersion probes brass nickel					
Type	Length	for pocket length	Item No.	Stock	€
THMS50	50 mm	62 mm	1793	⛁	7,85
THMS120	120 mm	135 mm	1809	⛁	8,95
THMS185	185 mm	192 mm	1823	⛁	9,45
THMS225	225 mm	240 mm	1816	⛁	9,75
THMS300	300 mm	320 mm	1830	⛁	11,30
THMS375	375 mm	392 mm	1847	⛁	11,60
THMS450	450 mm	465 mm	102179	⛁	11,80

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)	399098	⛁	6,30
Mounting flange MF7 (brass)	102360	⛁	6,30

KFK03

Protection against mechanical overstress
SI-Protection
humidity and vibration

KFK03

Duct sensor for measurement of air temperature and other gaseous mediums for HVAC applications (e.g. supply and exhaust ducts).

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1 W (24 V =) | 1,4 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C depends on used sensor (passive)
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA: ±0,2 °C/±0,1% of measuring range TRV: ±0,1% of measuring range depending on used sensor (passive)
Ambient temperature	-25..+70 °C -25..+90 °C (passive)
Cable entry size	M20
Protection	IP66 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head shape	Shape B, Aluminium
Pocket material	Stainless Steel 1.4571
Pocket length	100 mm 150 mm 200 mm 250 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

KFK03 passive 160 °C / 150 °C / 120 °C

KFK03 | pocket length.pocket Ø | Sensor

KFK03 – passive – 160 °C – PT100		
Type	Item No.	€
KFK03 100.08 PT100	37877	53,30
KFK03 150.08 PT100	37884	55,20
KFK03 200.08 PT100	37891	57,10
KFK03 250.08 PT100	37907	59,20

KFK03 – passive – 160 °C – PT100 1/3 DIN		
Type	Item No.	€
KFK03 100.08 PT100 1/3 DIN	37914	57,00
KFK03 150.08 PT100 1/3 DIN	37921	59,00
KFK03 200.08 PT100 1/3 DIN	37938	60,90
KFK03 250.08 PT100 1/3 DIN	37945	62,90

KFK03 – passive – 160 °C – PT1000		
Type	Item No.	€
KFK03 100.08 PT1000	37952	55,40
KFK03 150.08 PT1000	37969	57,40
KFK03 200.08 PT1000	37976	59,30
KFK03 250.08 PT1000	37983	61,40

KFK03 – passive – 160 °C – PT1000 1/3 DIN		
Type	Item No.	€
KFK03 100.08 PT1000 1/3 DIN	37990	58,40
KFK03 150.08 PT1000 1/3 DIN	39765	60,40
KFK03 200.08 PT1000 1/3 DIN	39772	61,60
KFK03 250.08 PT1000 1/3 DIN	39789	63,60

KFK03 – passive – 160 °C – Ni1000		
Type	Item No.	€
KFK03 100.08 Ni1000	39796	55,10
KFK03 150.08 Ni1000	39802	57,10
KFK03 200.08 Ni1000	39819	59,00
KFK03 250.08 Ni1000	39826	61,10

KFK03 – passive – 160 °C – Ni1000TK5000		
Type	Item No.	€
KFK03 100.08 Ni1000TK5000	39833	58,60
KFK03 150.08 Ni1000TK5000	39840	60,60
KFK03 200.08 Ni1000TK5000	39857	62,50
KFK03 250.08 Ni1000TK5000	39864	64,60

KFK03 – passive – 160 °C – FeT		
Type	Item No.	€
KFK03 100.08 FeT	39871	61,60
KFK03 150.08 FeT	39888	63,60
KFK03 200.08 FeT	39895	65,40
KFK03 250.08 FeT	39901	67,50

KFK03 – passive – 150 °C – NTC1,8k		
Type	Item No.	€
KFK03 100.08 NTC1,8k	325912	53,30
KFK03 150.08 NTC1,8k	349031	55,20
KFK03 200.08 NTC1,8k	298803	57,10
KFK03 250.08 NTC1,8k	314329	59,20

KFK03 – passive – 150 °C – NTC5k		
Type	Item No.	€
KFK03 100.08 NTC5k	349130	51,90
KFK03 150.08 NTC5k	349147	53,90
KFK03 200.08 NTC5k	349154	55,80
KFK03 250.08 NTC5k	349161	57,90

KFK03 – passive – 150 °C – NTC10k		
Type	Item No.	€
KFK03 100.08 NTC10k	39918	51,90
KFK03 150.08 NTC10k	39925	53,90
KFK03 200.08 NTC10k	39932	55,80
KFK03 250.08 NTC10k	39949	57,90

KFK03 – passive – 150 °C – NTC10k Precon		
Type	Item No.	€
KFK03 100.08 NTC10k Precon	39994	51,90
KFK03 150.08 NTC10k Precon	40006	53,90
KFK03 200.08 NTC10k Precon	40013	55,80
KFK03 250.08 NTC10k Precon	40020	57,90

KFK03 – passive – 150 °C – NTC20k		
Type	Item No.	€
KFK03 100.08 NTC20k	39956	51,90
KFK03 150.08 NTC20k	39963	53,90
KFK03 200.08 NTC20k	39970	55,80
KFK03 250.08 NTC20k	39987	57,90

KFK03 – passive – 120 °C – LM235Z		
Type	Item No.	€
KFK03 100.08 M235Z	40037	54,60
KFK03 150.08 LM235Z	40044	56,50
KFK03 200.08 LM235Z	40051	58,40
KFK03 250.08 LM235Z	40068	60,50

KFK03 active (TRA/TRV)

KFK03 | pocket length.pocket Ø | TRAx/TRVx

KFK03 – active – TRA1 (4..20 mA), -50..+50 °C			
Type	Item No.	Price	€
KFK03 100.08 TRA1	152464		129,20
KFK03 150.08 TRA1	165334		130,50
KFK03 200.08 TRA1	232166		131,90
KFK03 250.08 TRA1	204668		133,30

KFK03 – active – TRA2 (4..20 mA), -10..+120 °C			
Type	Item No.	Price	€
KFK03 100.08 TRA2	242639		129,20
KFK03 150.08 TRA2	351034		130,50
KFK03 200.08 TRA2	351041		131,90
KFK03 250.08 TRA2	351133		133,30

KFK03 – active – TRA3 (4..20 mA), 0..+50 °C			
Type	Item No.	Price	€
KFK03 100.08 TRA3	338585		129,20
KFK03 150.08 TRA3	170239		130,50
KFK03 200.08 TRA3	161909		131,90
KFK03 250.08 TRA3	134804		133,30

KFK03 – active – TRA4 (4..20 mA), 0..+160 °C			
Type	Item No.	Price	€
KFK03 100.08 TRA4	315920		129,20
KFK03 150.08 TRA4	338981		130,50
KFK03 200.08 TRA4	337380		131,90
KFK03 250.08 TRA4	303057		133,30

KFK03 – active – TRA5 (4..20 mA), 0..+250 °C			
Type	Item No.	Price	€
KFK03 100.08 TRA5	239080		136,80
KFK03 150.08 TRA5	320948		138,20
KFK03 200.08 TRA5	240116		139,50
KFK03 250.08 TRA5	281577		140,90

KFK03 – active – TRV1 (0..10 V), -50..+50 °C			
Type	Item No.	Price	€
KFK03 100.08 TRV1	350983		129,20
KFK03 150.08 TRV1	351010		130,50
KFK03 200.08 TRV1	277860		131,90
KFK03 250.08 TRV1	286879		133,30

KFK03 – active – TRV2 (0..10 V), -10..+120 °C			
Type	Item No.	Price	€
KFK03 100.08 TRV2	332453		129,20
KFK03 150.08 TRV2	326711		130,50
KFK03 200.08 TRV2	351096		131,90
KFK03 250.08 TRV2	347242		133,30

KFK03 – active – TRV3 (0..10 V), 0..+50 °C			
Type	Item No.	Price	€
KFK03 100.08 TRV3	272315		129,20
KFK03 150.08 TRV3	351027		130,50
KFK03 200.08 TRV3	284905		131,90
KFK03 250.08 TRV3	285094		133,30

KFK03 – active – TRV4 (0..10 V), 0..+160 °C			
Type	Item No.	Price	€
KFK03 100.08 TRV4	351003		129,20
KFK03 150.08 TRV4	261418		130,50
KFK03 200.08 TRV4	351102		131,90
KFK03 250.08 TRV4	347969		133,30

KFK03 – active – TRV5 (0..10 V), 0..+250 °C			
Type	Item No.	Price	€
KFK03 100.08 TRV5	350990		136,80
KFK03 150.08 TRV5	309127		138,20
KFK03 200.08 TRV5	351119		139,50
KFK03 250.08 TRV5	276214		140,90

KFK03

OPTIONS	
Type	€
Temperature up to 260°	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF8 (VA)	103305	⛁	18,80

THVA

ACCESSORIES – Immersion probes			
Type	Item No.	Stock	€
THVA100 (KFK03)	584180	⛁	27,00
THVA150 (KFK03)	584197	⛁	28,30
THVA200 (KFK03)	584203	⛁	29,90
THVA250 (KFK03)	594738	⛁	31,40

MWF

MWF

Duct averaging temperature measurement.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA3/TRV3: 0..+50 °C Range adjustable at the device -50..+80 °C (passive)
Tmax	+80 °C
Accuracy temperature	±3% of measuring range depending on used sensor (passive)
Ambient temperature	-35..+70 °C -35..+90 °C (passive)
Cable entry size	M16
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Sensor rod material	PE
Sensor rod length	3000 mm 6000 mm Sensor PT1000; Ni1000: 3000 mm | 6000 mm Sensor Ni1000TK5000: 2500 mm | 5000 mm
Notes	incl. installation set

MWF passive

MWF passive | Length sensor rod | Sensor

MWF – passive – PT1000			
Type	Item No.		€
MWF passive 3000 PT1000	398053		79,80
MWF passive 6000 PT1000	398060		88,80

MWF – passive – NI1000			
Type	Item No.	On stock	€
MWF passive 3000 Ni1000	136198	≡	79,80
MWF passive 6000 Ni1000	136204	≡	88,80

MWF – passive – NI1000TK5000			
Type	Item No.		€
MWF passive 2500 Ni1000TK5000	282697		79,80
MWF passive 5000 Ni1000TK5000	282680		88,80

MWF active (TRA/TRV)

MWF active | Length sensor rod | TRA/TRV

MWF – active – TRA MultiRange (4..20 mA)			
Type	Item No.	On stock	€
MWF active 3000 TRA	539722	≡	132,70
MWF active 6000 TRA	539746	≡	140,90

MWF – active – TRV MultiRange (0..10 V)			
Type	Item No.	On stock	€
MWF active 3000 TRV	544399	≡	132,70
MWF active 6000 TRV	544405	≡	140,90

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)	399098	≡	6,30
Mounting flange MF7 (brass)	102360	≡	6,30

RG03

RG03

Duct sensor for measurement of high air temperature and other gaseous mediums for HVAC applications (e.g. supply and exhaust ducts).

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (PT100)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1 W (24 V =) | 1,4 VA (24 V ~)
Measuring range	TRA6/TRV6: 0..+400 °C TRA7/TRV7: 0..+600 °C PT100 (passive): max. 600 °C
Tmax	+600 °C
Accuracy temperature	TRA: ±0,2 °C/±0,1% of measuring range TRV: ±0,1% of measuring range depending on used sensor (passive)
Ambient temperature	-25..+70 °C (Connection head) -25..+90 °C (passive, connection head)
Cable entry size	M20
Protection	IP66
Terminal block	Terminal block,max. 1,5 mm^2
Wires (number)	3-wire (passive)
Connection head shape	Shape B, Aluminium
Pocket material	Stainless Steel 1.4571
Pocket length	250 mm 500 mm
Pocket diameter	11 mm
Notes	incl. mounting flanges

RG03 passive (PT100)

RG03 | pocket length.pocket Ø | Sensor

RG03 – passive – PT100 3-Leiter			
Type	Item No.	Price cut	€
RG03 250.11 PT100 3-Leiter	64361		106,80
RG03 500.11 PT100 3-Leiter	64378		109,30

RG03 active (TRA)

RG03 | pocket length.pocket Ø | TRAx/TRVx

RG03 – active – TRA6 (4..20 mA), 0..+400 °C			
Type	Item No.	Price cut	€
RG03 250.11 TRA6	177405		198,70
RG03 500.11 TRA6	143936		201,10

RG03 – active – TRA7 (4..20 mA), 0..+600 °C			
Type	Item No.	Price cut	€
RG03 250.11 TRA7	64422		198,70
RG03 500.11 TRA7	78283		201,10

RG03 active (TRV)

RG03 – active – TRV6 (0..10 V), 0..+400 °C			
Type	Item No.	Price cut	€
RG03 250.11 TRV6	261982		198,70
RG03 500.11 TRV6	240789		201,10

RG03 – active – TRV7 (0..10 V), 0..+600 °C			
Type	Item No.	Price cut	€
RG03 250.11 TRV7	64408		198,70
RG03 500.11 TRV7	242127		201,10

TFR-R

TFR

Temperature thermostat for frost protection for HVAC systems. The TFR freezestat can be used to enable the following frost protection functions: fan, close outside air dampers, open heating coil valve 100%, switch-off chiller (condenser) and humidifier, triggering a visual and/or audible frost alarm.

TECHNICAL DATA	
Setpoint adjustment range	-10..+14 °C
Ambient temperature	-35..+70 °C
Cable entry size	M16
Protection	IP65
Terminal block	Terminal block, max. 2,5 mm²
Enclosure colour	light grey
Enclosure material	PA6 ABS
Capillary pipe material	Copper
Capillary pipe length	1,8 m 3 m 6 m 12 m
Notes	Delivery incl. installation clips.

TFR – reset automatically			
Type	Item No.	On stock	€
TFR 1,8m	426435		76,10
TFR 3m	430371	⛁	71,90
TFR 6m	430395	⛁	74,50
TFR 12m	541916		86,90

TFR-R – reset manually			
Type	Item No.	On stock	€
TFR 1,8-R	430364		91,10
TFR 3-R	430388	⛁	89,40
TFR 6-R	430401	⛁	89,90

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF2/TPO	435642	⛁	6,30

SFK02

Protection against mechanical overstress
SI-Protection
humidity and vibration

SFK02

Immersion sensor complete with integrated thermowell pocket for temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Output BUS	LON
Power supply	TRV/LON: 15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C Range adjustable at the device LON: -45..+130 °C
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA/TRV: ±1% of measuring range LON: ±0,5 K
LCD	34x21 mm (optional), black a/nd white, with white background
Ambient temperature	-35..+70 °C (Connection head)
Cable entry size	M16 M20 M20 double
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Thread	G1/2"
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm 100 mm 150 mm 200 mm 250 mm 450 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

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SFK02 passive 160 °C

SFK02 | pocket length.pocket Ø | Sensor

SFK02 – passive – 160 °C – PT100			
Type	Item No.	Price	€
SFK02 050.08 PT100	37617		41,30
SFK02 100.08 PT100	49801		42,10
SFK02 150.08 PT100	49818		43,70
SFK02 200.08 PT100	49825		45,80
SFK02 250.08 PT100	49832		47,20
SFK02 450.08 PT100	49849		49,80

SFK02 – passive – 160 °C – PT100 1/3 DIN			
Type	Item No.	Price	€
SFK02 050.08 PT100 1/3 DIN	49856		45,00
SFK02 100.08 PT100 1/3 DIN	49863		45,80
SFK02 150.08 PT100 1/3 DIN	49870		47,40
SFK02 200.08 PT100 1/3 DIN	49887		49,50
SFK02 250.08 PT100 1/3 DIN	49894		50,90
SFK02 450.08 PT100 1/3 DIN	49900		53,50

SFK02 – passive – 160 °C – PT1000			
Type	Item No.	Price	€
SFK02 050.08 PT1000	49917		43,40
SFK02 100.08 PT1000	49924		44,20
SFK02 150.08 PT1000	49931		45,90
SFK02 200.08 PT1000	49948		48,10
SFK02 250.08 #PT1000	49955		49,40
SFK02 450.08 PT1000	49962		52,00

SFK02 – passive – 160 °C – PT1000 1/3 DIN			
Type	Item No.	Price	€
SFK02 050.08 PT1000 1/3 DIN	49979		46,40
SFK02 100.08 PT1000 1/3 DIN	49986		47,30
SFK02 150.08 PT1000 1/3 DIN	49993		48,90
SFK02 200.08 PT1000 1/3 DIN	50005		51,00
SFK02 250.08 PT1000 1/3 DIN	50012		52,40
SFK02 450.08 PT1000 1/3 DIN	50029		55,00

SFK02 – passive – 160 °C – Ni1000			
Type	Item No.	Price	€
SFK02 050.08 Ni1000	50036		43,20
SFK02 100.08 Ni1000	50043		44,00
SFK02 150.08 Ni1000	50050		45,60
SFK02 200.08 Ni1000	50067		47,80
SFK02 250.08 Ni1000	50074		49,10
SFK02 450.08 Ni1000	50081		51,70

SFK02 – passive – 160 °C – Ni1000TK5000			
Type	Item No.	Price	€
SFK02 050.08 Ni1000TK5000	50098		46,60
SFK02 100.08 Ni1000TK5000	50104		47,50
SFK02 150.08 Ni1000TK5000	50111		49,10
SFK02 200.08 Ni1000TK5000	50128		51,30
SFK02 250.08 Ni1000TK5000	50135		52,60
SFK02 450.08 Ni1000TK5000	50142		55,20

SFK02 – passive – 160 °C – FeT			
Type	Item No.	Price	€
SFK02 050.08 FeT	50159		49,60
SFK02 100.08 FeT	50166		50,40
SFK02 150.08 FeT	50173		52,00
SFK02 200.08 FeT	50180		54,20
SFK02 250.08 FeT	50197		55,50
SFK02 450.08 FeT	50203		58,10

SFK02 passive 150 °C

SFK02 | pocket length.pocket Ø | Sensor

SFK02 – passive – 150 °C – NTC1,8k			
Type	Item No.	Price	€
SFK02 050.08 NTC1,8k	351324		41,30
SFK02 450.08 NTC1,8k	258135		42,10
SFK02 100.08 NTC1,8k	240628		43,70
SFK02 150.08 NTC1,8k	293013		46,00
SFK02 200.08 NTC1,8k	183864		47,20
SFK02 250.08 NTC1,8k	351614		49,80

SFK02 – passive – 150 °C – NTC5k			
Type	Item No.	Price	€
SFK02 050.08 NTC5k	351331		40,00
SFK02 100.08 NTC5k	351348		40,80
SFK02 150.08 NTC5k	351355		42,40
SFK02 200.08 NTC5k	351577		44,60
SFK02 250.08 NTC5k	351584		45,90
SFK02 450.08 NTC5k	351591		48,50

SFK02 – passive – 150 °C – NTC10k			
Type	Item No.	Price	€
SFK02 050.08 NTC10k	50210		40,00
SFK02 100.08 NTC10k	50227		40,80
SFK02 150.08 NTC10k	50234		42,40
SFK02 200.08 NTC10k	50241		44,60
SFK02 250.08 NTC10k	50258		45,90
SFK02 450.08 NTC10k	50265		48,50

SFK02 – passive – 150 °C – NTC10k Precon			
Type	Item No.	Price	€
SFK02 050.08 NTC10k Precon	50333		40,00
SFK02 100.08 NTC10k Precon	50340		40,80
SFK02 150.08 NTC10k Precon	50357		42,40
SFK02 200.08 NTC10k Precon	50364		44,60
SFK02 250.08 NTC10k Precon	50371		45,90
SFK02 450.08 NTC10k Precon	50388		48,50

SFK02 – passive – 150 °C – NTC20k			
Type	Item No.	Price	€
SFK02 050.08 NTC20k	50272		40,00
SFK02 100.08 NTC20k	50289		40,80
SFK02 150.08 NTC20k	50296		42,40
SFK02 200.08 NTC20k	50302		44,60
SFK02 250.08 NTC20k	50319		45,90
SFK02 450.08 NTC20k	50326		48,50

SFK02 – passive – 120 °C – LM235Z			
Type	Item No.	Price	€
SFK02 050.08 LM235Z	50395		41,70
SFK02 100.08 LM235Z	50401		42,50
SFK02 150.08 LM235Z	50418		44,20
SFK02 200.08 LM235Z	50425		46,40
SFK02 250.08 LM235Z	50432		47,70
SFK02 450.08 LM235Z	50449		50,30

SFK02 active (TRA/TRV)

SFK02 | pocket length.pocket Ø | TRA/TRV

SFK02 – active – TRA MultiRange (4..20 mA)		
Type	Item No.	€
SFK02 050.08 TRA	590730	85,50
SFK02 100.08 TRA	590747	86,10
SFK02 150.08 TRA	590761	87,40
SFK02 200.08 TRA	590778	89,10
SFK02 250.08 TRA	590785	90,10
SFK02 450.08 TRA	590792	92,10

SFK02 active TRV MultiRange (0..10 V)		
Type	Item No.	€
SFK02 050.08 TRV	590808	85,50
SFK02 100.08 TRV	590815	86,10
SFK02 150.08 TRV	590822	87,40
SFK02 200.08 TRV	590839	89,10
SFK02 250.08 TRV	590846	90,10
SFK02 450.08 TRV	590853	92,10

SFK02 LON

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SFK02 LON		
Type	Item No.	€
SFK02 050.08 LON	95181	195,30
SFK02 100.08 LON	95198	196,10
SFK02 150.08 LON	95204	197,80
SFK02 200.08 LON	95211	200,00
SFK02 250.08 LON	95228	201,30
SFK02 450.08 LON	95235	203,90

OPTIONS	
Type	€
LCD (option not available with LON)	39,70
TRA/TRV: Temperature up to 260° C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459			59,80
ESH160	160 mm	150 mm	103466			68,50
ESH210	210 mm	200 mm	103473			77,10
ESH260	260 mm	250 mm	173247			84,90

ESH

SFKH02

Protection against mechanical overstress
SI-Protection
humidity and vibration

LonMark®

SFKH02

Immersion sensor complete with integrated thermowell pocket for high temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRV/LON: 15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C Range adjustable at the device LON: -45..+130 °C
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA/TRV: ±1% of measuring range LON: ±0,5 K
Ambient temperature	-35..+70 °C (Connection head) -35..+90 °C (passive, connection head)
Cable entry size	M16 M20 M20 double
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Thread	G1/2"
Neck pipe material	Stainless steel 1.4305
Neck pipe length	70 mm
Neck pipe diameter	12 mm
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm 100 mm 150 mm 200 mm 250 mm 450 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

SFKH02 passive 160 °C

SFKH02 | pocket length.pocket Ø | Sensor

SFKH02 – passive – 160 °C – PT100			
Type	Item No.	Price	€
SFKH02 050.08 PT100	63630	▼	60,20
SFKH02 100.08 PT100	63647	▼	61,00
SFKH02 150.08 PT100	63654	▼	62,70
SFKH02 200.08 PT100	63661	▼	64,90
SFKH02 250.08 PT100	63678	▼	66,20
SFKH02 450.08 PT100	63685	▼	68,80

SFKH02 – passive – 160 °C – PT100 1/3 DIN			
Type	Item No.	Price	€
SFKH02 050.08 PT100 1/3 DIN	63692	▼	64,00
SFKH02 100.08 PT100 1/3 DIN	63708	▼	64,80
SFKH02 150.08 PT100 1/3 DIN	63715	▼	66,40
SFKH02 200.08 PT100 1/3 DIN	63722	▼	68,70
SFKH02 250.08 PT100 1/3 DIN	63739	▼	69,90
SFKH02 450.08 PT100 1/3 DIN	63746	▼	72,50

SFKH02 – passive – 160 °C – PT1000			
Type	Item No.	Price	€
SFKH02 050.08 PT1000	63753	▼	62,40
SFKH02 100.08 PT1000	63760	▼	63,30
SFKH02 150.08 PT1000	63777	▼	64,90
SFKH02 200.08 PT1000	63784	▼	67,10
SFKH02 250.08 PT1000	63791	▼	68,40
SFKH02 450.08 PT1000	63807	▼	71,00

SFKH02 – passive – 160 °C – PT1000 1/3 DIN			
Type	Item No.	Price	€
SFKH02 050.08 PT1000 1/3 DIN	63814	▼	65,40
SFKH02 100.08 PT1000 1/3 DIN	63821	▼	66,20
SFKH02 150.08 PT1000 1/3 DIN	63838	▼	67,90
SFKH02 200.08 PT1000 1/3 DIN	63845	▼	70,10
SFKH02 250.08 PT1000 1/3 DIN	63852	▼	71,40
SFKH02 450.08 PT1000 1/3 DIN	63869	▼	74,00

SFKH02 – passive – 160 °C – Ni1000			
Type	Item No.	Price	€
SFKH02 050.08 Ni1000	63876	▼	62,20
SFKH02 100.08 Ni1000	63883	▼	63,00
SFKH02 150.08 Ni1000	63890	▼	64,60
SFKH02 200.08 Ni1000	63906	▼	66,80
SFKH02 250.08 Ni1000	63913	▼	68,10
SFKH02 450.08 Ni1000	63920	▼	70,70

SFKH02 – passive – 160 °C – Ni1000TK5000			
Type	Item No.	Price	€
SFKH02 050.08 Ni1000TK5000	63937	▼	65,60
SFKH02 100.08 Ni1000TK5000	63944	▼	66,50
SFKH02 150.08 Ni1000TK5000	63951	▼	68,10
SFKH02 200.08 Ni1000TK5000	63968	▼	70,30
SFKH02 250.08 Ni1000TK5000	63975	▼	71,60
SFKH02 450.08 Ni1000TK5000	63982	▼	74,20

SFKH02 – passive – 160 °C – FeT			
Type	Item No.	Price	€
SFKH02 050.08 FeT	63999	▼	68,60
SFKH02 100.08 FeT	64439	▼	69,40
SFKH02 150.08 FeT	64446	▼	71,00
SFKH02 200.08 FeT	64453	▼	73,30
SFKH02 250.08 FeT	64460	▼	74,50
SFKH02 450.08 FeT	64477	▼	77,10

SFKH02 passive 150 °C

SFKH02 | pocket length.pocket Ø | Sensor

SFKH02 – passive – 150 °C – NTC1,8k			
Type	Item No.	Price	€
SFKH02 050.08 NTC1,8k	351454		60,30
SFKH02 100.08 NTC1,8k	204842		61,00
SFKH02 150.08 NTC1,8k	290531		62,70
SFKH02 200.08 NTC1,8k	351508		64,90
SFKH02 250.08 NTC1,8k	290555		66,20
SFKH02 450.08 NTC1,8k	351539		68,80

SFKH02 – passive – 150 °C – NTC5k			
Type	Item No.	Price	€
SFKH02 050.08 NTC5k	351478		58,90
SFKH02 100.08 NTC5k	351485		59,70
SFKH02 150.08 NTC5k	351492		61,40
SFKH02 200.08 NTC5k	351515		63,60
SFKH02 250.08 NTC5k	351522		64,90
SFKH02 450.08 NTC5k	351546		67,50

SFKH02 – passive – 150 °C – NTC10k			
Type	Item No.	Price	€
SFKH02 050.08 NTC10k	64484		58,90
SFKH02 100.08 NTC10k	64491		59,70
SFKH02 150.08 NTC10k	64507		61,40
SFKH02 200.08 NTC10k	64514		63,60
SFKH02 250.08 NTC10k	64521		64,90
SFKH02 450.08 NTC10k	64538		67,50

SFKH02 – passive – 150 °C – NTC10k Precon			
Type	Item No.	Price	€
SFKH02 050.08 NTC10k Precon	64606		58,90
SFKH02 100.08 NTC10k Precon	64613		59,70
SFKH02 150.08 NTC10k Precon	64620		61,40
SFKH02 200.08 NTC10k Precon	64637		63,60
SFKH02 250.08 NTC10k Precon	64644		64,90
SFKH02 450.08 NTC10k Precon	64651		67,50

SFKH02 – passive – 150 °C – NTC20k			
Type	Item No.	Price	€
SFKH02 050.08 NTC20k	64545		58,90
SFKH02 100.08 NTC20k	64552		59,70
SFKH02 150.08 NTC20k	64569		61,40
SFKH02 200.08 NTC20k	64576		63,60
SFKH02 250.08 NTC20k	64583		64,90
SFKH02 450.08 NTC20k	64590		67,50

SFKH02 passive 120 °C

SFKH02 – passive – 120 °C – LM235Z			
Type	Item No.	Price	€
SFKH02 050.08 LM235Z	64668		60,70
SFKH02 100.08 LM235Z	64675		61,50
SFKH02 150.08 LM235Z	64682		63,10
SFKH02 200.08 LM235Z	64699		65,40
SFKH02 250.08 LM235Z	64705		66,60
SFKH02 450.08 LM235Z	64712		69,20

SFKH02 active (TRA/TRV)

SFKH02 | pocket length.pocket Ø | TRA/TRV, BUS

SFKH02 – active – TRA MultiRange (4..20 mA)		
Type	Item No.	€
SFKH02 050.08 TRA	590877	104,30
SFKH02 100.08 TRA	590884	104,90
SFKH02 150.08 TRA	590891	106,20
SFKH02 200.08 TRA	590907	107,70
SFKH02 250.08 TRA	590921	108,90
SFKH02 450.08 TRA	590938	110,90

SFKH02 – active – TRV MultiRange (0..10 V)		
Type	Item No.	€
SFKH02 050.08 TRV	590952	104,30
SFKH02 100.08 TRV	590969	104,90
SFKH02 150.08 TRV	590976	106,20
SFKH02 200.08 TRV	590983	107,70
SFKH02 250.08 TRV	590990	108,90
SFKH02 450.08 TRV	591003	110,90

SFKH02 BUS

LONMARK®

SFKH02 LON			
Type	Item No.	Price	€
SFKH02 050.08 LON	95365	▼	214,30
SFKH02 100.08 LON	95372	▼	215,10
SFKH02 150.08 LON	95389	▼	216,80
SFKH02 200.08 LON	95396	▼	219,00
SFKH02 250.08 LON	95402	▼	220,30
SFKH02 450.08 LON	95419	▼	222,90

OPTIONS	
Type	€
LCD (option not available with LON)	39,70
TRA/TRV: Temperature up to 260° C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459	≡	▼	59,80
ESH160	160 mm	150 mm	103466	≡	▼	68,50
ESH210	210 mm	200 mm	103473	≡	▼	77,10
ESH260	260 mm	250 mm	173247	≡	▼	84,90

ESH

SFK01

Protection against mechanical overstress
SI-Protection
humidity and vibration

SFK01

Passive immersion sensor complete with integrated thermowell pocket for temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Measuring range temperature	depending on used sensor
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	depending on used sensor
Ambient temperature	-25..+90 °C (passive, connection head)
Cable entry size	M16
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head shape	Shape J, aluminium die cast metal
Thread	G1/2"
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm 100 mm 150 mm 200 mm 250 mm 450 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

SFK01 passive 160 °C

SFK01 | pocket length.pocket Ø | Sensor

SFK01 – passive – 160 °C – PT100			
Type	Item No.	Price	€
SFK01 050.08 PT100	37662		44,50
SFK01 100.08 PT100	27717		45,40
SFK01 150.08 PT100	27724		46,80
SFK01 200.08 PT100	27731		48,60
SFK01 250.08 PT100	27748		49,10
SFK01 450.08 PT100	27755		52,00

SFK01 – passive – 160 °C – PT100 1/3 DIN			
Type	Item No.	Price	€
SFK01 050.08 PT100 1/3 DIN	27762		48,20
SFK01 100.08 PT100 1/3 DIN	27779		49,10
SFK01 150.08 PT100 1/3 DIN	27786		50,50
SFK01 200.08 PT100 1/3 DIN	27793		52,30
SFK01 250.08 PT100 1/3 DIN	27809		52,80
SFK01 450.08 PT100 1/3 DIN	27816		55,70

SFK01 – passive – 160 °C – PT1000			
Type	Item No.	Price	€
SFK01 050.08 PT1000	27823		46,60
SFK01 100.08 PT1000	27830		47,50
SFK01 150.08 PT1000	27847		49,00
SFK01 200.08 PT1000	27854		50,80
SFK01 250.08 PT1000	27861		51,20
SFK01 450.08 PT1000	27878		54,20

SFK01 – passive – 160 °C – PT1000 1/3 DIN			
Type	Item No.	Price	€
SFK01 050.08 PT1000 1/3 DIN	27885		49,60
SFK01 100.08 PT1000 1/3 DIN	27892		50,50
SFK01 150.08 PT1000 1/3 DIN	36740		52,00
SFK01 200.08 PT1000 1/3 DIN	36757		53,80
SFK01 250.08 PT1000 1/3 DIN	36764		54,20
SFK01 450.08 PT1000 1/3 DIN	36771		57,20

SFK01 – passive – 160 °C – Ni1000			
Type	Item No.	Price	€
SFK01 050.08 Ni1000	36788		46,40
SFK01 100.08 Ni1000	36795		47,30
SFK01 150.08 Ni1000	36801		48,70
SFK01 200.08 Ni1000	36818		50,50
SFK01 250.08 Ni1000	36825		50,90
SFK01 450.08 Ni1000	45292		53,90

SFK01 – passive – 160 °C – Ni1000TK5000			
Type	Item No.	Price	€
SFK01 050.08 Ni1000TK5000	45308		49,80
SFK01 100.08 Ni1000TK5000	45315		50,70
SFK01 150.08 Ni1000TK5000	45322		52,20
SFK01 200.08 Ni1000TK5000	45339		54,00
SFK01 250.08 Ni1000TK5000	45346		54,40
SFK01 450.08 Ni1000TK5000	45353		57,40

SFK01 – passive – 160 °C – FeT			
Type	Item No.	Price	€
SFK01 050.08 FeT	45360		52,80
SFK01 100.08 FeT	45377		53,70
SFK01 150.08 FeT	45384		55,10
SFK01 200.08 FeT	45391		56,90
SFK01 250.08 FeT	45407		57,40
SFK01 450.08 FeT	45414		60,30

SFK01 passive 150 °C / 120 °C

SFK01 | pocket length.pocket Ø | Sensor

SFK01 – passive – 150 °C – NTC1,8k			
Type	Item No.	Price	€
SFK01 050.08 NTC1,8k	351140		44,40
SFK01 100.08 NTC1,8k	270311		45,40
SFK01 150.08 NTC1,8k	270304		46,80
SFK01 200.08 NTC1,8k	263566		48,60
SFK01 250.08 NTC1,8k	249362		49,10
SFK01 450.08 NTC1,8k	293655		52,00

SFK01 – passive – 150 °C – NTC5k			
Type	Item No.	Price	€
SFK01 050.08 NTC5k	351157		43,10
SFK01 100.08 NTC5k	258685		44,10
SFK01 150.08 NTC5k	249867		45,50
SFK01 200.08 NTC5k	351164		47,30
SFK01 250.08 NTC5k	351171		47,70
SFK01 450.08 NTC5k	168601		50,70

SFK01 – passive – 150 °C – NTC10k			
Type	Item No.	Price	€
SFK01 050.08 NTC10k	45421		43,10
SFK01 100.08 NTC10k	45438		44,10
SFK01 150.08 NTC10k	45445		45,50
SFK01 200.08 NTC10k	45452		47,30
SFK01 250.08 NTC10k	45469		47,70
SFK01 450.08 NTC10k	45476		50,70

SFK01 – passive – 150 °C – NTC10k Precon			
Type	Item No.	Price	€
SFK01 050.08 NTC10k Precon	45544		43,10
SFK01 100.08 NTC10k Precon	45551		44,10
SFK01 150.08 NTC10k Precon	45568		45,50
SFK01 200.08 NTC10k Precon	45575		47,30
SFK01 250.08 NTC10k Precon	45582		47,70
SFK01 450.08 NTC10k Precon	45599		50,70

SFK01 – passive – 150 °C – NTC20k			
Type	Item No.	Price	€
SFK01 050.08 NTC20k	45483		43,10
SFK01 100.08 NTC20k	45490		44,10
SFK01 150.08 NTC20k	45506		45,50
SFK01 200.08 NTC20k	45513		47,30
SFK01 250.08 NTC20k	45520		47,70
SFK01 450.08 NTC20k	45537		50,70

SFK01 – passive – 120 °C – LM235Z			
Type	Item No.	Price	€
SFK01 050.08 LM235Z	45605		44,90
SFK01 100.08 LM235Z	45612		45,80
SFK01 150.08 LM235Z	45629		47,20
SFK01 200.08 LM235Z	45636		49,00
SFK01 250.08 LM235Z	45643		49,50
SFK01 450.08 LM235Z	45650		52,40

OPTIONS	
Type	€
Temperature up to 260°C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459			59,80
ESH160	160 mm	150 mm	103466			68,50
ESH210	210 mm	200 mm	103473			77,10
ESH260	260 mm	250 mm	173247			84,90

SFKH01

Protection against mechanical overstress
SI-Protection
humidity and vibration

SFKH01

Passive immersion sensor complete with integrated thermowell pocket for high temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Measuring range temperature	depending on used sensor
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	depending on used sensor
Ambient temperature	-25..+90 °C (passive, connection head)
Cable entry size	M16
Protection	IP65 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head material	Aluminium
Connection head shape	Shape J, aluminium die cast metal
Thread	G1/2"
Neck pipe material	Stainless steel 1.4305
Neck pipe length	70 mm
Throat pipe diameter	12 mm
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm 100 mm 150 mm 200 mm 250 mm 400 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

SFKH01 passive 160 °C

SFKH01 | pocket length.pocket Ø | Sensor

SFKH01 – passive – 160 °C – PT100			
Type	Item No.	Price	€
SFKH01 050.08 PT100	54652	▼	68,60
SFKH01 100.08 PT100	55567	▼	69,50
SFKH01 150.08 PT100	55574	▼	70,90
SFKH01 200.08 PT100	55581	▼	72,70
SFKH01 250.08 PT100	55598	▼	73,20
SFKH01 450.08 PT100	55604	▼	76,20

SFKH01 – passive – 160 °C – PT100 1/3 DIN			
Type	Item No.	Price	€
SFKH01 050.08 PT100 1/3 DIN	55611	▼	72,30
SFKH01 100.08 PT100 1/3 DIN	55628	▼	73,20
SFKH01 150.08 PT100 1/3 DIN	55635	▼	74,60
SFKH01 200.08 PT100 1/3 DIN	55642	▼	76,50
SFKH01 250.08 PT100 1/3 DIN	55659	▼	76,90
SFKH01 450.08 PT100 1/3 DIN	55666	▼	79,90

SFKH01 – passive – 160 °C – PT1000			
Type	Item No.	Price	€
SFKH01 050.08 PT1000	55673	▼	70,80
SFKH01 100.08 PT1000	55680	▼	71,70
SFKH01 150.08 PT1000	55697	▼	73,10
SFKH01 200.08 PT1000	55703	▼	74,90
SFKH01 250.08 PT1000	55710	▼	75,40
SFKH01 450.08 PT1000	55727	▼	78,40

SFKH01 – passive – 160 °C – PT1000 1/3 DIN			
Type	Item No.	Price	€
SFKH01 050.08 PT1000 1/3 DIN	55734	▼	73,80
SFKH01 100.08 PT1000 1/3 DIN	55741	▼	74,70
SFKH01 150.08 PT1000 1/3 DIN	55758	▼	76,10
SFKH01 200.08 PT1000 1/3 DIN	55765	▼	77,90
SFKH01 250.08 PT1000 1/3 DIN	55772	▼	78,40
SFKH01 450.08 PT1000 1/3 DIN	55789	▼	81,40

SFKH01 – passive – 160 °C – Ni1000			
Type	Item No.	Price	€
SFKH01 050.08 Ni1000	55796	▼	70,50
SFKH01 100.08 Ni1000	55802	▼	71,40
SFKH01 150.08 Ni1000	55819	▼	72,80
SFKH01 200.08 Ni1000	55826	▼	74,60
SFKH01 250.08 Ni1000	55833	▼	75,10
SFKH01 450.08 Ni1000	55840	▼	78,10

SFKH01 – passive – 160 °C – Ni1000TK5000			
Type	Item No.	Price	€
SFKH01 050.08 Ni1000TK5000	55857	▼	74,00
SFKH01 100.08 Ni1000TK5000	55864	▼	74,90
SFKH01 150.08 Ni1000TK5000	55871	▼	76,30
SFKH01 200.08 Ni1000TK5000	55888	▼	78,10
SFKH01 250.08 Ni1000TK5000	55895	▼	78,60
SFKH01 450.08 Ni1000TK5000	55901	▼	81,60

SFKH01 – passive – 160 °C – FeT			
Type	Item No.	Price	€
SFKH01 050.08 FeT	55918	▼	76,90
SFKH01 100.08 FeT	55925	▼	77,80
SFKH01 150.08 FeT	55932	▼	79,20
SFKH01 200.08 FeT	55949	▼	81,00
SFKH01 250.08 FeT	55956	▼	81,50
SFKH01 450.08 FeT	55963	▼	84,50

SFKH01 passive 150 °C

SFKH01 – passive – 150 °C – NTC1,8k			
Type	Item No.	Price	€
SFKH01 050.08 NTC1,8k	351287	▼	68,60
SFKH01 100.08 NTC1,8k	258708	▼	69,50
SFKH01 150.08 NTC1,8k	351317	▼	70,90
SFKH01 200.08 NTC1,8k	351379	▼	72,80
SFKH01 250.08 NTC1,8k	351393	▼	73,20
SFKH01 450.08 NTC1,8k	351416	▼	76,20

SFKH01 – passive – 150 °C – NTC5k			
Type	Item No.	Price	€
SFKH01 050.08 NTC5k	351294	▼	67,30
SFKH01 100.08 NTC5k	351300	▼	68,20
SFKH01 150.08 NTC5k	351362	▼	69,60
SFKH01 200.08 NTC5k	351386	▼	71,40
SFKH01 250.08 NTC5k	351409	▼	71,90
SFKH01 450.08 NTC5k	351423	▼	74,90

SFKH01 passive 150 °C

SFKH01 | pocket length.pocket Ø | Sensor

SFKH01 – passive – 150 °C – NTC10k			
Type	Item No.	Price	€
SFKH01 050.08 NTC10k	55970	▼	67,30
SFKH01 100.08 NTC10k	55987	▼	68,20
SFKH01 150.08 NTC10k	55994	▼	69,60
SFKH01 200.08 NTC10k	56007	▼	71,40
SFKH01 250.08 NTC10k	56014	▼	71,90
SFKH01 450.08 NTC10k	56021	▼	74,90

SFKH01 – passive – 150 °C – NTC10k Precon			
Type	Item No.	Price	€
SFKH01 050.08 NTC10k Precon	56090	▼	67,30
SFKH01 100.08 NTC10k Precon	56106	▼	68,20
SFKH01 150.08 NTC10k Precon	56113	▼	69,60
SFKH01 200.08 NTC10k Precon	56120	▼	71,40
SFKH01 250.08 NTC10k Precon	56137	▼	71,90
SFKH01 450.08 NTC10k Precon	56144	▼	74,90

SFKH01 – passive – 150 °C – NTC20k			
Type	Item No.	Price	€
SFKH01 050.08 NTC20k	56038	▼	67,30
SFKH01 100.08 NTC20k	56045	▼	68,20
SFKH01 150.08 NTC20k	56052	▼	69,60
SFKH01 200.08 NTC20k	56069	▼	71,40
SFKH01 250.08 NTC20k	56076	▼	71,90
SFKH01 450.08 NTC20k	56083	▼	74,90

SFKH01 passive 120 °C

SFKH01 – passive – 120 °C – LM235Z			
Type	Item No.	Price	€
SFKH01 050.08 LM235Z	56151	▼	69,00
SFKH01 100.08 LM235Z	56168	▼	69,90
SFKH01 150.08 LM235Z	56175	▼	71,30
SFKH01 200.08 LM235Z	56182	▼	73,00
SFKH01 250.08 LM235Z	56199	▼	73,60
SFKH01 450.08 LM235Z	56205	▼	76,60

OPTIONS	
Type	€
Temperature up to 260° C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459	≡	▼	59,80
ESH160	160 mm	150 mm	103466	≡	▼	68,50
ESH210	210 mm	200 mm	103473	≡	▼	77,10
ESH260	260 mm	250 mm	173247	≡	▼	84,90

SFK03

Protection against mechanical overstress
SI-Protection
humidity and vibration

SFK03

Immersion sensor complete with integrated thermowell pocket for high temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1 W (24 V =) | 1,4 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA: ±0,2 °C/±0,1% of measuring range TRV: ±0,1% of measuring range
Ambient temperature	-25..+70 °C (Connection head) -25..+90 °C (passive, connection head)
Cable entry size	M20
Protection	IP66 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head shape	Shape B, Aluminium
Thread	G1/2"
Pocket material	Stainless Steel 1.4571
Pocket length	100 mm 150 mm 200 mm 250 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

SFK03 passive 160 °C / 150 °C / 120 °C

SFK03 | pocket length.pocket Ø | Sensor

SFK03 passive 160 °C - PT100

Type	Item No.	Price €
SFK03 100.08 PT100	64309	52,70
SFK03 150.08 PT100	71079	54,60
SFK03 200.08 PT100	71086	56,60
SFK03 250.08 PT100	71093	59,50

SFK03 passive 160 °C - PT100 1/3 DIN

Type	Item No.	Price €
SFK03 100.08 PT100 1/3 DIN	71109	56,60
SFK03 150.08 PT100 1/3 DIN	71116	58,50
SFK03 200.08 PT100 1/3 DIN	71123	60,40
SFK03 250.08 PT100 1/3 DIN	71130	63,30

SFK03 passive 160 °C - PT1000

Type	Item No.	Price €
SFK03 100.08 PT1000	71147	54,90
SFK03 150.08 PT1000	71154	56,80
SFK03 200.08 PT1000	71161	58,70
SFK03 250.08 PT1000	71178	61,60

SFK03 passive 160 °C - PT1000 1/3 DIN

Type	Item No.	Price €
SFK03 100.08 PT1000 1/3 DIN	71185	58,10
SFK03 150.08 PT1000 1/3 DIN	71192	60,00
SFK03 200.08 PT1000 1/3 DIN	71208	62,00
SFK03 250.08 PT1000 1/3 DIN	71215	64,90

SFK03 passive 160 °C - Ni1000

Type	Item No.	Price €
SFK03 100.08 Ni1000	71222	54,60
SFK03 150.08 Ni1000	71239	56,50
SFK03 200.08 Ni1000	71246	58,50
SFK03 250.08 Ni1000	71253	61,30

SFK03 passive 160 °C - Ni1000TK5000

Type	Item No.	Price €
SFK03 100.08 Ni1000TK5000	71260	58,10
SFK03 150.08 Ni1000TK5000	71277	60,00
SFK03 200.08 Ni1000TK5000	71284	62,00
SFK03 250.08 Ni1000TK5000	71291	64,80

SFK03 passive 160 °C - FeT

Type	Item No.	Price €
SFK03 100.08 FeT	71307	61,00
SFK03 150.08 FeT	71314	62,90
SFK03 200.08 FeT	71321	64,90
SFK03 250.08 FeT	71338	67,80

SFK03 passive 150 °C - NTC1,8k

Type	Item No.	Price €
SFK03 100.08 NTC1,8k	351652	52,70
SFK03 150.08 NTC1,8k	351676	54,60
SFK03 200.08 NTC1,8k	351683	56,60
SFK03 250.08 NTC1,8k	351706	59,50

SFK03 passive 150 °C - NTC5k

Type	Item No.	Price €
SFK03 100.08 NTC5k	351713	51,40
SFK03 150.08 NTC5k	351720	53,30
SFK03 200.08 NTC5k	351751	55,20
SFK03 250.08 NTC5k	351775	58,10

SFK03 passive 150 °C - NTC10k

Type	Item No.	Price €
SFK03 100.08 NTC10k	71345	51,40
SFK03 150.08 NTC10k	71352	53,30
SFK03 200.08 NTC10k	71369	55,20
SFK03 250.08 NTC10k	71376	58,10

SFK03 passive 150 °C - NTC10k Precon

Type	Item No.	Price €
SFK03 100.08 NTC10k Precon	71420	51,40
SFK03 150.08 NTC10k Precon	71437	53,30
SFK03 200.08 NTC10k Precon	71444	55,20
SFK03 250.08 NTC10k Precon	71451	58,10

SFK03 passive 150 °C - NTC20k

Type	Item No.	Price €
SFK03 100.08 NTC20k	71383	51,40
SFK03 150.08 NTC20k	71390	53,30
SFK03 200.08 NTC20k	71406	55,20
SFK03 250.08 NTC20k	71413	58,10

SFK03 passive 120 °C - LM235Z

Type	Item No.	Price €
SFK03 100.08 LM235Z	71468	54,00
SFK03 150.08 LM235Z	71475	55,90
SFK03 200.08 LM235Z	71482	57,90
SFK03 250.08 LM235Z	71499	60,80

SFK03 active (TRA)

SFK03 | pocket length.pocket Ø | TRAx/TRVx

SFK03 – active – TRA1 (4..20 mA), -50..+50 °C

Type	Item No.	Price €
SFK03 100.08 TRA1	194440	139,20
SFK03 150.08 TRA1	200899	140,50
SFK03 200.08 TRA1	352055	141,90
SFK03 250.08 TRA1	254908	143,90

SFK03 – active – TRA2 (4..20 mA), -10..+120 °C

Type	Item No.	Price €
SFK03 100.08 TRA2	189316	139,20
SFK03 150.08 TRA2	344166	140,50
SFK03 200.08 TRA2	315746	141,90
SFK03 250.08 TRA2	352086	143,90

SFK03 – active – TRA3 (4..20 mA), 0..+50 °C

Typ	Art. No.	Preis €
SFK03 100.08 TRA3	165280	141,90
SFK03 150.08 TRA3	165044	140,50
SFK03 200.08 TRA3	132220	139,20
SFK03 250.08 TRA3	303835	143,90

SFK03 – active – TRA4 (4..20 mA), 0..+160 °C

Type	Item No.	Price €
SFK03 100.08 TRA4	293051	139,20
SFK03 150.08 TRA4	295024	140,50
SFK03 200.08 TRA4	239226	141,90
SFK03 250.08 TRA4	352093	143,90

SFK03 – active – TRA5 (4..20 mA), 0..+250 °C

Type	Item No.	Price €
SFK03 100.08 TRA5	131674	146,80
SFK03 150.08 TRA5	146821	148,10
SFK03 200.08 TRA5	152884	149,50
SFK03 250.08 TRA5	157421	151,60

SFK03 active (TRV)

SFK03 – active – TRV1 (0..10 V), -50..+50 °C

Type	Item No.	Price €
SFK03 100.08 TRV1	318853	139,20
SFK03 150.08 TRV1	352024	140,50
SFK03 200.08 TRV1	352062	141,90
SFK03 250.08 TRV1	352109	143,90

SFK03 – active – TRV2 (0..10 V), -10..+120 °C

Type	Item No.	Price €
SFK03 100.08 TRV2	335744	139,20
SFK03 150.08 TRV2	352031	140,50
SFK03 200.08 TRV2	246958	141,90
SFK03 250.08 TRV2	352253	143,90

SFK03 – active – TRV3 (4..20 mA), 0..+50 °C

Type	Item No.	Price €
SFK03 100.08 TRV3	281775	139,20
SFK03 150.08 TRV3	352048	140,50
SFK03 200.08 TRV3	352079	141,90
SFK03 250.08 TRV3	352260	143,90

SFK03 – active – TRV4 (0..10 V), 0..+160 °C

Type	Item No.	Price €
SFK03 100.08 TRV4	298414	139,20
SFK03 150.08 TRV4	292115	140,50
SFK03 200.08 TRV4	324403	141,90
SFK03 250.08 TRV4	352277	143,90

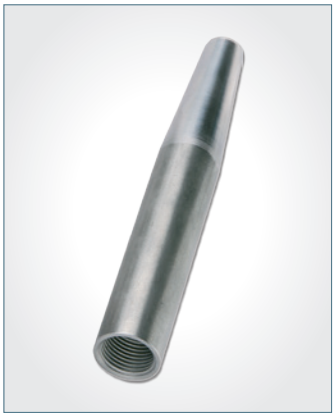
SFK03 – active – TRV5 (0..10 V), 0..+250 °C

Type	Item No.	Price €
SFK03 100.08 TRV5	243933	146,80
SFK03 150.08 TRV5	295314	148,10
SFK03 200.08 TRV5	297509	149,50
SFK03 250.08 TRV5	306607	151,60

SFK03

OPTIONS	
Type	€
Temperature up to 260°C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459			59,80
ESH160	160 mm	150 mm	103466			68,50
ESH210	210 mm	200 mm	103473			77,10
ESH260	260 mm	250 mm	173247			84,90



ESH

SFKH03

Protection against mechanical overstress
SI-Protection
humidity and vibration

SFKH03

Immersion sensor complete with integrated thermowell pocket for high temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1 W (24 V =) | 1,4 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C
Tmax	+160 °C (only end of senor) +260 °C (only end of sensor) (optional)
Accuracy temperature	TRA: ±0,2 °C/±0,1% of measuring range TRV: ±0,1% of measuring range
Ambient temperature	-25..+70 °C (Connection head) -25..+90 °C (passive, connection head)
Cable entry size	M20
Protection	IP66 SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Connection head shape	Shape B, Aluminium
Thread	G1/2"
Neck pipe material	Stainless steel 1.4305
Neck pipe length	70 mm
Neck pipe diameter	12 mm
Pocket material	Stainless Steel 1.4571
Pocket length	100 mm 150 mm 200 mm 250 mm
Pocket diameter	8 mm
Notes	Please contact us for other sensors.

SFKH03 passive 160 °C / 150 °C / 120 °C

SFKH03 | pocket length.pocket Ø | Sensor

SFKH03 – passive – 160 °C – PT100

Type	Item No.	Price €
SFKH03 100.08 PT100	64323	70,70
SFKH03 150.08 PT100	75053	72,60
SFKH03 200.08 PT100	75077	74,60
SFKH03 250.08 PT100	75084	77,50

SFKH03 – passive – 160 °C – PT100 1/3 DIN

Type	Item No.	Price €
SFKH03 100.08 PT100 1/3 DIN	75091	74,60
SFKH03 150.08 PT100 1/3 DIN	75107	76,50
SFKH03 200.08 PT100 1/3 DIN	75114	78,50
SFKH03 250.08 PT100 1/3 DIN	75121	81,40

SFKH03 – passive – 160 °C – PT1000

Type	Item No.	Price €
SFKH03 100.08 PT1000	75138	72,90
SFKH03 150.08 PT1000	75145	74,80
SFKH03 200.08 PT1000	75152	76,80
SFKH03 250.08 PT1000	75169	79,70

SFKH03 – passive – 160 °C – PT1000 1/3 DIN

Type	Item No.	Price €
SFKH03 100.08 PT1000 1/3 DIN	75176	76,10
SFKH03 150.08 PT1000 1/3 DIN	75183	78,00
SFKH03 200.08 PT1000 1/3 DIN	75190	80,00
SFKH03 250.08 PT1000 1/3 DIN	75206	82,90

SFKH03 – passive – 160 °C – Ni1000

Type	Item No.	Price €
SFKH03 100.08 Ni1000	75213	72,60
SFKH03 150.08 Ni1000	75220	74,50
SFKH03 200.08 Ni1000	75237	76,50
SFKH03 250.08 Ni1000	75244	79,40

SFKH03 – passive – 160 °C – Ni1000TK5000

Type	Item No.	Price €
SFKH03 100.08 Ni1000TK5000	75251	76,10
SFKH03 150.08 Ni1000TK5000	75268	78,00
SFKH03 200.08 Ni1000TK5000	75275	80,00
SFKH03 250.08 Ni1000TK5000	75282	82,90

SFKH03 – passive – 160 °C – FeT

Type	Item No.	Price €
SFKH03 100.08 FeT	75299	79,10
SFKH03 150.08 FeT	75305	81,00
SFKH03 200.08 FeT	75312	82,90
SFKH03 250.08 FeT	75329	85,80

SFKH03 – passive – 150 °C – NTC1,8k

Type	Item No.	Price €
SFKH03 100.08 NTC1,8k	351553	70,70
SFKH03 150.08 NTC1,8k	351607	72,60
SFKH03 200.08 NTC1,8k	351638	74,60
SFKH03 250.08 NTC1,8k	351669	77,50

SFKH03 – passive – 150 °C – NTC5k

Type	Item No.	Price €
SFKH03 100.08 NTC5k	351560	69,40
SFKH03 150.08 NTC5k	351621	71,30
SFKH03 200.08 NTC5k	351645	73,30
SFKH03 250.08 NTC5k	351690	76,20

SFKH03 – passive – 150 °C – NTC10k

Type	Item No.	Price €
SFKH03 100.08 NTC10k	74568	69,40
SFKH03 150.08 NTC10k	75343	71,30
SFKH03 200.08 NTC10k	75350	73,30
SFKH03 250.08 NTC10k	75367	76,20

SFKH03 – passive – 150 °C – NTC10k Precon

Type	Item No.	Price €
SFKH03 100.08 NTC10k Precon	75411	69,40
SFKH03 150.08 NTC10k Precon	75428	71,30
SFKH03 200.08 NTC10k Precon	75435	73,30
SFKH03 250.08 NTC10k Precon	75442	76,20

SFKH03 – passive – 150 °C – NTC20k

Type	Item No.	Price €
SFKH03 100.08 NTC20k	75374	69,40
SFKH03 150.08 NTC20k	75381	71,30
SFKH03 200.08 NTC20k	75398	73,30
SFKH03 250.08 NTC20k	75404	76,20

SFKH03 – passive – 120 °C – LM235Z

Type	Item No.	Price €
SFKH03 100.08 LM235Z	75459	72,00
SFKH03 150.08 LM235Z	75466	74,00
SFKH03 200.08 LM235Z	75473	75,90
SFKH03 250.08 LM235Z	75480	78,80

SFKH03 active (TRA)

SFKH03 | pocket length.pocket Ø | TRAx/TRVx

SFKH03 – active – TRA1 (4..20 mA), -50..+50 °C

Type	Item No.	Price €
SFKH03 100.08 TRA1	180832	150,40
SFKH03 150.08 TRA1	256193	151,70
SFKH03 200.08 TRA1	215350	153,10
SFKH03 250.08 TRA1	351843	155,10

SFKH03 – active – TRA2 (4..20 mA), -10..+120 °C

Type	Item No.	Price €
SFKH03 100.08 TRA2	307888	150,40
SFKH03 150.08 TRA2	227940	151,70
SFKH03 200.08 TRA2	338011	153,10
SFKH03 250.08 TRA2	274265	155,10

SFKH03 – active – TRA3 (4..20 mA), 0..+50 °C

Type	Item No.	Price €
SFKH03 100.08 TRA3	200622	150,40
SFKH03 150.08 TRA3	217828	151,70
SFKH03 200.08 TRA3	200110	153,10
SFKH03 250.08 TRA3	202909	155,10

SFKH03 – active – TRA4 (4..20 mA), 0..+160 °C

Type	Item No.	Price €
SFKH03 100.08 TRA4	284479	150,40
SFKH03 150.08 TRA4	351768	151,70
SFKH03 200.08 TRA4	276788	153,10
SFKH03 250.08 TRA4	336857	155,10

SFKH03 – active – TRA5 (4..20 mA), 0..+250 °C

Type	Item No.	Price €
SFKH03 100.08 TRA5	147071	158,00
SFKH03 150.08 TRA5	291873	159,30
SFKH03 200.08 TRA5	328425	160,70
SFKH03 250.08 TRA5	145312	162,70

SFKH03 active (TRV)

SFKH03 – active – TRV1 (0..10 V), -50..+50 °C

Type	Item No.	Price €
SFKH03 100.08 TRV1	320986	150,40
SFKH03 150.08 TRV1	351782	151,70
SFKH03 200.08 TRV1	351812	153,10
SFKH03 250.08 TRV1	351904	155,10

SFKH03 – active – TRV2 (0..10 V), -10..+120 °C

Type	Item No.	Price €
SFKH03 100.08 TRV2	351737	150,40
SFKH03 150.08 TRV2	351799	151,70
SFKH03 200.08 TRV2	351829	153,10
SFKH03 250.08 TRV2	351911	155,10

SFKH03 – active – TRV3 (0..10 V), 0..+50 °C

Type	Item No.	Price €
SFKH03 100.08 TRV3	351744	150,40
SFKH03 150.08 TRV3	288071	151,70
SFKH03 200.08 TRV3	351836	153,10
SFKH03 250.08 TRV3	351928	155,10

SFKH03 – active – TRV4 (0..10 V), 0..+160 °C

Type	Item No.	Price €
SFKH03 100.08 TRV4	344784	150,40
SFKH03 150.08 TRV4	351805	151,70
SFKH03 200.08 TRV4	258548	153,10
SFKH03 250.08 TRV4	256711	155,10

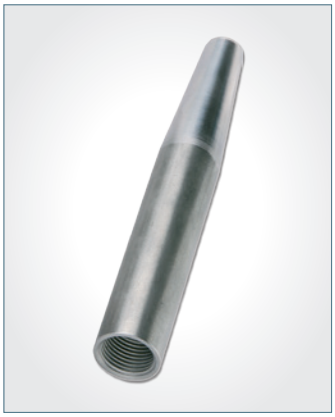
SFKH03 – active – TRA5 (0..10 V), 0..+250 °C

Type	Item No.	Price €
SFKH03 100.08 TRV5	115001	158,00
SFKH03 150.08 TRV5	261944	159,30
SFKH03 200.08 TRV5	258555	160,70
SFKH03 250.08 TRV5	152716	162,70

SFKH03

OPTIONS	
Type	€
Temperature up to 260°C	10,90
3-wire connection	1,85
4-wire connection	3,70

ACCESSORIES – Bonded pockets						
Type	Length	for pocket length	Item No.	On stock	Price cut	€
ESH110	110 mm	100 mm	103459			59,80
ESH160	160 mm	150 mm	103466			68,50
ESH210	210 mm	200 mm	103473			77,10
ESH260	260 mm	250 mm	173247			84,90



ESH

RGS03

RGS03

Immersion sensor (high temp) complete with integrated thermowell pocket for temperature measurement of liquids in pipework applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (PT100)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1 W (24 V =) | 1,4 VA (24 V ~)
Measuring range	TRA6/TRV6: 0..+400 °C TRA7/TRV7: 0..+600 °C PT100 (passive): max. 600 °C
Tmax	+500 °C (temporarily +600 °C)
Accuracy temperature	TRA: ±0,2 °C/±0,1% of measuring range TRV: ±0,1% of measuring range depending on used sensor (passive)
Ambient temperature	-25..+70 °C (Connection head) -25..+90 °C (passive, connection head)
Cable entry size	M20
Protection	IP66
Terminal block	Terminal block,max. 1,5 mm²
Wires (number)	3-wire (passive)
Connection head shape	Shape B, Aluminium
Thread	G1/2"
Neck pipe material	Stainless steel 1.4305
Neck pipe length	100 mm
Neck pipe diameter	9 mm
Pocket material	Stainless Steel 1.4571
Pocket length	250 mm 500 mm
Pocket diameter	9 mm
Notes	incl. mounting flanges Please contact us for other sensors.

RGS03 passive

RGS03 | pocket length.pocket Ø | Sensor

RGS03 – passive – 160 °C – PT100			
Type	Item No.	Price cut	€
RGS03 250.09 PT100 3-Leiter	79297	▼	144,60
RGS03 500.09 PT100 3-Leiter	385190	▼	147,00

RGS03 active (TRA)

RGS03 | pocket length.pocket Ø | TRAx/TRVx

RGS03 – active – TRA6 (4..20 mA), 0..+400 °C			
Type	Item No.	Price cut	€
RGS03 250.09 TRA6	164115	▼	236,50
RGS03 500.09 TRA6	155281	▼	238,90

RGS03 – active – TRA7 (4..20 mA), 0..+600 °C			
Type	Item No.	Price cut	€
RGS03 250.09 TRA7	79334	▼	236,50
RGS03 500.09 TRA7	79341	▼	238,90

RGS03 active (TRV)

RGS03 – active – TRV6 (0..10 V), 0..+400 °C			
Type	Item No.	Price cut	€
RGS03 250.09 TRV6	223942	▼	236,50
RGS03 500.09 TRV6	351959	▼	238,90

RGS03 – active – TRV7 (0..10 V), 0..+600 °C			
Type	Item No.	Price cut	€
RGS03 250.09 TRV7	351935	▼	236,50
RGS03 500.09 TRV7	244824	▼	238,90

AGS43

AGS43

Outdoor temperature measurement: cold rooms, greenhouses, production plants and warehouses.

TECHNICAL DATA	
Measuring range temperature	depending on used sensor
Accuracy temperature	depending on used sensor
Ambient temperature	-35..+90 °C (passive)
Cable entry size	PG9
Protection	IP43
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Notes	Please contact us for other sensors.

AGS43 passive		
Type	Item No.	€
AGS43 without sensor	133128	6,60
AGS43 PT100	116749	13,00
AGS43 PT100 1/3 DIN	25027	16,80
AGS43 PT1000	25034	15,20
AGS43 PT1000 1/3 DIN	25041	18,20
AGS43 Ni1000	25058	14,90
AGS43 Ni1000TK5000	25065	18,40
AGS43 FeT	25089	21,40
AGS43 NTC1,8k	132855	13,10
AGS43 NTC5k	25119	11,70
AGS43 NTC10k	25126	11,70
AGS43 NTC10k Precon	25164	11,70
AGS43 NTC20k	25133	11,70
AGS43 KTY81-110	25188	9,65
AGS43 KTY81-121	25195	9,65
AGS43 KTY81-122	25201	9,65
AGS43 KTY81-210	25218	9,65
AGS43 LM235Z	25232	14,30

ACCESSORIES				
Type	Item No.	On stock	Price cut	€
Rawlplugs and screws (2 pcs. each)	102209	●		0,80
Sun-/rain protection RS150	103329	●	▼	22,70

AGS54

Outdoor temperature measurement: cold rooms, greenhouses, production plants and warehouses.

TECHNICAL DATA	
Measuring range temperature	depending on used sensor
Accuracy temperature	depending on used sensor
Ambient temperature	-35..+90 °C (passive)
Cable entry size	M16
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Notes	Please contact us for other sensors.

AGS54 passive				
Type	Item No.	On stock	Price cut	€
AGS54 without sensor	199902			7,85
AGS54 PT100	25263	≡		14,90
AGS54 PT100 1/3 DIN	25270			18,60
AGS54 PT1000	25287	≡		17,10
AGS54 PT1000 1/3 DIN	25294			20,00
AGS54 Ni1000	25300	≡		16,70
AGS54 Ni1000TK5000	25317	≡		20,30
AGS54 FeT	25331			23,20
AGS54 NTC1,8k	132534	≡		14,90
AGS54 NTC5k	25362			13,60
AGS54 NTC10k	25379	≡		13,60
AGS54 NTC10k Precon	25416			13,60
AGS54 NTC20k	25386	≡		13,60
AGS54 KTY81-110	25430			11,50
AGS54 KTY81-121	25447			11,50
AGS54 KTY81-122	25454			11,50
AGS54 KTY81-210	25461			11,50
AGS54 LM235Z	25485	≡		15,30
AGS54 DS18B20 1-wire	233811		▼	14,90

OPTIONS	
Type	€
Aluminium enclosure	32,80

ACCESSORIES				
Type	Item No.	On stock	Price cut	€
Rawlplugs and screws (2 pcs. each)	102209	≡		0,80
Sun-/rain protection RS150	103329	≡	▼	22,70

AGS54 ext.

AGS54 ext. LCD .

Protection against mechanical overstress
SI-Protection
humidity and vibration

AGS54 ext.

Outdoor temperature measurement: cold rooms, greenhouses, production plants and warehouses. Stainless Steel external probe for faster response.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRV/LON: 15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: 0,5 W / 1,7 VA RS485 Modbus: typ. 0,7 W (24 V =) | 1,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA3/TRV3: 0..+50 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device LON: -45..+130 °C RS485 Modbus: -20..+120 °C
Accuracy temperature	±1% of measuring range (typ. at 21 °C) LON: ±0,5 K depending on used sensor (passive)
LCD	34x21 mm (optional), black a/nd white, with white background
Ambient temperature	-35..+70 °C -25..+90 °C (passive)
Cable entry size	M16 M20 M20 double
Protection	IP65 with SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket material	Stainless Steel 1.4571
Pocket length	25 mm
Pocket diameter	6 mm
Notes	Please contact us for other sensors.

LONMARK® Modbus

AGS54 ext. passive

AGS54 ext. passive			
Type	Item No.	On stock	€
AGS54 ext. PT100	25539	●	32,50
AGS54 ext. PT100 1/3 DIN	25546		36,20
AGS54 ext. PT1000	25553	●	34,70
AGS54 ext. PT1000 1/3 DIN	25560		37,70
AGS54 ext. Ni1000	25577	●	34,40
AGS54 ext. Ni1000TK5000	25584	●	37,90
AGS54 ext. FeT	25607		40,40
AGS54 ext. NTC1,8k	247665	●	32,50
AGS54 ext. NTC5k	25638		31,20
AGS54 ext. NTC10k	25645	●	31,20
AGS54 ext. NTC10k Precon	25683		31,20
AGS54 ext. NTC20k	25652	●	31,20
AGS54 ext. KTY81-110	25706		29,10
AGS54 ext. KTY81-121	25713		29,10
AGS54 ext. KTY81-122	25720		29,10
AGS54 ext. KTY81-210	25737		29,10
AGS54 ext. LM235Z	25751	●	32,00

AGS54 ext. active (TRA/TRV)

AGS54 ext. – active – TRA MultiRange (4..20 mA)			
Type	Item No.	Stock	€
AGS54 ext. TRA	479066	● ▼	75,30

AGS54 ext. – active – TRV MultiRange (0..10 V)			
Type	Item No.	Stock	€
AGS54 ext. TRV	479097	● ▼	75,30

AGS54 ext. BUS

LONMARK®

AGS54 ext. – LON		
Type	Item No.	€
AGS54 ext. LON	25775	186,60

Modbus

AGS54 ext. – RS485 Modbus			
Type	Item No.	Price	€
AGS54 ext. RS485 Modbus	578066	▼	75,30

OPTIONS	
Type	€
LCD	39,70

ACCESSORIES				
Type	Item No.	On stock	Price cut	€
Rawlplugs and screws (2 pcs. each)	102209	●		0,80
Sun/rain protection RS150	103329	●	▼	22,70

VFG54

VFG54

Outdoor temperature measurement: cold rooms, greenhouses, production plants and warehouses. Stainless Steel external probe for faster response.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: max. 12 mA / 24 V =, typ. 0,42 W / 0,84 VA LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~) RS485 Modbus: typ. 0,7 W (24 V =) | 1,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device LON: -45..+130 °C RS485 Modbus: -20..+120 °C
Accuracy temperature	±1% of measuring range (typ. at 21 °C) LON: ±0,5 K
Display	34x21 mm (optional), black a/nd white, with white background
Ambient temperature	-25..+70 °C -35..+90 °C (passive)
Cable entry size	M16 M20 M20 double
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket	Brass, spring loaded sensor
Notes	Please contact us for other sensors.

VFG54 passive

VFG54 – passive			
Type	Item No.	On stock	€
VFG54 PT100	30236	●	18,60
VFG54 PT100 1/3 DIN	30243		22,40
VFG54 PT1000	30250	●	20,80
VFG54 PT1000 1/3 DIN	30267		23,80
VFG54 Ni1000	30274	●	20,50
VFG54 Ni1000TK5000	30281	●	24,10
VFG54 FeT	30304		27,00
VFG54 NTC1,8k	132558	●	18,60
VFG54 NTC5k	30335		17,30
VFG54 NTC10k	30342	●	17,30
VFG54 NTC10k Precon	30380		17,30
VFG54 NTC20k	30359	●	17,30
VFG54 KTY81-110	30403		15,30
VFG54 KTY81-121	30410		15,30
VFG54 KTY81-122	30427		15,30
VFG54 KTY81-210	30434		15,30
VFG54 LM235Z	30458	●	19,90
VFG54 DS18B20 1-wire	240543		18,60

VFG54 active (TRA/TRV)

VFG54 – active – TRA MultiRange (4..20 mA)			
Type	Item No.	Stock	€
VFG54 TRA	479219	● ▼	71,70

VFG54 – active – TRV MultiRange (0..10 V)			
Type	Item No.	Stock	€
VFG54 TRV	479226	● ▼	71,70

VFG54 BUS

LONMARK®

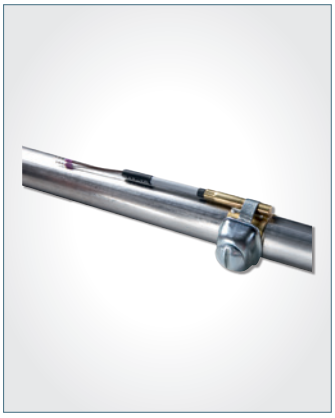
VFG54 – LON		
Type	Item No.	€
VFG54 LON	98144	173,20

Modbus

VFG54 – RS485 Modbus			
Type	Item No.	Price	€
VFG54 RS485 Modbus	578080	▼	71,70

OPTIONS	
Type	€
LCD	39,70

ACCESSORIES			
Type	Item No.	On stock	€
Tightening strap 2" with contact fluid	102254	●	1,65
Tightening strap 900 mm with contact fluid	102315	●	3,10



AF25

Protection against mechanical overstress
SI-Protection
humidity and vibration

AF25

Temperature measurement on pipes and round surfaces. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (TRV)
Output Amp	1x 4..20 mA (TRA)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device
Measuring range temperature	depending on used sensor (passive)
Accuracy temperature	depending on used sensor (passive)
Ambient temperature	-35..+100 °C
Cable entry size	M20
Protection	SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC
Connection wire diameter	0,25 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Pocket material	Brass
Pocket length	35 mm
Pocket diameter	6 mm
Notes	Please contact us for other sensors.

AF25 passive

AF25 | pocket length.pocket Ø | Sensor

AF25 passive		
Type	Item No.	€
AF25.100.06.PT100	81610	12,80
AF25.100.06.PT100 1/3 DIN	46411	16,60
AF25.100.06.PT1000	54263	15,00
AF25.100.06.PT1000 1/3 DIN	54300	18,00
AF25.100.06.Ni1000	54348	14,70
AF25.100.06.Ni1000TK5000	54386	18,20
AF25.100.06.NTC1,8k	241687	12,90
AF25.100.06.NTC5k	54461	11,50
AF25.100.06.NTC10k	92005	11,50
AF25.100.06.NTC10k Precon	92043	11,50
AF25.100.06.NTC20k	141994	11,50

AF25 active (TRA)

AF25 | pocket length.pocket Ø | TRA/TRV

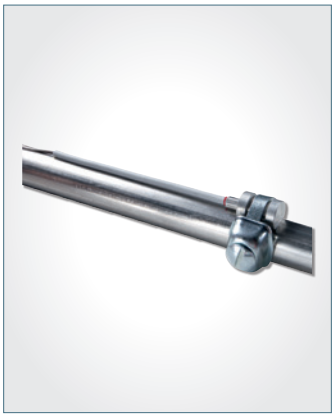
AF25 active TRA MultiRange (4..20 mA)		
Type	Item No.	€
AF25.100.06 TRA	592468	70,80

AF25 active (TRV)

AF25 active TRV MultiRange (0..10 V)		
Type	Item No.	€
AF25.100.06 TRV	593854	70,80

OPTIONS	
Type	€
Cable length per additional meter	0,70

ACCESSORIES			
Type	Item No.	On stock	€
Tightening strap 2" with contact fluid	102254	●	1,65
Tightening strap 900 mm with contact fluid	102315	●	3,10



PR25 passive

PR25 active

Protection against mechanical overstress
SI-Protection
humidity and vibration

PR25

Temperature measurement of pipes and round surfaces.Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C Range adjustable at the device
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
Ambient temperature	-35..+70 °C -35..+100 °C (passive)
Cable entry size	M20
Protection	SI-Protection
Terminal block	Terminal block,max. 1,5 mm²
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC Silicone
Connection wire diameter	0,25 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket material	Aluminium
Pocket length	28 mm
Pocket diameter	11 mm
Notes	Please contact us for other sensors.

PR25 passive

PR25 passive		
Type	Item No.	€
PR25 PT100	81696	18,20
PR25 PT100 1/3 DIN	94771	21,90
PR25 PT1000	94894	20,40
PR25 PT1000 1/3 DIN	94931	23,30
PR25 Ni1000	94979	20,10
PR25 Ni1000TK5000	95686	23,60
PR25 NTC1,8k	287128	18,20
PR25 NTC5k	95761	16,90
PR25 NTC10k	95808	16,90
PR25 NTC10k Precon	95846	16,90
PR25 NTC20k	362641	16,90
PR25 KTY81-110	95884	14,80
PR25 KTY81-121	95921	14,80
PR25 KTY81-210	96003	14,80
PR25 LM235Z	96089	18,60

PR25 active (TRA)

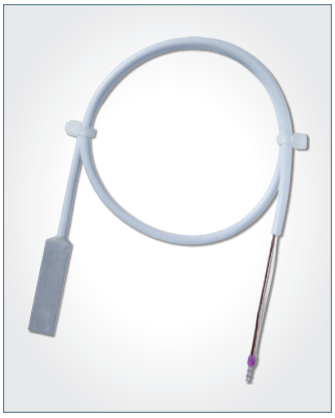
PR25 active TRA MultiRange (4..20 mA)			
Type	Item No.	Price cut	€
PR25 TRA	591010	▼	74,20

PR25 active (TRV)

PR25 active TRV MultiRange (0..10 V)			
Type	Item No.	Price cut	€
PR25 TRV	591027	▼	74,20

OPTIONS	
Type	€
Temperature up to 180 °C	3,75
Cable length per additional meter 100 °C	0,70
Cable length per additional meter 180 °C	1,60

ACCESSORIES			
Type	Item No.	On stock	€
Tightening strap 2“ with contact fluid	102254	≡	1,65
Tightening strap 900 mm with contact fluid	102315	≡	3,10



OF14

OF14

Temperature measurement on glass surfaces or similar. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA3/TRV3: 0..+50 °C
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Prism material	Aluminium
Ambient temperature	-20..+70 °C
Cable entry size	M20
Protection	IP65
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC
Connection wire diameter	0,25 mm²
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket material	Aluminium
Pocket length	35x10x6 mm
Notes	Please contact us for other sensors.

OF14 passive

OF14 | Length connection wire.pocket Ø | Sensor

OF14 passive		
Type	Item No.	€
OF14 100.06 PT100	132596	31,30
OF14 100.06 PT100 1/3 DIN	167307	35,10
OF14 100.06 PT1000	114851	33,50
OF14 100.06 PT1000 1/3 DIN	219303	36,50
OF14 100.06 Ni1000	113922	33,20
OF14 100.06 Ni1000TK5000	141864	36,70
OF14 100.06 NTC1,8k	356541	31,40
OF14 100.06 NTC5k	351263	30,10
OF14 100.06 NTC10k	190367	30,10
OF14 100.06 NTC10k Precon	165006	30,10
OF14 100.06 NTC20k	147736	30,10
OF14 100.06 LM235Z	216760	31,80

OF14 active (TRA3)

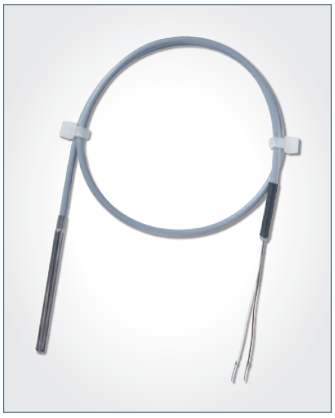
OF14 | pocket length.pocket Ø | TRA3/TRV3

OF14 active TRA3 (4..20 mA)			
Type	Item No.	Price cut	€
OF14 100.6 TRA3	204965	▼	88,10

OF14 active (TRV3)

OF14 active TRV3 (0..10 V)			
Type	Item No.	Price cut	€
OF14 100.6 TRV 3	192767	▼	88,10

OPTIONS	
Type	€
Cable length per additional meter	0,70



TF14

Protection against mechanical overstress
SI-Protection
humidity and vibration

TF14

Temperature measurement for HVAC applications. In conjuction with a Thermowell pocket suitable temperature measurement in immersion temperature applications. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) pass. Sensor (S)
Output Amp	1x 4..20 mA (A)
Power supply	TRA: 15..24 V = (±10%) TRV: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device depends on used sensor (passive)
Accuracy temperature	±1% of measuring range (typ. at 21 °C) depending on used sensor (passive)
Ambient temperature	-35..+70 °C PTFE: -80..+260 °C PVC: -35..+100 °C Silicone: -50..+180 °C
Cable entry size	M20
Protection	Hex pressed (standard): IP43 Rolled: IP67 with SI-Protection
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC Silicone PTFE
Connection wire diameter	0,14 mm^2
Wires (number)	2-wire (passive, standard) 3-wire (passive) 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6 with quick lock screws
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm 100 mm 150 mm 200 mm 400 mm
Pocket diameter	4 mm
Notes	Please contact us for other lengths. Please contact us for other sensors.

TF14 passive 100 °C

TF14 | pocket length.pocket Ø | Sensor

TF14 – passive – 100 °C – PT100		
Type	Item No.	€
TF14 100.04 4x50 PT100	64347	12,20
TF14 100.04 4x100 PT100	57554	13,30
TF14 100.04 4x150 PT100	57561	13,70

TF14 – passive – 100 °C – PT100 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT100 1/3 DIN	69106	15,90
TF14 100.04 4x100 PT100 1/3 DIN	69113	17,10
TF14 100.04 4x150 PT100 1/3 DIN	69120	17,40

TF14 – passive – 100 °C – PT1000		
Type	Item No.	€
TF14 100.04 4x50 PT1000	69267	14,40
TF14 100.04 4x100 PT1000	69274	15,50
TF14 100.04 4x150 PT1000	69281	15,90

TF14 – passive – 100 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT1000 1/3 DIN	69427	17,40
TF14 100.04 4x100 PT1000 1/3 DIN	69434	18,50
TF14 100.04 4x150 PT1000 1/3 DIN	69441	18,80

TF14 – passive – 100 °C – Ni1000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000	73080	14,10
TF14 100.04 4x100 Ni1000	73097	15,30
TF14 100.04 4x150 Ni1000	73103	15,60

TF14 – passive – 100 °C – Ni1000TK5000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000TK5000	73240	17,60
TF14 100.04 4x100 Ni1000TK5000	73257	18,70
TF14 100.04 4x150 Ni1000TK5000	73264	19,10

TF14 – passive – 100 °C – NTC1,8k		
Type	Item No.	€
TF14 100.04 4x50 NTC1,8k	270687	12,30
TF14 100.04 4x100 NTC1,8k	355797	13,40
TF14 100.04 4x150 NTC1,8k	233293	13,70

TF14 – passive – 100 °C – NTC5k		
Type	Item No.	€
TF14 100.04 4x50 NTC5k	73806	10,90
TF14 100.04 4x100 NTC5k	73813	12,00
TF14 100.04 4x150 NTC5k	73820	12,30

TF14 – passive – 100 °C – NTC10k		
Type	Item No.	€
TF14 100.04 4x50 NTC10k	73844	10,90
TF14 100.04 4x100 NTC10k	73851	12,00
TF14 100.04 4x150 NTC10k	73868	12,30

TF14 – passive – 100 °C – NTC10k Precon		
Type	Item No.	€
TF14 100.04 4x50 NTC10k Precon	77002	10,90
TF14 100.04 4x100 NTC10k Precon	77019	12,00
TF14 100.04 4x150 NTC10k Precon	77026	12,30

TF14 – passive – 100 °C – NTC20k		
Type	Item No.	€
TF14 100.04 4x50 NTC20k	73899	10,90
TF14 100.04 4x100 NTC20k	73905	12,00
TF14 100.04 4x150 NTC20k	73912	12,30

TF14 passive 180 °C

TF14 | pocket length.pocket Ø | Sensor

TF14 passive 180 °C · PT100		
Type	Item No.	€
TF14 100.04 4x50 PT100	64354	16,90
TF14 100.04 4x100 PT100	78009	18,00
TF14 100.04 4x150 PT100	78016	18,30

TF14 passive 180 °C · PT100 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT100 1/3 DIN	78207	20,50
TF14 100.04 4x100 PT100 1/3 DIN	78214	21,70
TF14 100.04 4x150 PT100 1/3 DIN	78221	22,00

TF14 – passive 180 °C – PT1000		
Type	Item No.	€
TF14 100.04 4x50 PT1000	78405	19,00
TF14 100.04 4x100 PT1000	78443	20,20
TF14 100.04 4x150 PT1000	78481	20,50

TF14 – passive 180 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT1000 1/3 DIN	78603	22,00
TF14 100.04 4x100 PT1000 1/3 DIN	78641	23,20
TF14 100.04 4x150 PT1000 1/3 DIN	78689	23,50

TF14 – passive 180 °C – Ni1000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000	78795	18,70
TF14 100.04 4x100 Ni1000	78832	19,90
TF14 100.04 4x150 Ni1000	78870	20,20

TF14 – passive 180 °C – Ni1000TK5000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000TK5000	78993	22,20
TF14 100.04 4x100 Ni1000TK5000	79037	23,30
TF14 100.04 4x150 Ni1000TK5000	79075	23,70

TF14 passive 150 °C

TF14 – passive 150 °C – NTC1,8k		
Type	Item No.	€
TF14 100.04 4x50 NTC1,8k	256131	16,90
TF14 100.04 4x100 NTC1,8k	352307	18,00
TF14 100.04 4x150 NTC1,8k	352291	18,30

TF14 – passive 150 °C – NTC5k		
Type	Item No.	€
TF14 100.04 4x50 NTC5k	80200	15,50
TF14 100.04 4x100 NTC5k	80248	16,60
TF14 100.04 4x150 NTC5k	76975	17,00

TF14 – passive 150 °C – NTC10k		
Type	Item No.	€
TF14 100.04 4x50 NTC10k	80408	15,50
TF14 100.04 4x100 NTC10k	81443	16,60
TF14 100.04 4x150 NTC10k	80484	17,00

TF14 – passive 150 °C – NTC10k Precon		
Type	Item No.	€
TF14 100.04 4x50 NTC10k Precon	76807	15,50
TF14 100.04 4x100 NTC10k Precon	76845	16,60
TF14 100.04 4x150 NTC10k Precon	76883	17,00

TF14 – passive 150 °C – NTC20k		
Type	Item No.	€
TF14 100.04 4x50 NTC20k	80606	15,50
TF14 100.04 4x100 NTC20k	80644	16,60
TF14 100.04 4x150 NTC20k	80682	17,00

TF14 passive 260 °C

TF14 | pocket length.pocket Ø | Sensor

TF14 – passive – 260 °C – PT100		
Type	Item No.	€
TF14 100.04 4x50 PT100	95563	19,10
TF14 100.04 4x100 PT100	96126	20,20
TF14 100.04 4x150 PT100	96195	20,50

TF14 – passive – 260 °C – PT100 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT100 1/3 DIN	96775	22,80
TF14 100.04 4x100 PT100 1/3 DIN	96805	23,90
TF14 100.04 4x150 PT100 1/3 DIN	96843	24,20

TF14 – passive – 260 °C – PT1000		
Type	Item No.	€
TF14 100.04 4x50 PT1000	97185	21,30
TF14 100.04 4x100 PT1000	97239	22,40
TF14 100.04 4x150 PT1000	91510	22,70

TF14 – passive – 260 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF14 100.04 4x50 PT1000 1/3 DIN	91633	24,30
TF14 100.04 4x100 PT1000 1/3 DIN	91671	25,40
TF14 100.04 4x150 PT1000 1/3 DIN	91718	25,70

TF14 – passive – 260 °C – Ni1000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000	91831	21,00
TF14 100.04 4x100 Ni1000	91879	22,10
TF14 100.04 4x150 Ni1000	91916	22,40

TF14 – passive – 260 °C – Ni1000TK5000		
Type	Item No.	€
TF14 100.04 4x50 Ni1000TK5000	97338	24,50
TF14 100.04 4x100 Ni1000TK5000	97376	25,60
TF14 100.04 4x150 Ni10	97413	25,90

TF14 active (TRA/TRV)

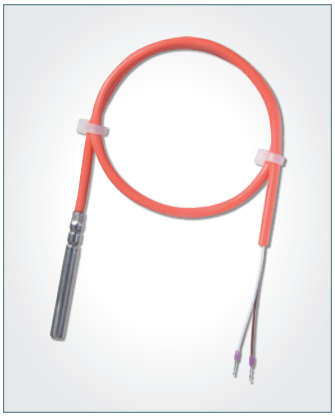
TF14 | pocket length.pocket Ø | TRA/TRV

TF14 – active – TRA MultiRange (4..20 mA)		
Type	Item No.	€
TF14 100.04 4x50 TRA	590617	68,70
TF14 100.04 4x100 TRA	590624	69,20
TF14 100.04 4x150 TRA	590631	69,50

TF14 – active – TRV MultiRange (0..10 V)		
Type	Item No.	€
TF14 100.04 4x50 TRV	590648	68,70
TF14 100.04 4x100 TRV	590655	69,20
TF14 100.04 4x150 TRV	590662	69,50

OPTIONS	
Type	€
Cable length per additional meter 100 °C	0,70
Cable length per additional meter 2-wire 260 °C	2,65
Cable length per additional meter 3-wire 260 °C	3,10
Cable length per additional meter 4-wire 260 °C	5,00
3-wire connection 260 °C	1,65
4-wire connection 260 °C	2,50

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF4 (brass)	102438	⛁	5,10
Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)	399098	⛁	6,30



TF25 passive

TF25 active

Protection against mechanical overstress
SI-Protection
humidity and vibration

LONMARK®

Modbus

TF25

Temperature measurement for HVAC applications. In conjuction with a Thermowell pocket suitable temperature measurement in immersion temperature applications. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (TRV) pass. Sensor (S)
Output Amp	1x 4..20 mA (TRA)
Output BUS	LON RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) TRA: 15..24 V = (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,5 W (24 V =) | 1,7 VA (24 V ~) RS485 Modbus: typ. 0,9 W (24 V =) | 1 VA (24 V ~)
Measuring range	TRA1/TRV1: -50..+50 °C TRA2/TRV2: -10..+120 °C TRA3/TRV3: 0..+50 °C TRA4/TRV4: 0..+160 °C TRA5/TRV5: 0..+250 °C TRA8/TRV8: -15..+35 °C Range adjustable at the device LON: -45..+130 °C RS485 Modbus: -20..+120 °C depends on used sensor (passive)
Accuracy temperature	RS485 Modbus: ±1 °C bei 25 °C TRA/TRV: ±1% of measuring range LON: ±0,5 K depending on used sensor (passive)
Display	34x21 mm (optional), black a/nd white, with white background
Ambient temperature	-35..+70 °C Special silicone: -60°C..+250°C GI/GI-V2A: -50..+400 °C PVC: -35..+100 °C Silicone: -50..+180 °C
Cable entry size	M20 M20 double
Protection	IP43 (hex pressed) IP67 (Rolled with SI-Protection)
Connection wire length	1 m (Standard), 2 m, 4 m, 6 m
Connection wire	PVC, Silicone, Special silicone
Connection wire diameter	0,25 mm²
Wires (number)	2-wire (passive, standard) 3-wire (passive), 4-wire (passive)
Enclosure colour	pure white
Enclosure material	PA6, with quick lock screws
Pocket material	Stainless Steel 1.4571
Pocket length	50 mm, 100 mm, 150 mm, 200 mm, 250 mm
Pocket diameter	6 mm, 6,5 mm (LON)
Notes	Please contact us for other sensors.

TF25 passive 100 °C

TF25 | pocket length.pocket Ø | Sensor

TF25 – passive – 100 °C – PT100		
Type	Item No.	€
TF25 100.06 6x50 PT100	35019	11,80
TF25 100.06 6x100 PT100	35026	13,20
TF25 100.06 6x150 PT100	35033	13,60

TF25 – passive – 100 °C – PT100 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT100 1/3 DIN	25799	15,50
TF25 100.06 6x100 PT100 1/3 DIN	35255	16,90
TF25 100.06 6x150 PT100 1/3 DIN	35262	17,20

TF25 – passive – 100 °C – PT1000		
Type	Item No.	€
TF25 100.06 6x50 PT1000	35484	14,00
TF25 100.06 6x100 PT1000	35491	15,40
TF25 100.06 6x150 PT1000	35507	15,70

TF25 – passive – 100 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT1000 1/3 DIN	35729	17,00
TF25 100.06 6x100 PT1000 1/3 DIN	35736	18,40
TF25 100.06 6x150 PT1000 1/3 DIN	35743	18,70

TF25 – passive – 100 °C – Ni1000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000	26116	13,70
TF25 100.06 6x100 Ni1000	26154	15,10
TF25 100.06 6x150 Ni1000	26192	15,40

TF25 – passive – 100 °C – Ni1000TK5000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000TK5000	26352	17,20
TF25 100.06 6x100 Ni1000TK5000	26390	18,60
TF25 100.06 6x150 Ni1000TK5000	388238	18,90

TF25 – passive – 100 °C – NTC1,8k		
Type	Item No.	€
TF25 100.06 6x50 NTC1,8k	233309	11,80
TF25 100.06 6x100 NTC1,8k	258272	13,20
TF25 100.06 6x150 NTC1,8k	319201	14,70

TF25 – passive – 100 °C – NTC5k		
Type	Item No.	€
TF25 100.06 6x50 NTC5k	41522	10,50
TF25 100.06 6x100 NTC5k	41805	11,90
TF25 100.06 6x150 NTC5k	40716	12,20

TF25 – passive – 100 °C – NTC10k		
Type	Item No.	€
TF25 100.06 6x50 NTC10k	41539	10,50
TF25 100.06 6x100 NTC10k	41812	11,90
TF25 100.06 6x150 NTC10k	40723	12,20

TF25 – passive – 100 °C – NTC10k Precon		
Type	Item No.	€
TF25 100.06 6x50 NTC10k Precon	41300	10,50
TF25 100.06 6x100 NTC10k Precon	41348	11,90
TF25 100.06 6x150 NTC10k Precon	41386	12,20

TF25 – passive – 100 °C – NTC20k		
Type	Item No.	€
TF25 100.06 6x50 NTC20k	41546	10,50
TF25 100.06 6x100 NTC20k	41829	11,90
TF25 100.06 6x150 NTC20k	40730	12,20

TF25 – passive – 100 °C – KTY81-110		
Type	Item No.	€
TF25 100.06 6x50 KTY81-110	42819	8,35
TF25 100.06 6x100 KTY81-110	42857	9,80
TF25 100.06 6x150 KTY81-110	42895	10,10

TF25 passive 100 °C

TF25 | pocket length.pocket Ø | Sensor

TF25 – passive – 100 °C – KTY81-121		
Type	Item No.	€
TF25 100.06 6x50 KTY81-121	42826	8,35
TF25 100.06 6x100 KTY81-121	42864	9,80
TF25 100.06 6x150 KTY81-121	42901	10,10

TF25 – passive – 100 °C – KTY81-122		
Type	Item No.	€
TF25 100.06 6x50 KTY81-122	42833	8,35
TF25 100.06 6x100 KTY81-122	42871	9,80
TF25 100.06 6x150 KTY81-122	42918	10,10

TF25 – passive – 100 °C – KTY81-210		
Type	Item No.	€
TF25 100.06 6x50 KTY81-210	42840	8,35
TF25 100.06 6x100 KTY81-210	42888	9,80
TF25 100.06 6x150 KTY81-210	42925	10,10

TF25 – passive – 100 °C – LM235Z		
Type	Item No.	€
TF25 100.06 6x50 LM235Z	43786	13,10
TF25 100.06 6x100 LM235Z	43823	14,50
TF25 100.06 6x150 LM235Z	43861	14,90

TF25 – passive – 100 °C – DS18B20 1-wire			
Type	Item No.	Price	€
TF25 100.06 6x50 DS18B20 1-wire	496735	▼	11,80
TF25 100.06 6x100 DS18B20 1-wire	592901	▼	13,20
TF25 100.06 6x150 DS18B20 1-wire	592918	▼	13,60

TF25 passive 180 °C

TF25 – passive – 180 °C – PT100		
Type	Item No.	€
TF25 100.06 6x50 PT100	52771	15,50
TF25 100.06 6x100 PT100	52788	16,90
TF25 100.06 6x150 PT100	52795	17,20

TF25 – passive – 180 °C – PT100 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT100 1/3 DIN	57493	19,20
TF25 100.06 6x100 PT100 1/3 DIN	57509	20,70
TF25 100.06 6x150 PT100 1/3 DIN	57516	21,00

TF25 – passive – 180 °C – PT1000		
Type	Item No.	€
TF25 100.06 6x50 PT1000	58247	17,70
TF25 100.06 6x100 PT1000	58254	19,10
TF25 100.06 6x150 PT1000	58261	21,00

TF25 – passive – 180 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT1000 1/3 DIN	58483	20,70
TF25 100.06 6x100 PT1000 1/3 DIN	58490	22,10
TF25 100.06 6x150 PT1000 1/3 DIN	58506	22,40

TF25 – passive – 180 °C – Ni1000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000	58728	17,40
TF25 100.06 6x100 Ni1000	58735	18,80
TF25 100.06 6x150 Ni1000	58742	19,20

TF25 – passive – 180 °C – Ni1000TK5000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000TK5000	58964	20,90
TF25 100.06 6x100 Ni1000TK5000	58971	22,30
TF25 100.06 6x150 Ni1000TK5000	58988	22,70

TF25 passive 150 °C

TF25 | pocket length.pocket Ø | Sensor

TF25 – passive – 150 °C – NTC1,8k		
Type	Item No.	€
TF25 100.06 6x50 NTC1,8k	259484	15,50
TF25 100.06 6x100 NTC1,8k	282611	16,90
TF25 100.06 6x150 NTC1,8k	388252	17,30

TF25 – passive – 150 °C – NTC5k		
Type	Item No.	€
TF25 100.06 6x50 NTC5k	59404	14,20
TF25 100.06 6x100 NTC5k	59411	15,60
TF25 100.06 6x150 NTC5k	59428	15,90

TF25 – passive – 150 °C – NTC10k		
Type	Item No.	€
TF25 100.06 6x50 NTC10k	59466	14,20
TF25 100.06 6x100 NTC10k	59473	15,60
TF25 100.06 6x150 NTC10k	59480	15,90

TF25 – passive – 150 °C – NTC10k Precon		
Type	Item No.	€
TF25 100.06 6x50 NTC10k Precon	59718	14,20
TF25 100.06 6x100 NTC10k Precon	59725	15,60
TF25 100.06 6x150 NTC10k Precon	59732	15,90

TF25 – passive – 150 °C – NTC20k		
Type	Item No.	€
TF25 100.06 6x50 NTC20k	59527	14,20
TF25 100.06 6x100 NTC20k	59534	15,60
TF25 100.06 6x150 NTC20k	59541	15,90

TF25 – passive – 150 °C – KTY81-110		
Type	Item No.	€
TF25 100.06 6x50 KTY81-110	68031	12,10
TF25 100.06 6x100 KTY81-110	68048	13,60
TF25 100.06 6x150 KTY81-110	68055	13,90

TF25 – passive – 150 °C – KTY81-121		
Type	Item No.	€
TF25 100.06 6x50 KTY81-121	68093	12,10
TF25 100.06 6x100 KTY81-121	68109	13,60
TF25 100.06 6x150 KTY81-121	68116	13,90

TF25 – passive – 150 °C – KTY81-122		
Type	Item No.	€
TF25 100.06 6x50 KTY81-122	68154	12,10
TF25 100.06 6x100 KTY81-122	68161	13,60
TF25 100.06 6x150 KTY81-122	68178	13,90

TF25 – passive – 150 °C – KTY81-210		
Type	Item No.	€
TF25 100.06 6x50 KTY81-210	68215	12,10
TF25 100.06 6x100 KTY81-210	68222	13,60
TF25 100.06 6x150 KTY81-210	68239	13,90

TF25 passive 125 °C

TF25 – passive – 125 °C – LM235Z		
Type	Item No.	€
TF25 100.06 6x50 LM235Z	143042	15,90
TF25 100.06 6x100 LM235Z	141024	17,40
TF25 100.06 6x150 LM235Z	387521	17,70

TF25 passive 250 °C

TF25 | pocket length.pocket Ø | Sensor

TF25 – passive – 250 °C – PT100		
Type	Item No.	€
TF25 100.06 6x50 PT100	167406	19,10
TF25 100.06 6x100 PT100	209731	20,20
TF25 100.06 6x150 PT100	205658	20,50

TF25 – passive – 250 °C – PT100 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT100 1/3 DIN	195478	22,80
TF25 100.06 6x100 PT100 1/3 DIN	345835	23,90
TF25 100.06 6x150 PT100 1/3 DIN	388276	24,30

TF25 – passive – 250 °C – PT1000		
Type	Item No.	€
TF25 100.06 6x50 PT1000	168717	21,30
TF25 100.06 6x100 PT1000	209724	22,40
TF25 100.06 6x150 PT1000	388283	22,70

TF25 – passive – 250 °C – PT1000 1/3 DIN		
Type	Item No.	€
TF25 100.06 6x50 PT1000 1/3 DIN	356749	24,30
TF25 100.06 6x100 PT1000 1/3 DIN	356756	25,40
TF25 100.06 6x150 PT1000 1/3 DIN	388290	25,70

TF25 – passive – 250 °C – Ni1000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000	151863	21,00
TF25 100.06 6x100 Ni1000	182430	22,10
TF25 100.06 6x150 Ni1000	388306	22,40

TF25 – passive – 250 °C – Ni1000TK5000		
Type	Item No.	€
TF25 100.06 6x50 Ni1000TK5000	150781	24,90
TF25 100.06 6x100 Ni1000TK5000	157018	25,60
TF25 100.06 6x150 Ni1000TK5000	388313	25,90

TF25 passive 400 °C

TF25 passive 400 °C - PT100		
Type	Item No.	€
TF25 200.06 6x50 PT100	166195	33,80

TF25 passive 400 °C - PT1000		
Type	Item No.	€
TF25 200.06 6x50 PT1000	166201	33,80

TF25 active (TRA/TRV)

TF25 | pocket length.pocket Ø | TRA/TRV

TF25 – active – TRA MultiRange (4..20 mA)		
Type	Item No.	€
TF25 100.06 6x50 TRA	590679	69,90
TF25 100.06 6x100 TRA	590686	71,10
TF25 100.06 6x150 TRA	590693	71,30

TF25 – active – TRV MultiRange (0..10 V)		
Type	Item No.	€
TF25 100.06 6x50 TRV	590709	69,90
TF25 100.06 6x100 TRV	590716	71,10
TF25 100.06 6x150 TRV	590723	71,30

TF25 BUS

LONMARK®

TF25 – RS485 Modbus		
Type	Item No.	€
TF25 100.06 6,5x50 LON	95440	181,00

Modbus

TF25 – RS485 Modbus		
Type	Item No.	€
TF25 100.06 6x50 RS485 Modbus	597531	69,90

TF25

OPTIONS	
Type	€
3-wire connection 100 °C	1,65
4-wire connection 100 °C	2,50
Cable length per additional meter 2-wire 100 °C	0,70
Cable length per additional meter 3-wire 100 °C	1,00
Cable length per additional meter 4-wire 100 °C	1,20
3-wire connection 180 °C	1,75
4-wire connection 180 °C	3,20
Cable length per additional meter 2-wire 180 °C	1,60
Cable length per additional meter 3-wire 180 °C	2,10
Cable length per additional meter 4-wire 180 °C	2,60
Cable length per additional meter 2-wire 250 °C	2,65
Cable length per additional meter 2-wire 400 °C	4,75
TRA/TRV: LCD	39,70
TRA/TRV: Cable length per additional meter for measuring range up to 160 °C	1,60
TRA/TRV: Cable length per additional meter for measuring range up to 250 °C	2,65
Protection class IP67	2,00
Connection box with 2 cable entries	13,80
Tension spring	1,30

ACCESSORIES			
Type	Item No.	On stock	€
Mounting flange MF6 (brass)	3407	≡	6,30
Mounting flange MF7 flexible (incl. inserts for Ø=4mm / 6mm)	399098	≡	6,30

THMSDS / THVADS

ACCESSORIES – Immersion probes brass nickel					
Type	Length	for pocket length	Item No.	Stock	€
THMSDS50	50 mm	50 mm	247368	≡	8,65
THMSDS100	100 mm	100 mm	247399	≡	9,85
THMSDS200	200 mm	200 mm	247405	≡	10,40

ACCESSORIES – Immersion probes stainless steel					
Type	Length	for pocket length	Item No.	Stock	€
THVADS50	50 mm	50 mm	447393	≡	18,80
THVADS100	100 mm	100 mm	447409	≡	20,60
THVADS200	200 mm	200 mm	447423	≡	22,30

Humidity

Humidity sensor for reliable detection of relative humidity and temperature in residential and commercial buildings, outdoor resp. in gaseous media of heating, ventilation and air conditioning systems.

Sample applications 205

Room sensors

FTW04	Surface mount sensor Temp. + rH	206
FTW06	Flush mount sensor Temp. + rH	208
FP_FTP	Room pendulum Temp. + rH	209
FSR	Room humidistats air conditioning, ...	211

Duct sensors

FTK-SX	Duct sensor Temp. + rH	212
FTK	Duct sensor Temp. + rH (BUS)	214
FSK01	Duct humidistats air	216

Outdoor sensors

FTA54	Outdoor sensor Temp. + rH	217

Condensation / Leakage

WK01	Condensation sensor	219
LS02	Water leak detection	220

» BENEFITS

- » Reliable measurement of relative humidity
- » High Accuracy
- » Optional combined temperature sensor

1

FTK-SX

Duct humidity/temperature sensor, available outputs: 0..10 V or 4..20 mA

2

FTW04

Room humidity/temperature sensor, available with set point adjustment and LON interface

BACnet KNX LonMark® enocean alliance No Wires. No Batteries. No Limits. Modbus

ALREADY WET HANDS?

Whether room or duct: Highest precision in relative humidity is of paramount importance. Not only for creating comfortable working conditions, a consistent and accurate monitoring of humidity is necessary. In increasingly isolated buildings, hazardous mold formations get observance to the sustainable protection of humans and the building. In order to act preventively and to control this risk, humidity sensors are additionally equipped with temperature sensors and designed for communication in BUS systems, for wireless EnOcean communication and for direct hook-up.

FTW04

FTW04 with setpoint adjuster and LCD

FTW04

Room humidity and temperature sensor for room and space monitoring and control applications.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) 2x 0..10 V + pass. Sensor (VVS)
Output Amp	2x 4..20 mA (AA) 2x 4..20 mA + pass. Sensor (AAS)
Output BUS	BACnet MS/TP KNX LON RS485 Modbus
	Measuring of AA/VV: Temperature + humidity (active) AAS/VVS: Temperature + humidtiy (active + passive) BUS: Temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) AA/AAS: 15..24 V = (±10%) KNX: via BUS
Power consumption	AA/AAS: max. 40 mA VV/VVS: max. 0,3 W (24 V =) | 0,5 VA (24 V ~) BACnet: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~) LON: typ. 0,6 W / 1,2 VA RS485 Modbus: typ. 0,4 W (24 V =) | 0,6 VA (24 V ~)
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±1% of m easuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Ambient temperature	-20..+70 °C
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP30
Connection clamp	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Mounting	Installation on standard flush mounting box. Base part can be mounted and wired separately
Notes	Additional passive sensor available (please specify in order). e.g.: PT100, PT1000, NI1000, NI1000TK5000, LM235Z, NTCxx, PTCxx, other sensors on request. Setpoint adjuster availbale on request Custom paint possible

FTW04

FTW04 active (2x 4..20 mA resp. 0..10 V)				
Type	Measuring values	Item No.	Price cut	€
FTW04 AA	Temp + rH	429962	▼	153,80
FTW04 VV	Temp + rH	196352	▼	153,80

FTW04 BUS				
Type	Measuring values	Item No.	Price cut	€
FTW04 BACnet	Temp + rH	548298	▼	192,70
FTW04 KNX	Temp + rH	585606	▼	231,30
FTW04 LON	Temp + rH	297776	▼	242,70
FTW04 RS485 Modbus	Temp + rH	on request		192,70

OPTIONS	
Type	€
LCD (not available with BACnet)	39,70
Potentiometer (passive)	22,40
Additional passive temperature sensor	14,30

ACCESSORIES			
Type	Item No.	On stock	€
Frame for surface mouting WRF04	111584	●	12,40
Ball stroke protection BS100 (only for WRF04)	103312	●	33,20
Rawlplugs and screws (2 pcs. each)	102209	●	0,80

FTW06 Gira E2, pure white

FTW06

Room humidity and temperature sensor for room and space monitoring and control applications. compatible with switch frames 55x55 mm.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV)
Measuring of	VV: Temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 0,3 W (24 V =) | 0,5 VA (24 V ~)
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±1% of m easuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Frame designs	Berker S1, B3, B7 Glas Gira E2, Standard 55, Esprit, Event Jung A500, AS500, Aplus Merten M-Smart, M-Arc, M-Plan Peha Aura For other frame designs please request
Ambient temperature	-20..+70 °C
Protection	IP30
Connection clamp	Terminal block,max. 1,5 mm²
Enclosure material	ABS/PC
Farbe	pure white matt pure white brilliant aluminium anthracite
Mounting	Flush mounting
Notes	Please specify frame design in order. Additional passive sensor available (please specify in order). e.g.: PT100, PT1000, NI1000, NI1000TK5000, LM235Z, NTCxx, PTCxx, other sensors on request.

FTW06 (2x 0..10 V)				
Type	Measuring values	Item No.	Price cut	€
FTW06 VV Gira E2 pure white	Temp + rH	459167	▼	208,00

OPTIONS	
Type	€
Additional passive temperature sensor	14,30

FP/FTP

FP/FTP

Room pendulum sensor for sectional measuring of relative humidity (type FP) or humidity and temperature (type FTP) in large rooms applications.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV) 1x 0..10 V + pass. Sensor (VS)
Output Amp	1x 4..20 mA (A) 2x 4..20 mA (AA) 1x 4..20 mA + pass. Sensor (AS)
Measuring of	A/V: Humidity AA/VV: Temperature + humidity (active) AS/VS: Temperature + humidity (passive)
Power supply	A/AA/AS: 15..24 V = (±10%) V/VV/VS: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	AS: max. 20 mA / 24 V = A/AA: max. 40 mA / 24 V = VS: max. 6 mA / 24 V = V/VV: max. 12 mA / 24 V =
Measuring range temperature	-20..+80 °C (active) depending on used sensor (passive)
Measuring range humidity	0..100% rH
Accuracy temperature	AS/VS: depends on used sensor AA/VV: ±0,3% of m easuring range
Accuracy humidity	±2% at 35..75% rH
Ambient temperature	-20..+70 °C
Protection	IP20
Colour connection wire	white
Connection wire length	1 m (Standard) 2 m 4 m 6 m
Connection wire	PVC
Connection wire diameter	0,14 mm²
Pipe material	PVC with stainless steel weight
Pipe color	black
Pipe length	180 mm
Pipe diameter	19 mm
Filter material	PVDF
Notes	Please contact us for other sensor options.

FP/FTP

FP active, 4..20 mA resp. 0..10 V – humidity			
Type	Measuring values	Item No.	€
FP100 A	rH	173407	272,60
FP100 V	rH	144544	272,60

FTP active, 2x 4..20 mA bzw. 0..10 V – temperature + humidity			
Type	Measuring values	Item No.	€
FTP100 AA	Temp + rH	185653	347,60
FTP100 VV	Temp + rH	152273	347,60

FTP passive, 4..20 mA – humidity, passive – temperature		
Type	Item No.	€
FTP100 AS - PT100	356350	290,80
FTP100 AS - PT100 1/3 DIN	356367	294,50
FTP100 AS - PT1000	356374	293,00
FTP100 AS - PT1000 1/3 DIN	356381	296,00
FTP100 AS - Ni1000	297493	292,70
FTP100 AS - Ni1000TK5000	356398	296,20
FTP100 AS - FeT	356411	299,10
FTP100 AS - NTC1,8k	356428	290,80
FTP100 AS - NTC5k	356435	289,50
FTP100 AS - NTC10k	356442	289,50
FTP100 AS - NTC10k Precon	215466	289,50
FTP100 AS - NTC20k	356466	289,50
FTP100 AS - LM235Z	356473	291,90

FTP passive, 0..10 V mA – humidity, passive – temperature		
Type	Item No.	€
FTP100 VS - PT100	356480	290,80
FTP100 VS - PT100 1/3 DIN	356497	294,50
FTP100 VS - PT1000	153140	293,00
FTP100 VS - PT1000 1/3 DIN	281416	296,00
FTP100 VS - Ni1000	253109	292,70
FTP100 VS - Ni1000TK5000	332200	296,20
FTP100 VS - FeT	191371	299,10
FTP100 VS - NTC1,8k	356503	290,80
FTP100 VS - NTC5k	356510	289,50
FTP100 VS - NTC10k	356527	289,50
FTP100 VS - NTC10k Precon	356459	289,50
FTP100 VS - NTC20k	356534	289,50
FTP100 VS - LM235Z	204798	291,90

OPTIONS	
Type	€
Cable length per additional meter for FP	1,00
Cable length per additional meter for FTP	1,20

ACCESSORIES			
Type	Item No.	On stock	€
Filter PVDF (spare part)	118583	●	20,50

FSR01

FSR01

FSR humidistats are designed for the on/off control of ventilation and air conditioning, humidification and dehumidification equipment in room applications.

TECHNICAL DATA	
Max. switching voltage	250 V ~
Scale range humidity	30..100% rH
Measuring range humidity	35..95% rH
Accuracy humidity	±3,0% rH
Differential gap	4% rH (at 50% rH)
Ambient temperature	0..+60 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Notes	Possible with inside adjustment on request

FSR01		
Type	Item No.	€
FSR01	427623	72,90

ACCESSORIES			
Type	Item No.	On stock	€
Frame for surface mouting WRF04	111584	⛃	12,40
Rawlplugs and screws (2 pcs. each)	102209	⛃	0,80

FTK-SX

FTK-SX

Duct humidity and temperature sensor for all HVAC duct applications. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) 2x 0..10 V + pass. Sensor (VVS)
Output Amp	2x 4..20 mA (AA) 2x 4..20 mA + pass. Sensor (AAS)
Measuring of	AA/VV: Temperature + humidity (active) AAS/VVS: Temperature + humidtiy (active + passive)
Power supply	VVS: 15..24 V = (±10%) or 24 V ~ (±10%) AAS: 15..24 V = (±10%)
Power consumption	AA/AAS: max. 20 mA VV/VVS: 0,4 W / 0,8 VA
Measuring range temperature	-20..+80 °C (active) depending on used sensor (passive)
Accuracy temperature	AA/VV: typ. ±0,5 K depending on used sensor (passive)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Ambient temperature	-20..+70 °C
Cable entry size	M16
Protection	IP65
Connection clamp	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PVC
Pipe color	black
Pipe length	140 mm 270 mm 400 mm
Pipe diameter	19 mm
Filter material	Stainless steel, wire mesh
Notes	Additional passive sensor available (please specify in order). e.g.: PT100, PT1000, NI1000, NI1000TK5000, LM235Z, NTCxx, PTCxx, other sensors on request.

FTK-SX

FTK-SX, 2x 4..20 mA – temperature + humidity			
Type	Item No.	On stock	€
FTK-SX 140 AA	587334		159,70
FTK-SX 270 AA	587341		166,80
FTK-SX 400 AA	587396		173,90

FTK-SX, 2x 0..10 V – temperature + humidity			
Type	Item No.	On stock	€
FTK-SX 140 VV	587280		159,70
FTK-SX 270 VV	587303		166,80
FTK-SX 400 VV	587310		173,90

OPTIONS	
Type	€
Additional passive temperature sensor	14,30

ACCESSORIES			
Type	Item No.	On stock	€
MF19 (TPO)	527705		11,70
Filter stainless steel, wire mesh (spare part)	231169		8,80
Rawlplugs and screws (2 pcs. each)	102209		0,80

FTK

FTK

Duct humidity and temperature sensor for all HVAC duct applications. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV)
Output Amp	2x 4..20 mA (AA)
Output BUS	LON RS485 Modbus
Power supply	AA: 15..24 V = (±10%) VV/LON/RS485 Modbus: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	AA: typ. 0,48 W VV: max. 0,4 W (24 V =) | 0,7 VA (24 V ~) LON: typ. 0,7 W / 1,9 VA RS485 Modbus: typ. 0,7 W (24 V =) | 1,8 VA (24 V ~)
Measuring range temperature	-20..+80 °C (active)
Measuring range humidity	0..100% rH
Accuracy temperature	RS485 Modbus/: ±1 °C bei 25 °C AA/VV/LON: ±0,3% of m easuring range
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Ambient temperature	-20..+70 °C
Cable entry size	M16 M20 and M20 double (LON)
Protection	IP65
Connection clamp	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PVC
Pipe color	black
Pipe length	LON: 130, 260, 390 mm all others: 140, 270, 400 mm
Pipe diameter	19 mm
Filter material	PVDF (LON) Stainless steel, wire mesh

FTK

FTK active, 2x 4..20 mA – temperature + humidity			
Type	Item No.	Price cut	€
FTK 140 AA	95631	▼	159,70
FTK 270 AA	99448	▼	166,80
FTK 400 AA	99455	▼	173,90

FTK active, 2x 0..10 V – temperature + humidity		
Type	Item No.	€
FTK 140 VV	95617	159,70
FTK 270 VV	99424	166,80
FTK 400 VV	99431	173,90

FTK LON – temperature + humidity		
Type	Item No.	€
FTK 130 LON	120609	248,70
FTK 260 LON	120296	255,70
FTK 390 LON	174855	262,80

FTK RS485 Modbus – temperature + humidity		
Type	Item No.	€
FTK 140 RS485 Modbus	463560	198,70
FTK 270 RS485 Modbus	463645	205,70
FTK 400 RS485 Modbus	463652	212,80

ACCESSORIES			
Type	Item No.	On stock	€
MF19 (TPO)	527705	●	11,70
Filter stainless steel, wire mesh (spare part)	231169	●	8,80
Filter PVDF (spare part)	118583	●	20,50

FSK01

FSK01

FSK humidistats are designed for the on/off control off ventilation and air conditioning, humidification and dehumidification equipment.

TECHNICAL DATA	
Max. switching voltage	250 V ~
Scale range humidity	30..100% rH
Measuring range humidity	35..95% rH
Accuracy humidity	±3,5% (measuring range >50% rH) ±4,0% rH (range <50% rH)
Differential gap	4% rH (at 50% rH)
Ambient temperature	-30..+60 °C
Cable entry size	M20
Protection	IP54
Terminal block	Terminal block, max. 1,5 mm²
Connection head colour	grey
Connection head material	ABS
Pipe material	Stainless steel
Pipe length	220 mm
Pipe diameter	16 mm

FSK01		
Type	Item No.	€
FSK01	427593	177,40

ACCESSORIES			
Type	Item No.	On stock	€
PTFE filter	429054	●	41,70
Sensor protection (wire mash) for fan speeds 8..15 m/s	429047	●	15,10
Wall mounting	429030	●	28,50

FTA54

FTA54
with rain protection (accessory)

FTA54

Outdoor humidity sensor for measuring relative humidity and temperature in outdoor areas. Designed for control and monitoring applications.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) 1x 0..10 V + pass. Sensor (VS)
Output Amp	2x 4..20 mA (AA) 1x 4..20 mA + pass. Sensor (AS)
Output BUS	LON RS485 Modbus
Power supply	all others: 15..24 V = (±10%) oder 24 V ~ (±10%) AA/AAS: 15..24 V = (±10%)
Power consumption	AA/AAS: max. 40 mA VV/VVS: max. 0,3 W (24 V =) | 0,5 VA (24 V ~) LON: typ. 0,6 W / 1,2 VA RS485 Modbus: typ. 0,7 W (24 V =) | 1,8 VA (24 V ~)
Measuring range temperature	-20..+80 °C (active) depending on used sensor (passive)
Measuring range humidity	0..100% rH
Accuracy temperature	±0,5 °C at 25 °C depending on used sensor (passive)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Ambient temperature	-20..+70 °C
Cable entry size	M16 M20 and M20 double (LON)
Protection	IP65
Connection clamp	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PA6
Pipe color	white
Filter material	Stainless steel, wire mesh
Notes	LON-Module in separate enclosure, wire PVC, diameter 0,25 mm², L=1 m Please contact us for other sensors.

LONMARK® Modbus

FTA54

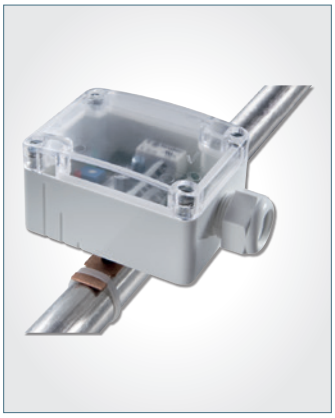
FTA54 active, 2x 4..20 mA resp. 0..10 V – temperature + humidity				
Type	Measuring values	Item No.	Price cut	€
FTA54 AA	Temp. + rH	520058	▼	195,10
FTA54 VV	Temp. + rH	98939	▼	195,10

FTA54 BUS, temperature + humidity				
Type	Measuring values	Item No.	Price cut	€
FTA54 LON	Temp. + rH	139564	▼	284,10
FTA54 RS485 Modbus	Temp. + rH	558617	▼	234,10

FTA54 AS, 4..20 mA – humidity, passive – temperature			
Type	Item No.	Price	€
FTA54 AS PT100	98908	▼	209,40
FTA54 AS PT100 1/3 DIN	98823	▼	209,40
FTA54 AS PT1000	98830	▼	209,40
FTA54 AS PT1000 1/3 DIN	98847	▼	209,40
FTA54 AS Ni1000	98854	▼	209,40
FTA54 AS Ni1000TK5000	97932	▼	209,40
FTA54 AS FeT	97956	▼	209,40
FTA54 AS NTC1,8k	356343	▼	209,40
FTA54 AS NTC5k	97963	▼	209,40
FTA54 AS NTC10k	97970	▼	209,40
FTA54 AS NTC10k Precon	97987	▼	209,40
FTA54 AS NTC20k	97994	▼	209,40
FTA54 AS LM235Z	99028	▼	209,40

FTA54 AS, 0..10 V mA – humidity, passive – temperature			
Type	Item No.	Price	€
FTA54 VS - PT100	98922	▼	209,40
FTA54 VS - PT100 1/3 DIN	99035	▼	209,40
FTA54 VS - PT1000	99042	▼	209,40
FTA54 VS - PT1000 1/3 DIN	99059	▼	209,40
FTA54 VS - Ni1000	99066	▼	209,40
FTA54 VS - Ni1000TK5000	99073	▼	209,40
FTA54 VS - FeT	99103	▼	209,40
FTA54 VS - NTC1,8k	230179	▼	209,40
FTA54 VS - NTC5k	99110	▼	209,40
FTA54 VS - NTC10k	99127	▼	209,40
FTA54 VS - NTC10k Precon	99134	▼	209,40
FTA54 VS - NTC20k	99141	▼	209,40
FTA54 VS - LM235Z	99158	▼	209,40

ACCESSORIES			
Type	Item No.	On stock	€
Rain protection PA6, white	587709	≡	5,80
Filter stainless steel, wire mesh (spare part)	231169	≡	8,80
Rawlplugs and screws (2 pcs. each)	102209	≡	0,80



WK01

WK01 ext.

WK01

WK01 condensation sensor with LED signal has been designed to provide a switched output signal to prevent condensation on chilled surfaces such as chilled beams. WK01 ext has a 2 m remote sensor.

TECHNICAL DATA	
Output others	24 V: Relay (volt free contact) max. 24 V / 1 A (ohmic) 230 V: Relay volt free contact, max. 230 V / 0,5 A (ohmic)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) 230 V ~ (±10%)
Power consumption	24 V: typ. 0,8 W (24 V =) | 1,6 VA (24 V ~) 230 V: 3,5 VA (24 V ~)
LED	green - power supply OK red - dew permeation
Ambient temperature	-20..+60 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Notes	WK01 UP: type flush mounting Gira E2 pure white, for other designs please request WK01 with external sensor (PVC, diameter 0,25 mm², L=2 m)
WK01 sensor plate dimensions	Copper, 80x15x1,5 mm

WK01 24 V			
Type	Item No.	On stock	€
WK01 24V	212816	●	94,30
WK01 ext. 24V	230537	●	108,80

WK01 230 V		
Type	Item No.	€
WK01 230V	363686	130,40
WK01 ext. 230V	408950	150,00

WK01 flush mounted		
Type	Item No.	€
WK01 UP, Gira E2 pure white	446624	133,70

ACCESSORIES		
Type	Item No.	€
Syringe thermal contact fluid	102308	1,10

LS02

LS02

Water leak detection sensor with LED signal and relay output. Designed for alarm, control and monitoring applications.

TECHNICAL DATA	
Output others	24 V: Relay (volt free contact) max. 24 V / 1 A (ohmic)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 25 mA
Sensor type	4 detector elektrodes
LED	LED green: Operation LED red: Alarm
Ambient temperature	-35..+70 °C
Cable entry size	M16
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm²
Contact pins material	Stainless steel
Enclosure colour	pure white
Enclosure material	PA6
Notes	Ajustment in height is possible using adjustable contacts

LS02			
Type	Item No.	On stock	€
LS02	427807	⛀	87,90

Pressure & Velocity

Pressure and air flow sensors for cooling and air conditioning must resist extreme conditions. Therefore our products are customized to withstand even the harshest environments.

Sample applications 223

Gases

DPA	Differential pressure transmitter	224
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PS	Differential pressure switch	228
DPI	Electronic differential switch	229

Flow Meter / Air Velocity

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Manometer

MM	Differential pressure manometer	232
MM-PS	Diff. pressure manometer/switch	233
DPG	Differential pressure manometer	234
DPG PS	Diff. pressure manometer/switch	235

Fluids

DLM	Pressure transmitter	236
DPL	Differential pressure transmitter	239

» BENEFITS

» Reliable detection of pressure, differential pressure & velocity.
» High protection

1

DPI

Electronic differential pressure switch with four adjustable measuring ranges and up to two relay outputs

2

DLM

Pressure transducer for detecting pressure in liquid media

3

DPL

Differential pressure transducer for detecting differential pressure in liquid media

4

PS

Adjustable air differential pressure switch for detecting differential air pressure

5

DPL

Differential pressure manometer for monitoring differential pressure

6

DPA

Differential pressure transducer with 8 selectable measuring ranges

THE CORRECT PRESSURE

Our customized pressure and flow rate sensors are used for monitoring of pressure, differential pressure, flow rate of liquids and non-flammable gases in air filters, industrial air cooling cycles and ventilation ducts.

NEW

DPA

DPA Display

DPA

Differential pressure transmitter with 8 selectable ranges and adjustable outputs (0..10 V or 4..20 mA) or Modbus output. For monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters, fans, industrial cooling air cycles as well as overheating protection, control of air and fire dampers.

TECHNICAL DATA	
Output differential pressure	0..10 V or 4..20 mA (selectable) RS485 Modbus
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	TRA: max. 20 mA / 24 V = TRV: typ. 1,1 W (24 V =) | 1,7 VA (24 V ~) RS485 Modbus: typ. 1,4 W (24 V =) | 2 VA (24 V ~)
Operating temperature range	-10..+50°C
Measuring range pressure	DPA250: 0..+25 Pa, 0..+50 Pa, 0..+100 Pa, 0..+250 Pa, -25..+25 Pa, -50..+50 Pa, -100..+100 Pa, -150..+150 Pa DPA2500: -100..+100 Pa, 0..+100 Pa, 0..+250 Pa, 0..+500 Pa,0..+1000 Pa, 0..+1500 Pa,0..+2000 Pa, 0..+2500 Pa DPA7000: 0..+1000 Pa, 0..+1500 Pa, 0..+2000 Pa, 0..+2500 Pa,0..+3000 Pa, 0..+4000 Pa,0..+5000 Pa, 0..+7000 Pa selectable at device For other ranges please request
Max. working overpressure	400 kPa
Accuracy pressure	±1,5% of greatest measuring range ±6 Pa at range <250 Pa
Ambient temperature	-10..+50 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm²
Connection	DPT-R8: 3-Wire RS485 Modbus: 4-wire
Connection wire	PVC, soft
Enclosure material	PA6
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube

Modbus

DPA

DPA, 0..10 V or 4..20 mA			
Type	item No.	On stock	€
DPA 250	588928		128,50
DPA 2500	566667	≡	128,50
DPA 7000	566681	≡	128,50

DPA RS485 Modbus		
Type	item No.	€
DPA 250 RS485 Modbus	591584	132,70
DPA 2500 RS485 Modbus	591607	132,70
DPA 7000 RS485 Modbus	591621	132,70

DPA, with Display, 0..10 V or 4..20 mA			
Type	item No.	On stock	€
DPA 250-D	588935		171,20
DPA 2500-D	588904	≡	171,20
DPA 7000-D	588911	≡	171,20

DPA RS485 Modbus, with Display, 0..10 V or 4..20 mA		
Type	item No.	€
DPA 250-D RS485 Modbus	591591	173,80
DPA 2500-D RS485 Modbus	591614	173,80
DPA 7000-D RS485 Modbus	591645	173,80

OPTIONS	
Type	€
Automatic zero-point calibration (available III.2015)	36,30

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	≡	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	≡	4,80

DPT

DPT Display

Modbus

DPT

Differential pressure transmitter with 8 selectable ranges and adjustable outputs (0..10 V or 4..20 mA) or Modbus. For monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring for air filters, fans, industrial cooling air cycles as well as overheating protection, control of air and fire dampers.

TECHNICAL DATA	
Output differential pressure	0..10 V or 4..20 mA (selectable) RS485 Modbus
Power supply	DPT-R8: 24 V = (±10%) or 24 V ~ (±10%) DPT-Modbus: 24 V = (±10%)
Power consumption	typ. 1 W (24 V =) | 1,3 VA (24 V ~) RS485 Modbus: typ. 1,4 W (24 V =) | 2 VA (24 V ~)
Operating temperature range	-10..+50°C, -5..+50 °C (version with zero point calibration)
Measuring range pressure	DPT2500 Modbus: 0..2500 Pa DPT7000 Modbus: 0..7000 Pa DPT2500-R8: -100..+100 Pa, 0..+50 Pa, 0..+100 Pa, 0..+250 Pa, 0..+500 Pa, 0..+1000 Pa, 0..+1500 Pa, 0..+2000 Pa, 0..+2500 Pa DPT7000-R8: 0..+1000 Pa, 0..+1500 Pa, 0..+2000 Pa, 0..+2500 Pa, 0..+3000 Pa, 0..+4000 Pa,0..+5000 Pa, 0..+7000 Pa selectable at device For other ranges please request
Max. working overpressure	30 kPa (DPT 2500-R8) 80 kPa (DPT 7000-R8) 50 kPa (DPT RS485 Modbus)
Accuracy pressure	±1,5% of greatest measuring range ±6 Pa at range <250 Pa
Inputs RS485 Modbus	0..10 V BIN IN (potential free) PT1000 Ni1000 NTC10k
LCD	Display (optional)
Ambient temperature	-10..+50 °C
Cable entry size	M16
Protection	IP54
Terminal block	Terminal block, max. 1,5 mm²
Connection	DPT-R8: 3-Wire, RS485 Modbus: 4-wire
Connection wire	PVC, soft
Enclosure material	PC, ABS
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube
Notes	Automatic, periodical zero point calibrations for a better long term stability (optional, not available for RS485 Modbus)

DPT

DPT-R8		
Type	item No.	€
DPT 2500-R8	426572	160,70
DPT 7000-R8	426619	160,70

DPT-R8-D, with Display		
Type	item No.	€
DPT 2500-R8-D	426596	213,90
DPT 7000-R8-D	426633	213,90

DPT Modbus		
Type	item No.	€
DPT 2500-D RS485 Modbus	559195	215,30
DPT 7000-D RS485 Modbus	562188	215,30

OPTIONS	
Type	€
Automatic zero-point calibration	36,30

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	⛃	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	⛃	4,80

PS

Adjustable differential pressure switch PS for monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters, fans, industrial cooling air cycles as well as overheating protection, control of air and fire dampers.

TECHNICAL DATA	
Operating temperature range	-20..+60 °C
Measuring range pressure	20..200 Pa 30..300 Pa 30..500 Pa 100..1500 Pa 500..4500 Pa Ask for more ranges.
Max. working overpressure	50 kPa
Differential gap	PS200: 10 Pa PS300: 20 Pa PS500: 20 Pa PS1500: 80 Pa PS4500: 180 Pa
Switching load	3 A resistive load, 2 A inductive load (max. 250 V) PS200: 0,1 A resistive load (max. 250 V) PS4500: 5 A resistive load, 2 A inductive load (max. 250 V)
Cable entry size	M16
Protection	IP54
Terminal block	Terminal block, max. 1,5 mm²
Connection wire	PVC, soft
Enclosure material	ABS PC
Included standard accessories	2 plastic duct flanges 2 m PVC connection tube 2 mounting screws
Notes	Please contact us for other ranges.

PS			
Type	item No.	On stock	€
PS 200	255196		29,40
PS 300	269971	≡	29,40
PS 500	269995	≡	29,40
PS 1500	255202		29,40
PS 4500	273138		29,40

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	≡	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	≡	4,80

DPI

Electronic differential pressure switch with 4 adjustable ranges (0..10 V) and up to 2 relay outputs. For monitoring and indicating low pressures of air or non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters, fans, industrial cooling air cycles as well as overheating protection, duct airflow.

TECHNICAL DATA	
Output differential pressure	DPI2500: 0..10 V, 1x relay (250 V ~ / 30 V = / 6 A) DPI2500-2R: 0..10 V, 2x relay (250 V ~ / 30 V = / 6 A)
Power supply	21..35 V = (±10%) 24 V ~ (±10%) 24 V = (±10%) | 24 V ~ (±10%) with automatic zero point calibration
Power consumption	max. 80 mA / 24 V =
Operating temperature range	-10..+50°C
Measuring range pressure	0..100 Pa 0..1000 Pa 0..250 Pa 0..2500 Pa selectable at device Ask for more ranges.
Max. working overpressure	30 kPa
Accuracy pressure	±1,5% of greatest measuring range
Cable entry size	M16 M20
Protection	IP54
Terminal block	Terminal block, max. 1,5 mm²
Connection wire	PVC, soft
Enclosure material	ABS PC
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube
Notes	Automatic, periodical zero point calibrations for a better long term stability. Please contact us for other ranges.

DPI (0..10 V, 1x/2x relay)		
Type	item No.	€
DPI2500 (0..10 V + 1x Relais)	466844	228,10
DPI2500-2R (0..10 V + 2x Relais)	466868	238,80

OPTIONS	
Type	€
Automatic zero-point calibration	36,30

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	●	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	●	4,80

DPT Flow

DPT Flow is an ideal device for monitoring and controlling the air flow and for measuring flow rate of centrifugal fans. The flow rate measurement is based on differential pressure values measured directly from the fan. DPT Flow can be used to display the flow value on-site and to send the output value to a control system.

TECHNICAL DATA	
Output voltage	2x 0..10 V (flow meter/differential pressure)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Operating temperature range	-5..+50 °C
Measuring range pressure	0..1000 Pa 0..5000 Pa depending on device Ask for more ranges.
Max. working overpressure	50 kPa
Accuracy pressure	DPT Flow-1000/5000: ±5 Pa and ±1,5% screen display
Supported ventilation manufacturer	Comferi EBM-Pabst Fläkt Woods Gebhardt Nicotra Rosenberg Ziehl-Abegg
Display	LCD for indication of measuring values and for setup
Cable entry size	M16
Protection	IP54
Terminal block	Terminal block,max. 1,5 mm²
Connection wire	PVC, soft
Enclosure material	PC ABS
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube
Notes	Automatic, periodical zero point calibrations for a better long term stability. Please contact us for other ranges.

DPT Flow, with Display		
Type	item No.	€
DPT Flow-D-1000	370509	274,30
DPT Flow-D-5000	377546	274,30

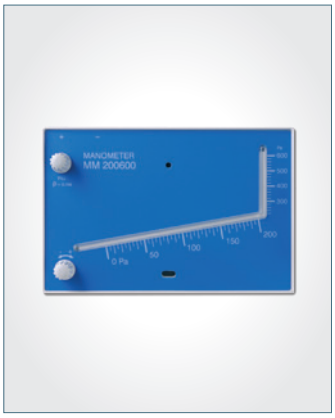
ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	●	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	●	4,80

AVT

Air velocity and temperature transducer is engineered for building automation in the HVAC/R industry. The AVT measures air velocity and temperature, with field selectable range and output options in a single device.

TECHNICAL DATA	
Output airflow/temperature	2x 4..20 mA 2x 0..10 V selectable at the device
Output others	Relay (volt free contact), 230 V ~ / 6 A, 30 V = / 6 A (optional)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Measuring range	Air velocity 0..2 m/s, 0..10 m/s or 0..20 m/s, selectable at the device
Measuring range temperature	0..+50 °C
Luftgeschwindigkeit	0..2 m/s, 0..10 m/s, 0..20 m/s (selectable on device)
Display	LCD for indication of measuring values (optional)
Cable entry size	M16 double
Protection	IP54
Terminal block	Terminal block,max. 1,5 mm²
Enclosure material	PC ABS
Pocket material	Stainless Steel 1.4571
Pocket length	210 mm
Notes	Incl. mounting flanges

AVT, 2x 0..10 V or 4..20 mA			
Type	item No.	On stock	€
AVT	430005	⛀	146,80
AVT D (Display)	430036	⛀	188,40
AVT D-R (Display + Relay)	430067		208,10

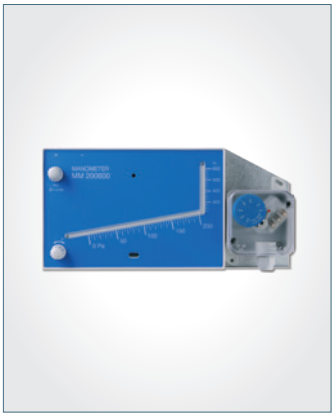


MM

Differential required tube manometers for monitoring of the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters and fans, monitoring of industrial air cycles and duct airflow.

TECHNICAL DATA	
Operating temperature range	-40..+60 °C
Max. working overpressure	200 kPa
Accuracy pressure	MM±50: 1 Pa MM100: 1 Pa MM -100/500: 5 Pa/25 Pa MM200600: 5 Pa/25 Pa
Display range pressure	MM±50: -50..50 Pa MM100: -20..100 Pa MM -100/500: -100..500 Pa MM200600: 0..600 Pa
Protection	IP54
Connection wire	PVC, soft
Enclosure material	ABS/PMMA
Included standard accessories	2 mounting screws 2 m PVC connection tube 30 ml gauge fluid 2 indication stickers (red/green)

MM		
Type	item No.	€
MM ±50	268912	45,70
MM 100	284516	45,70
MM -100/500	384452	45,70
MM 200600	255240	45,70



MM PS

Differential required tube manometer incl. switching contact for monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters and fans, monitoring of industrial air cycles and duct airflow.

TECHNICAL DATA	
Operating temperature range	-20..+60 °C
Max. working overpressure	50 kPa
Display range pressure	0..600 Pa
Range	40..600 Pa
Switching load	3 A resistive load, 2 A inductive load (max. 250 V)
Protection	IP54
Connection wire	PVC, soft
Enclosure material	ABS/PMMA ABS/PC
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube 30 ml gauge fluid 2 indication stickers (red/green)

MM PS		
Type	item No.	€
MM200600/PS600	255257	115,10

DPG

Differential pressure gauges for monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters and fans, monitoring of industrial air cycles and flows in air ducts.

TECHNICAL DATA	
Operating temperature range	-5..+60 °C
Accuracy pressure	DPG250/DPG500/DPG1k: <±2% of measuring range DPG100: <±3% of measuring range DPG60: <±4% of measuring range
Display range pressure	DPG60: 0..60 Pa DPG100: 0..100 Pa DPG250: 0..250 Pa DPG500: 0..500 Pa DPG1k: 0..1 kPa
Display range diameter	100 mm
Connection wire	PVC, soft
Enclosure material	ABS PC
Included standard accessories	2 mounting screws 2 plastic duct flanges 2 m PVC connection tube
Notes	Additional display ranges on request

DPG xx		
Type	item No.	€
DPG 60	384438	128,10
DPG 100	384445	128,10
DPG 250	255264	118,00
DPG 500	255271	118,00
DPG 1k	285025	118,00

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	⛁	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	⛁	4,80

DPG PS

Differential pressure gauges for monitoring the differential pressure of air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters and fans, monitoring of industrial air cycles and flows in air ducts.

TECHNICAL DATA	
Operating temperature range	-5..+60 °C
Accuracy pressure	<±2% of m easuring range
Display range pressure	DPG200/PS200: 0..200 Pa DPG600/PS600: 0..600 Pa DPG1,5k/PS1500: 0..1500 Pa
Display range diameter	100 mm
Range	DPG200/PS200: 20..200 Pa DPG600/PS600: 40..600 Pa DPG1,5k/PS1500: 100..1500 Pa
Switching load	PS200: 0,1 A resistive load (max. 250 V) 3 A resistive load, 2 A inductive load (max. 250 V)
Protection	IP54
Connection wire	PVC, soft
Enclosure material	ABS PC
Included standard accessories	Onwall mounting plate 2 mounting screws 2 plastic duct flanges 2 m PVC connection tube

DPG xx PS xx		
Type	item No.	€
DPG200/PS200	255233	151,00
DPG600/PS600	267205	151,00
DPG1,5k/PS1500	338066	151,00

ACCESSORIES			
Type	item No.	On stock	€
Metal duct connectors MKS40 (L=40 mm)	265138	⛀	4,00
Metal duct connectors MKS100 (L=100 mm)	302531	⛀	4,80

DLM G1/4“

DLM G7/16“ Schrader

DLM

Pressure transmitter for detection of static pressure. Suitable for use with a large range of liquids and refrigerants.

TECHNICAL DATA	
Power supply	4..20 mA: 15..24 V = (±10%) 0..10 V: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	DLMx/A: max. 0,5 W DLMx/V: typ. 0,15 W (24 V =) | 0,3 VA (24 V ~)
Measuring range pressure	Ask for more ranges.
Max. working overpressure	2 nominal pressure
Medium temperature range	-40..+125 °C
Accuracy pressure	Typ. 0,7% temperature range -20..+85 °C
Ambient temperature	-40..+105 °C
Protection	IP65
Connection	G 1/4“ G 1/2“ 7/16“ Schrader
Notes	Please contact us for other ranges.

DLM

DLM A, 4..20 mA, G1/4“				
Type	Measuring range	item No.	On stock	€
DLM -1..0 A G1/4“	-1..0 bar	507561		99,40
DLM 1 A G1/4“	0..+1 bar	400794	≡	99,40
DLM 1,6 A G1/4“	0..+1,6 bar	293198		99,40
DLM 2 A G1/4“	0..+2 bar	507578		99,40
DLM 2,5 A G1/4“	0..+2,5 bar	293204	≡	99,40
DLM 4 A G1/4“	0..+4 bar	277020	≡	99,40
DLM 6 A G1/4“	0..+6 bar	270960	≡	99,40
DLM 10 A G1/4“	0..+10 bar	276627	≡	99,40
DLM 16 A G1/4“	0..+16 bar	277037	≡	99,40
DLM 25 A G1/4“	0..+25 bar	277044	≡	99,40
DLM 40 A G1/4“	0..+40 bar	266574		99,40
DLM 60 A G1/4“	0..+60 bar	353328		99,40
DLM 100 A G1/4“	0..+100 bar	269261		99,40

DLM A, 4..20 mA, G1/2“				
Type	Measuring range	item No.	On stock	€
DLM -1..0 A G1/2“	-1..0 bar	350525		105,60
DLM 1 A G1/2“	0..+1 bar	306508	≡	105,60
DLM 1,6 A G1/2“	0..+1,6 bar	449489		105,60
DLM 2 A G1/2“	0..+2 bar	287753		105,60
DLM 2,5 A G1/2“	0..+2,5 bar	449496	≡	105,60
DLM 4 A G1/2“	0..+4 bar	277242	≡	105,60
DLM 6 A G1/2“	0..+6 bar	277228	≡	105,60
DLM 10 A G1/2“	0..+10 bar	277211	≡	105,60
DLM 16 A G1/2“	0..+16 bar	277204	≡	105,60
DLM 25 A G1/2“	0..+25 bar	277198	≡	105,60
DLM 40 A G1/2“	0..+40 bar	460422		105,60
DLM 60 A G1/2“	0..+60 bar	327459		105,60
DLM 100 A G1/2“	0..+100 bar	494755		105,60

DLM A, 4..20 mA, G7/16“			
Type	Measuring range	item No.	€
DLM -0,5..9 A G7/16“	-0,5..+9 bar	396059	105,60
DLM 0..40 A G7/16“	0..+40 bar	396073	105,60

DLM

DLM V, 0..10 V, G1/4“				
Type	Measuring range	item No.	On stock	€
DLM -1..0 V G1/4“	-1..0 bar	589789		105,30
DLM 1 V G1/4“	0..+1 bar	309066	≡	105,30
DLM 1,6 V G1/4“	0..+1,6 bar	590358		105,30
DLM 2 V G1/4“	0..+2 bar	590396		105,30
DLM 2,5 V G1/4“	0..+2,5 bar	310260	≡	105,30
DLM 4 V G1/4“	0..+4 bar	276993	≡	105,30
DLM 6 V G1/4“	0..+6 bar	265409	≡	105,30
DLM 10 V G1/4“	0..+10 bar	265461	≡	105,30
DLM 16 V G1/4“	0..+16 bar	277006	≡	105,30
DLM 25 V G1/4“	0..+25 bar	277013	≡	105,30
DLM 40 V G1/4“	0..+40 bar	507585		105,30
DLM 60 V G1/4“	0..+60 bar	464185		105,30
DLM 100 V G1/4“	0..+100 bar	464192		105,30

DLM V, 0..10 V, G1/2“				
Type	Measuring range	item No.	On stock	€
DLM -1..0 V G1/2“	-1..0 bar	528023		112,10
DLM 1 V G1/2“	0..+1 bar	370929	≡	112,10
DLM 1,6 V G1/2“	0..+1,6 bar	549943		112,10
DLM 2 V G1/2“	0..+2 bar	519373		112,10
DLM 2,5 V G1/2“	0..+2,5 bar	462730	≡	112,10
DLM 4 V G1/2“	0..+4 bar	277181	≡	112,10
DLM 6 V G1/2“	0..+6 bar	277174	≡	112,10
DLM 10 V G1/2“	0..+10 bar	277167	≡	112,10
DLM 16 V G1/2“	0..+16 bar	277150	≡	112,10
DLM 25 V G1/2“	0..+25 bar	277143	≡	112,10
DLM 40 V G1/2“	0..+40 bar	345378		112,10
DLM 60 V G1/2“	0..+60 bar	507608		112,10
DLM 100 V G1/2“	0..+100 bar	507622		112,10

ACCESSORIES			
Type	item No.	On stock	€
Adapter G1/4“ auf G1/2“	277068	≡	8,90

DPL

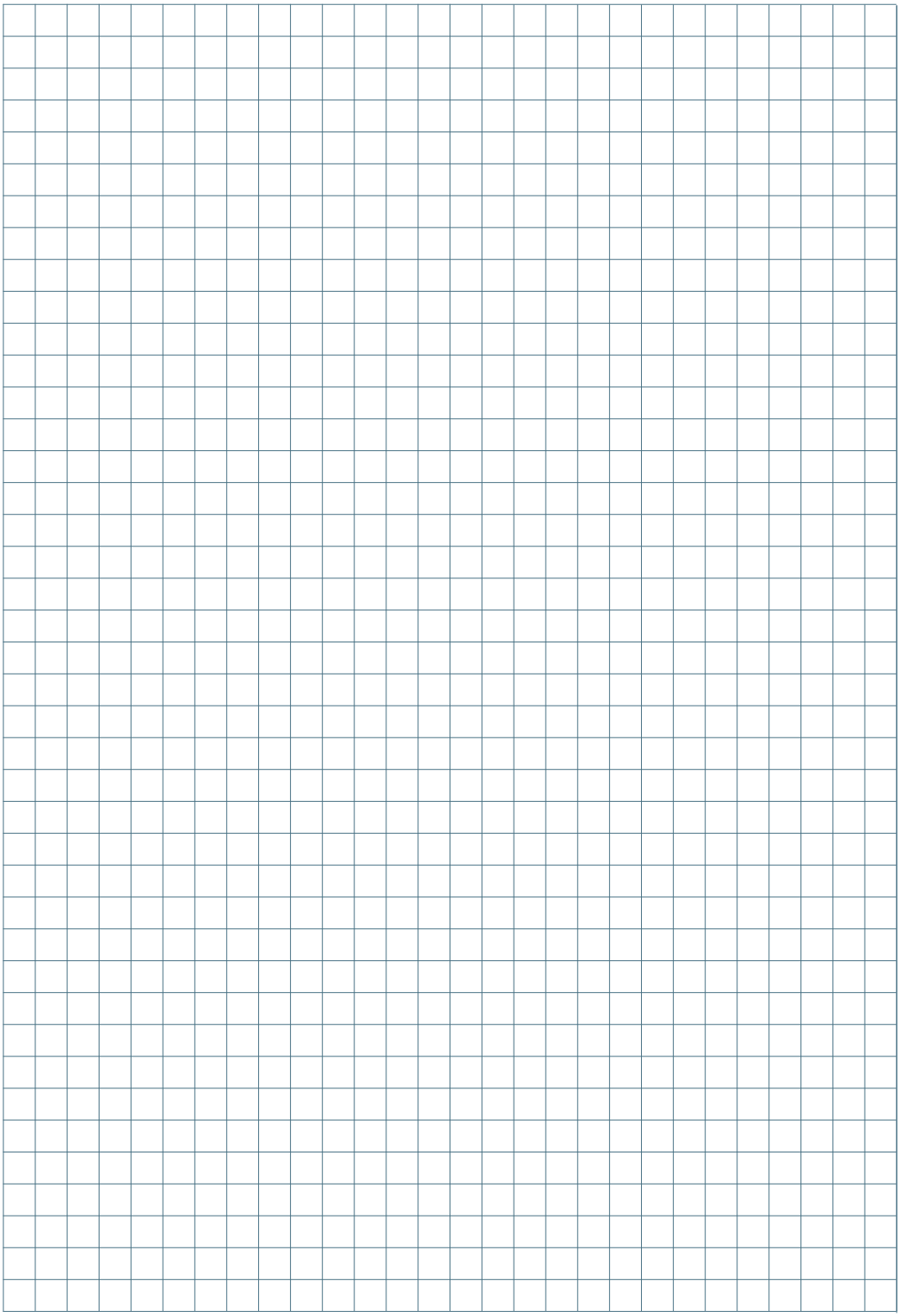
Differential pressure detection in liquids and refrigerants.

TECHNICAL DATA	
Power supply	4..20 mA: 15..24 V = (±10%) 0..10 V: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	DPLx/V: typ. 0,37 W (24 V =) | 0,9 VA (24 V ~) DPLx/A: max. 0,5 W
Medium temperature range	-10..+80 °C
Accuracy pressure	Typ. 1% temperature range -5..+75 °C
Ambient temperature	-10..+50 °C
Protection	IP65
Connection	G 1/4“

DPL A, 4..20 mA				
Type	Measuring range	item No.	On stock	€
DPL1/A	0..+1 bar	346597		306,00
DPL2,5/A	0..+2,5 bar	346696		306,00
DPL4/A	0..+4 bar	346702		306,00
DPL6/A	0..+6 bar	346719		306,00

DPL V, 0..10 V				
Type	Measuring range	item No.	On stock	€
DPL1/V	0..+1 bar	346580		306,00
DPL2,5/V	0..+2,5 bar	346665		306,00
DPL4/V	0..+4 bar	346672		306,00
DPL6/V	0..+6 bar	346689		306,00

ACCESSORIES			
Type	item No.	On stock	€
Screw connection set 6 mm brass (2 pcs.)	373401		13,30
Screw connection set 6 mm stainless steel (2 pcs.)	373388		56,50
Screw connection set 8 mm brass (2 pcs.)	373418		13,40
Screw connection set 8 mm stainless steel (2 pcs.)	373395		64,90



Air Quality

Mixed gas and CO2 sensors allow individual and demand-dependant control of external air supply. In modern buildings the use of these sensors is essential in creating energy savings and the comfort levels with the living and working conditions.

Sample applications 243

CO2

WRF04 CO2	Room air quality sensor CO2	246
LC-WRF04 CO2	Room air quality sensor CO2	248
WRF06 CO2	Flush mount air quality sensor CO2	249
LK-SX CO2	Duct air quality sensor CO2	250
LK-S CO2	Duct air quality sensor CO2 (BUS)	251
LK CO2	Duct air quality sensor CO2 (large)	252

VOC

LW04	Room air quality sensor VOC	253
LK-SX VOC	Duct air quality sensor VOC	254

CO2+VOC

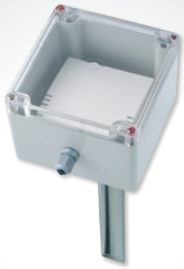
LK-SX CO2+VOC	Duct air quality sensor CO2/VOC	255

» BENEFITS

- » Reliable detection of CO_2 and mixed gases (VOC)
- » Physical and emotional well-being through individual demand-dependant control of external air supply
- » Automatic self-calibration for CO_2 “Dual Channel”
- » Optional temperature and humidity integrated

LK-SX 4xV

Duct sensor CO2/ temperature/ relative humidity, outputs 0..10 V



LK CO2

Duct sensor CO2, suitable for larger air ducts

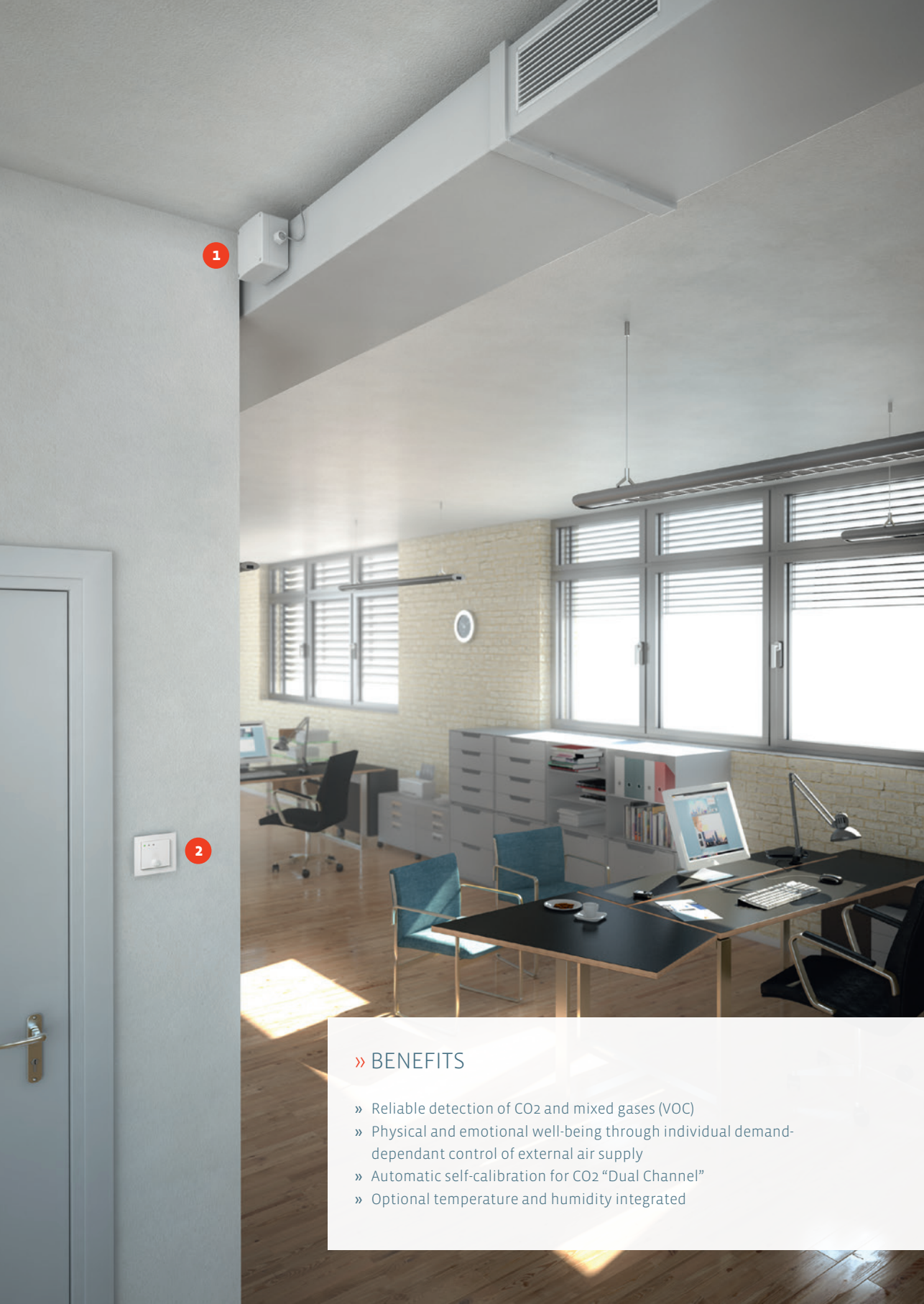
WRF04 CO2

Room sensor CO2/temperature/relative humidity, available with display and traffic light indication

» ALL CO2 SENSORS WITH AUTOMATICAL SELF CALIBRATION

OPTIMUM ENVIRONMENTAL CONDITIONS

Our CO2 and mixed gas sensors reliably detect the indoor air quality in ventilation ducts and individually and demand-dependent control the external air supply. These intelligent air quality sensors create optimal environmental conditions - even in hospitals.



» BENEFITS

- » Reliable detection of CO_2 and mixed gases (VOC)
- » Physical and emotional well-being through individual demand-dependant control of external air supply
- » Automatic self-calibration for CO_2 “Dual Channel”
- » Optional temperature and humidity integrated

1

LK-S CO2

Duct sensor CO2/temperature/relative humidity, outputs 0..10 V, LON, Modbus

2

WRF06 CO2

Flush-mounted room sensor CO2/ temperature/relative humidity, available with traffic light indication

» ALL CO2 SENSORS WITH AUTOMATICAL SELF CALIBRATION

EXCELLENT WORKING ATMOSPHERE

Our CO2 sensors allow individual, demand-dependant control of external air supply in large open offices and improve the working atmosphere and conditions.

WRF04 CO2

WRF04 CO2-Z / WRF04 CO2 LCD

WRF04 CO2

Surface mounted sensor for detection of CO2, temperature and optional relative humidity in room and office spaces. For direct connection to a DDC or a monitoring system, using 0..10 V outputs. Also available with traffic light LED and LCD display.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) 3x 0..10 V (3xV)
Output BUS	BACnet MS/TP LON RS485 Modbus
Measuring of	V: CO2 + temperature 3xV: CO2 + temperature + humidity BUS: CO2 + temperature + humidity (opt.)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 3 W (24 V =) | 6 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
LCD	29x12 mm, monochrome (optional)
Traffic light functionality (-Z)	3 LEDs showing air quality (opt.)
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA

BACnet LONMARK® Modbus

WRF04 CO2 VV (0..10 V)					
Type		Item No.	On stock	Price cut	€
WRF04 CO2 VV	CO2 + Temp	423717	●	▼	244,70
WRF04 CO2 VV LCD	CO2 + Temp	423731		▼	273,50
WRF04 CO2 VV-Z	CO2 + Temp	423724		▼	251,90

WRF04 CO2 rH 3xV (0..10 V)					
Type		Item No.	On stock	Price cut	€
WRF04 CO2 3xV	CO2 + Temp + rH	423748	●	▼	296,10
WRF04 CO2 3xV LCD	CO2 + Temp + rH	423762		▼	324,90
WRF04 CO2 3xV-Z	CO2 + Temp + rH	423755		▼	303,30

WRF04 CO2

BACnet

WRF04 CO2 BACnet MS/TP (CO2 + Temp)				
Type		Item No.	Price cut	€
WRF04 CO2 BACnet MS/TP	CO2 + Temp	548274	▼	266,30
WRF04 CO2 BACnet MS/TP-Z	CO2 + Temp	548847	▼	273,50

WRF04 CO2 rH BACnet MS/TP (CO2 + Temp + Feuchte)				
Type		Item No.	Price cut	€
WRF04 CO2 rH BACnet MS/TP	CO2 + Temp + rH	548854	▼	317,70
WRF04 CO2 rH BACnet MS/TP-Z	CO2 + Temp + rH	597012	▼	324,90

LONMARK®

WRF04 CO2 LON (CO2 + Temp)				
Type		Item No.	Price cut	€
WRF04 CO2 LON	CO2 + Temp	470544	▼	279,70
WRF04 CO2 LON LCD	CO2 + Temp	470575	▼	308,50
WRF04 CO2 LON-Z	CO2 + Temp	470551	▼	286,90

WRF04 CO2 rH LON (CO2 + Temp + Feuchte)				
Type		Item No.	Price cut	€
WRF04 CO2 rH LON	CO2 + Temp + rH	470582	▼	331,10
WRF04 CO2 rH LON LCD	CO2 + Temp + rH	470612	▼	359,90
WRF04 CO2 rH LON-Z	CO2 + Temp + rH	470599	▼	338,30

Modbus

WRF04 CO2 RS485 Modbus (CO2 + Temp)				
Type		Item No.	Price cut	€
WRF04 CO2 RS485 Modbus	CO2 + Temp	470629	▼	266,30
WRF04 CO2 RS485 Modbus LCD	CO2 + Temp	470643	▼	295,10
WRF04 CO2 RS485 Modbus-Z	CO2 + Temp	470636	▼	273,50

WRF04 CO2 rH RS485 Modbus (CO2 + Temp + Feuchte)				
Type		Item No.	Price cut	€
WRF04 CO2 rH RS485 Modbus	CO2 + Temp + rH	470650	▼	317,70
WRF04 CO2 rH RS485 Modbus LCD	CO2 + Temp + rH	470674	▼	346,50
WRF04 CO2 rH RS485 Modbus-Z	CO2 + Temp + rH	470667	▼	324,90

OPTIONS	
Type	€
Potential free relay output with adjustable CO2 threshold value (only with analogue output; relay 2 A / 24 V ~ or 24 V =)	19,80

ACCESSORIES			
Type	Item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209	●	0,80
Frame for surface mouting WRF04	111584	●	12,40
Ball stroke protection BS100 (only for WRF04)	103312	●	33,20

LC-WRF04 CO2

LC-WRF04 CO2

Surface mounted sensor for detection of CO2 and temperature (passive, optional) in room and office spaces. Also possible with operating elements. For direct connection to a DDC or a monitoring system, using 0..10 V outputs.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 1x 0..10 V + pass. Sensor (VS)
Measuring of	V: CO2 VS: CO2 + temperature (passive)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 3 W (24 V =) | 6 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	depending on used sensor (passive)
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	depending on used sensor (passive)
Calibration	Self calibration dual channel
Sensor type	NDIR
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA

LC-WRF04 CO2 V (0..10 V)				
Type	Item No.	On stock	Price cut	€
LC-WRF04 CO2	547994	●	▼	189,70
LC-WRF04 CO2 with operating unit (potentiometer/switch + LED)	on request			on request

OPTIONS	
Type	€
Additional passive temperature sensor	14,30

ACCESSORIES			
Type	Item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209	●	0,80
Frame for surface mouting WRF04	111584	●	12,40
Ball stroke protection BS100 (only for WRF04)	103312	●	33,20

WRF06 CO2

WRF06 CO2-Z

WRF06 CO2

Flush mounting sensor for detection of CO2, temperature (optional) and relative humidity (optional) in room and office spaces. Fits into switch frames 55x55 mm. For direct connection to a DDC or a monitoring system, using 0..10 V outputs. Also available with traffic light LED.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV) 3x 0..10 V (3xV)
Measuring of	V: CO2 V: CO2 + temperature 3xV: CO2 + temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 3 W (24 V =) | 6 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
Frame design Berker	S1, B3, B7 Glas
Frame design Gira	E2, Standard55, Esprit, Event
Frame design Jung	LS990, LS-design, A500, AS500, Aplus, A creation
Frame design Merten	M-Smart, M-Arc, M-Plan
Traffic light functionality (-Z)	3 LEDs showing air quality (opt.)
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Enclosure material	PC
Farbe	pure white matt pure white brilliant aluminium anthracite
Notes	Please specify frame design in order.

Prices/delivery incl. switch programme Gira E2, other switch programmes on request

WRF06 CO2 V, VV, 3xV (0..10 V)			
Type		Item No.	€
WRF06 CO2 V	CO2	547840	331,10
WRF06 CO2 VV	CO2 + Temp	547857	350,60
WRF06 CO2 3xV	CO2 + Temp + rH	547864	447,20
WRF06 CO2 V-Z	CO2	581585	338,30
WRF06 CO2 VV-Z	CO2 + Temp	581592	357,80
WRF06 CO2 3xV-Z	CO2 + Temp + rH	541725	454,40

NEW

LK-SX CO2

LK-SX CO2

Duct air quality sensor for detection of CO2, optional with temperature and humidity. 0..10 V outputs. Designed for duct mounted applications and optimization of low flow velocities.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV) 3x 0..10 V (3xV) 1x 0..10 V + pass. Sensor (VS)
Measuring of	V: CO2 VS: CO2 + temperature (passive) V: CO2 + temperature 3xV: CO2 + temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 1,5 W (24 V =) | 2,9 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
min. air speed	3 m/sec
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PA6
Pipe color	black
Pipe length	180 mm
Pipe diameter	19 mm
Filter material	Stainless steel, wire mesh
Notes	MF19 flange included.

LK-SX CO2 V, VV, 3xV (0..10 V)					
Type		Item No.	On stock	Price cut	€
LK-SX CO2 V	CO2	566544			211,80
LK-SX CO2 VV	CO2 + Temp	566551			267,30
LK-SX CO2 3xV	CO2 + Temp + rH	566582			318,70

OPTIONS	
Type	€
Additional passive temperature sensor (available only for type V)	14,30

LK-S CO2

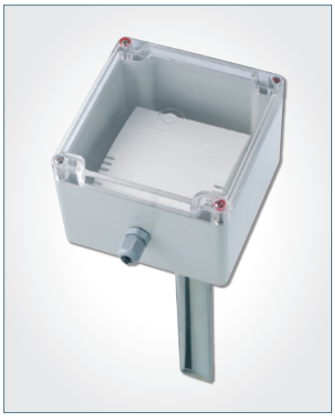
LK-S CO2

Duct air quality sensor for combined detection of CO2, relative humidity and temperature. Designed for control and monitoring applications..

TECHNICAL DATA	
Output BUS	BACnet MS/TP LON RS485 Modbus
Measuring of	BUS: CO2 + temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 3 W (24 V =) | 6 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Protection	IP65
Terminal block	Terminal block,max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PA6
Pipe color	black
Pipe length	180 mm
Pipe diameter	19 mm
Filter material	Stainless steel, wire mesh
Notes	Incl. PE wire (L=1,5 m) and MF19 mouting flange

BACnet LONMARK® Modbus

LK-S CO2 BUS				
Type		Item No.	Price cut	€
LK-S CO2 BACnet MS/TP	CO2 + Temp + rH	548830		286,90
LK-S CO2 LON	CO2 + Temp + rH	504966		300,20
LK-S CO2 RS485 Modbus	CO2 + Temp + rH	508797		286,90



LK CO2

LK CO2

CO2 Detection for Duct mounted applications and optimization of low flow velocities. 0..10 V linear output for direct connection to a DDC or monitoring system. Available with traffic light LED's and LCD display for CO2 indication levels.

TECHNICAL DATA	
Output voltage	1x 0..10 V (V)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 3 W (24 V =) | 6 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Accuracy CO2	±75 ppm or 10% of measuring range (typ. at 21 °C)
Calibration	Self calibration dual channel
Sensor type	NDIR
min. air speed	3 m/sec
LCD	29x12 mm, monochrome (optional)
Traffic light functionality (-Z)	3 LEDs showing air quality (opt.)
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Protection	IP20
Terminal block	Terminal block,max. 1,5 mm²
Connection head material	PC with transparent cover
Pipe material	Brass, nickel-plated
Pipe length	310 mm
Pipe diameter	30 mm
Notes	Incl. PE wire (L=1,5 m) and mouting flange

LK CO2 V (0..10 V)				
Type		Item No.	Price cut	€
LK CO2 V	CO2	426084	▼	324,20
LK CO2 V LCD	CO2	426091	▼	353,00
LK CO2 V-Z	CO2	426107	▼	331,40

OPTIONS	
Type	€
Potential free relay output with adjustable CO2 threshold value (only with analogue output; relay 2 A / 24 V ~ or 24 V =)	19,80

LW04

LW04

For detection of air quality in room and office spaces. The sensor consists of a transmitter with VOC sensor, based on a heated tin oxide semiconductor (VOC = volatile organic compound).

TECHNICAL DATA	
Output voltage	1x 0..10 V (V)
Output BUS	LON
Power supply	V/LON: 15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	V: typ. 1,2 W (24 V =) | 3,6 VA (24 V ~) LON: typ. 1,8 W (24 V =) | 4,8 VA (24 V ~)
Sensor type	VOC-Sensor
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP30
Terminal block	Terminal block, max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ASA
Notes	Mixed gas sensors detect gases and vapours which can be oxidised (burnt): Body odours, tobacco smoke, exhalations emitted by materials (furniture, carpets, paint, glue ...).

LONMARK®

LW04 V (0..10 V) | LON					
Type		Item No.	On stock	Price cut	€
LW04 V	VOC	191746	●	▼	169,70
LW04 LON	VOC	191753		▼	201,50

ACCESSORIES			
Type	Item No.	On stock	€
Rawlplugs and screws (2 pcs. each)	102209	●	0,80
Frame for surface mouting WRF04	111584	●	12,40
Ball stroke protection BS100 (only for WRF04)	103312	●	33,20

LK-SX VOC

LK-SX VOC

For detection of air quality (optional temperature and humidity combined in one unit) for duct applications. The sensor consists of a transmitter with VOC sensor, based on a heated tin oxide semiconductor (VOC = volatile organic compound).

TECHNICAL DATA	
Output voltage	1x 0..10 V (V) 2x 0..10 V (VV) 3x 0..10 V (3xV) 1x 0..10 V + pass. Sensor (VS)
Measuring of	V: VOC VS: VOC + temperature (passive) VV: VOC + temperature 3xV: VOC + temperature + humidity
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 1,5 W (24/ V =) | 2,9 VA (24 V ~)
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy temperature	±1% of m easuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Sensor type	VOC-Sensor
min. air speed	3 m/sec
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PA6
Pipe color	black
Pipe length	180 mm
Pipe diameter	19 mm
Notes	MF19 flange included. Mixed gas sensors detect gases and vapours which can be oxidised (burnt): Body odours, tobacco smoke, exhalations emitted by materials (furniture, carpets, paint, glue ...).

LK-SX VOC V, VV, 3xV (0..10 V)				
Type		Item No.	On stock	€
LK-SX VOC V	VOC	566636	⛁	193,30
LK-SX VOC VV	VOC + Temp	566643	⛁	248,80
LK-SX VOC 3xV	VOC + Temp + rH	566650		300,20

OPTIONS	
Type	€
Additional passive temperature sensor (available only for type V)	14,30

NEW

LK-SX CO2+VOC

LK-SX CO2+VOC

For detection of CO2, mixed gas, temperature and humidity. 0..10 V outputs. Designed for duct mounted applications and optimization of low flow velocities.

TECHNICAL DATA	
Output voltage	2x 0..10 V (VV) 3x 0..10 V (3xV) 4x 0..10 V (4xV)
Measuring of	VV: CO2 + VOC 3xV: CO2 + VOC + temperature or CO2 + VOC + mix CO2/VOC 4xV: CO2 + VOC + temperature + humity or CO2 + VOC + temperature + mix CO2/VOC
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	max. 1,5 W (24 V =) | 2,9 VA (24 V ~)
Measuring range CO2	0..2000 ppm
Measuring range temperature	0..+50 °C
Measuring range humidity	0..100% rH
Accuracy CO2	±75 ppm or 10% of measuring range (Type. at 21 °C)
Accuracy temperature	±1% of measuring range (typ. at 21 °C)
Accuracy humidity	±2% at range 10..90% rH (typ. at 21 °C)
Calibration	Self calibration dual channel (CO2)
Sensor type	VOC-Sensor NDIR
Ambient temperature	0..+50 °C
Ambient humidity	max. 85% rH non condensed
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	PA6
Pipe material	PA6
Pipe color	black
Pipe length	180 mm
Pipe diameter	19 mm
Filter material	Stainless steel, wire mesh
Notes	With mix CO2/VOC output ration of CO2/VOC can be chosen (values: 30/70%, 50/50%, 70/30%) MF19 flange included. Mixed gas sensors detect gases and vapours which can be oxidised (burnt): Body odours, tobacco smoke, exhalations emitted by materials (furniture, carpets, paint, glue ...).

LK-SX CO2+VOC

LK-SX CO2+VOC VV, 3xV, 4xV (0..10 V)				
Type		Item No.	On stock	€
LK-SX CO2+VOC VV	CO2 + VOC	566568	●	339,30
LK-SX CO2+VOC 3xV	CO2 + VOC + Temp	566605		357,80
LK-SX CO2+VOC Mix 3xV	CO2 + VOC + Mix CO2/VOC	566612		357,80
LK-SX CO2+VOC rH 4xV	CO2 + VOC + Temp + rH	592543		406,10
LK-SX CO2+VOC Mix 4xV	CO2 + VOC + Temp + Mix CO2/VOC	566599		406,10

Light & Motion

Our intelligent sensing allows an increase in physical and emotional well-being of people in the room. Motion and brightness are detected reliably: For individual, comfortable and increased energy-saving.

Sample applications 259

Ceiling sensors

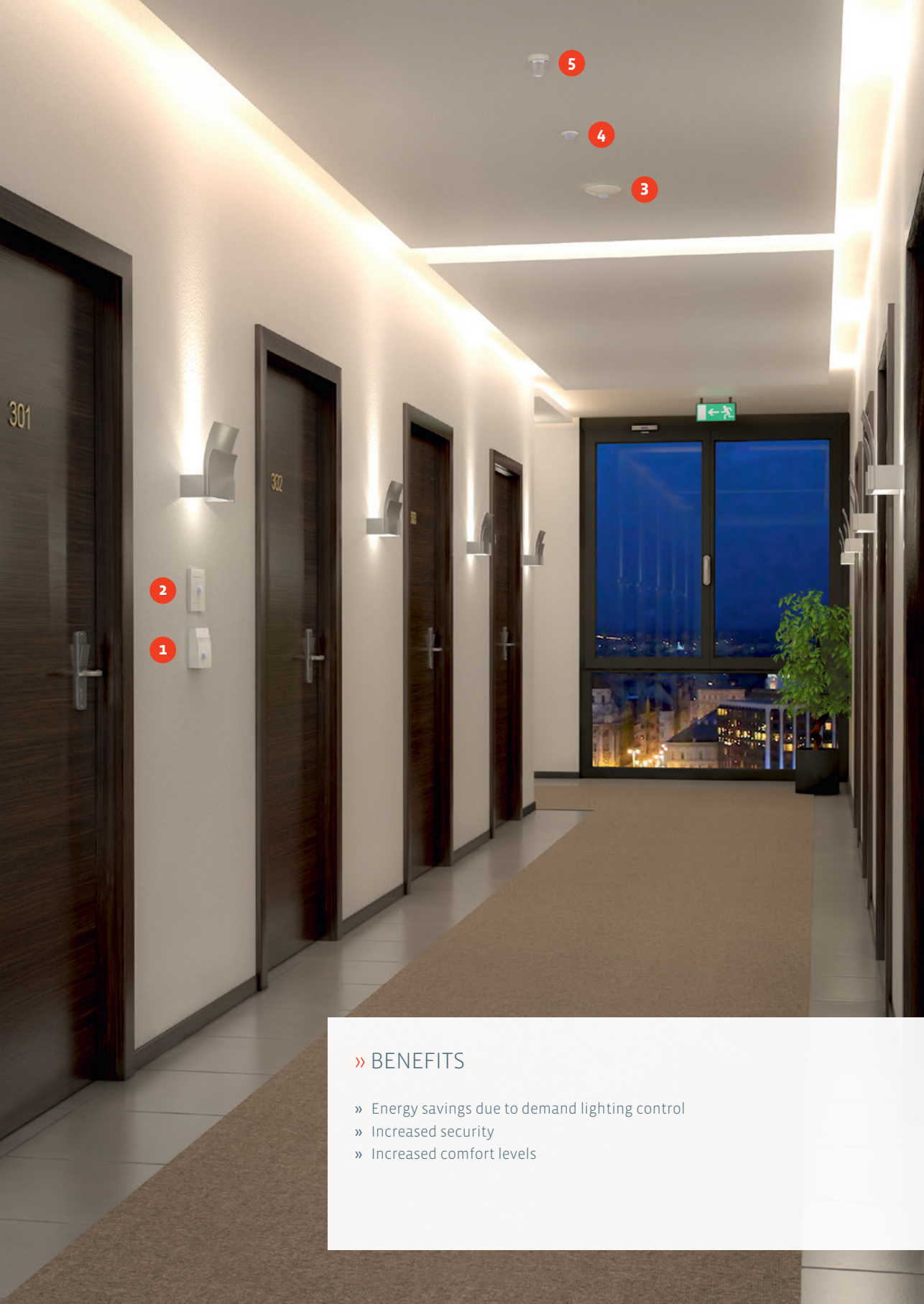
MDS	Ceiling sensor light + motion	260
RDI	Ceiling sensor motion	261
LDF	Ceiling sensor light	262

Wall sensors

WRF04I	Surface mount motion sensor	263
WRF06I	Flush mount motion sensor	264
Li04	Light sensor	265

Outdoor sensors

Li65	Outdoor light sensor	266



» BENEFITS

» Energy savings due to demand lighting control
» Increased security
» Increased comfort levels

WRF04I
Surface-mounted motion sensor, available with LON interface

WRF06I
Flush-mounted motion sensor, compatible with switch frames 55x55 mm

MDS
Ceiling-mounted multi sensor light/ motion, available with LON interface

RDI
Ceiling-mounted motion sensor, available with various detection ranges

LDF
Ceiling-mounted light sensor, available with LON interface

HOTEL SECURITY AND ENERGY-EFFICIENCY

Intelligent light, motion and multi sensors detect reliably light and motion and control lighting on as required. The guest feels safe and comfortable, the hotel owner saves energy.

MDS

MDS

Ceiling mounted multi sensor designed for measuring light and motion in room and offices spaces and typically used in lighting applications to optimize energy efficiency through lighting control. Low profile design with various output signals compatible to all BMS manufacturers.

TECHNICAL DATA	
Output voltage	0..10 V, load max. 10 mA
Output BUS	LON
Output others	Normally open contact, max. 24 V / 1 A (not for LON)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 1,2 W / 4 VA LON: typ. 1,5 W / 4,2 VA
Measuring range light	0..1 kLux
Accuracy light	±50 Lux
Off delay	selectable at the device 1 second..30 minutes
Sensor type	4 element PIR (passive infrared) 0..1 kLux, photodiode with green filter
Ambient temperature	0..+50 °C
Protection	IP20
Terminal block	Pluggable screwing terminal, max. 1,5 mm²
Enclosure colour	pure white
Enclosure material	ABS
Notes	Enclosure for surface mounting available

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MDS				
Type	Output	item No.	On stock	€
MDS Standard	Motion Relais, Light 0..10 V	271318	●	178,70
MDS LON	Motion LON, Light LON	279000	●	237,80

ACCESSORIES			
Type	item No.	On stock	€
Enclosure for surface mounting	448512	●	48,20

RDI

RDI

Ceiling mounted occupancy sensor for room and office spaces. Low profile, discrete design.

TECHNICAL DATA	
Output others	24 V: Relay (volt free contact) max. 24 V / 1 A (ohmic)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,5 W (24 V =) | 1,1 VA (24 V ~)
Detection range RDI	Cone detection range angle 82°, range 5 m, 64 detection zones. With an installation height of 2,8 m = detection range of 2,4 m. Cone shape detection range, angle 100°/82° (H/V), range 5 m, 64 detection zones. With an installation height of 2,8 m range detection will be 7x5 m Cone detection range, angle 38°/22° (H/V), range 5 m, 24 detection zones. With an installation height of 2,8 m range detection will be approx. 2x1,4 m
Off delay	approx. 8 seconds
Sensor type	PIR (passive infrared)
Ambient temperature	-20..+50 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Connection wire length	0,1 m
Connection wire	PVC
Connection wire diameter	0,25 mm²
Colour housing	pure white
Enclosure material	ABS

RDI					
Type	Output	item No.	On stock	Price cut	€
RDI Standard	Relais max. 24 V / 1 A	187060	●	▼	87,70
RDI Small Range	Relais max. 24 V / 1 A	426503		▼	87,70
RDI Spot	Relais max. 24 V / 1 A	436670		▼	87,70

LDF A straight prism

LDF A diagonal prism

LDF

Ceiling mounted light sensor with straight and diagonal prism options. Integrated colour (green) filter which is adapted to the sensitivity of the human eye.

TECHNICAL DATA	
SpannungsversorgungA: 15..24 V = (±10%)	
Power consumption	A: max. 20 mA / 24 V = V: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,8 W (24 V =) | 1,4 VA (24 V ~)
Measuring range light	0..2 kLux, 0..20 kLux adjustable via DIP switches
Accuracy light	±5% of m easuring range
Sensor type	Photodiode with green filter
Prism shape	Straight Angular
Prism material	Acrylic glass clear
Ambient temperature	-25..+65 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm²
Connection cable material	PVC screened
Connection cable length	2 m, 1 m (Standard)
Connection cable diameter	0,25 mm²
Housing color	pure white
Enclosure material	PA6
Notes	Please contact us for other ranges.

LONMARK®

LDF active, 4..20 mA or 0..10 V		
Type	item No.	€
LDF A straight prism	185721	126,90
LDF A diagonal prism	201575	126,90
LDF V diagonal prism	201568	126,90
LDF V straight prism	185714	126,90

LONMARK®

LDF LON		
Type	item No.	€
LDF LON straight prism	185707	223,60
LDF LON diagonal prism	201582	223,60

OPTIONS	
Type	€
Cable length per additional meter	1,80

WRF04I

WRF04I

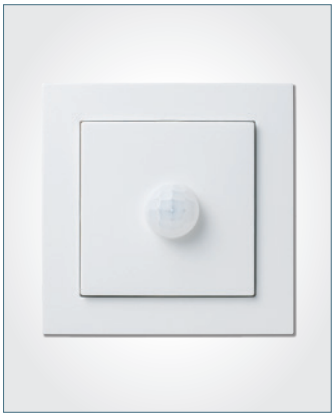
Room mounted occupancy sensor for room and office applications. Various outputs compatible to all BMS manufacturers.

TECHNICAL DATA	
Output others	24 V: Relay (volt free contact) max. 24 V / 1 A (ohmic)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,5 W (24 V =) | 1,1 VA (24 V ~) LON: typ. 1,2 W (24 V =) | 1,6 VA (24 V ~)
Detection range RDI	Cone shape detection range, angle 100°/82° (H/V), range 5 m, 64 detection zones. With an installation height of 2,8 m range detection will be 7x5 m.
Sensor type	PIR (passive infrared)
Ambient temperature	-5..+50 °C
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP30
Terminal block	Terminal block, max. 1,5 mm²
Colour housing	pure white
Enclosure material	ASA
Mounting	Install ation on standard flush mounting box.

LonMark®

WRF04I				
Type	Output	item No.	Price cut	€
WRF04I Relais	Relais max. 24 V / 1 A	195812	▼	91,80
WRF04I LON FTX	LON	199476	▼	161,40

ACCESSORIES			
Type	item No.	On stock	€
Frame for surface mouting WRF04	111584	●	12,40
Rawlplugs and screws (2 pcs. each)	102209	●	0,80



WRF06I, Gira E2 pure white

WRF06I

Flush mounted room occupancy sensor for room and office applications. Various outputs compatible to all BMS manufacturers.

TECHNICAL DATA	
Output others	24 V: Relay (volt free contact) max. 24 V / 1 A (ohmic)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	0,5 W (24 V =) | 1,1 VA (24 V ~)
Detection range RDI	Cone shape detection range, angle 100°/82° (H/V), range 5 m, 64 detection zones. With an installation height of 2,8 m range detection will be 7x5 m.
Sensor type	PIR (passive infrared)
Switch programmes	Frames by Jung, Gira, Merten (stainless steel not possible)
Ambient temperature	-5..+50 °C
Protection	IP20
Terminal block	Terminal block, max. 1,5 mm²
Notes	Please specify frame design in order.

WRF06I				
Type	Output	item No.	Price cut	€
WRF06I Gira E2 pure white	Relais max. 24 V / 1 A	187183	▼	104,30

Prices/delivery incl. frame design Gira E2, other designs on request

OPTIONS	
Type	€
Switch design Gira Esprit	35,10

Li04

Li04

Room mounted light sensor for room and office spaces, typically used in lighting applications to optimise energy efficiency through lighting control.

TECHNICAL DATA	
Power supply	V/LON: 15..24 V = (±10%) or 24 V ~ (±10%) A: 15..24 V = (±10%)
Power consumption	A: max. 20 mA / 24 V = V: typ. 0,4 W (24 V =) | 0,8 VA (/ 24 V ~) LON: typ. 0,8 W (24 V =) | 1,4 VA (24 V ~)
Measuring range light	0..2 kLux 0..20 kLux 0..100 kLux
Accuracy light	±5% of measuring range
Sensor type	Photodiode with green filter
Ambient temperature	-20..+70 °C
Cable entry type	Rear entry or top/bottom of enclosure
Protection	IP30
Terminal block	Terminal block, max. 1,5 mm²
Housing color	pure white
Enclosure material	ASA
Mounting	Installation on standard flush mounting box. Base part can be mounted and wired separately

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Li04 active, 4..20 mA or 0..10 V			
Type	Output	item No.	€
Li04 A	4..20 mA	207911	126,90
Li04 V	0..10 V	207904	126,90

LonMark®

Li04 LON			
Type	Output	item No.	€
Li04 LON	LON	207898	223,60

ACCESSORIES			
Type	item No.	On stock	€
Frame for surface mouting WRF04	111584	●	12,40
Rawlplugs and screws (2 pcs. each)	102209	●	0,80

Li65

Li65

Outdoor light sensor typically used in lighting applications to optimise energy efficiency through lighting control.

TECHNICAL DATA	
Power supply	V/LON: 15..24 V = (±10%) or 24 V ~ (±10%) A: 15..24 V = (±10%)
Power consumption	A: max. 20 mA / 24 V = V: typ. 0,4 W (24 V =) | 0,8 VA (24 V ~) LON: typ. 0,8 W (24 V =) | 1,4 VA (24 V ~)
Measuring range light	0..2 kLux 0..20 kLux 0..100 kLux adjustable via DIP switches
Accuracy light	±5% of m easuring range
Sensor type	BPW21
Ambient temperature	-20..+70 °C
Cable entry size	M20
Protection	IP65
Terminal block	Terminal block, max. 1,5 mm²
Housing top part	Material PC, transparent quick lock screws
Housing bottom part	Material PA6, colour pure white
Notes	Please contact us for other ranges.

LONMARK®

Li65 active, 4..20 mA or 0..10 V				
Type	Output	item No.	On stock	€
Li65 A	4..20 mA	185783		126,90
Li65 V	0...10 V	185776		126,90

LONMARK®

Li65 LON			
Type	Output	item No.	€
Li65 LON FTX	LON	185745	223,60

Power Thyristors

Power thyristors can more and more be found where ohmic and inductive loads must be controlled (e.g. in industrial furnaces...) By means of the modular and compact construction and control with a continuous control signal power thyristors become the perfect actuators for industrial power control.

1-phase

TS1 1-phase	Industrial power thyristor	268
TS3 1-phase	Industrial power thyristor	269
TS2 1-phase	Industrial power thyristor	270

3-phase

TS1 3-phase	Industrial power thyristor	271
TS3 3-phase	Industrial power thyristor	272
TS2 3-phase	Industrial power thyristor	273

Phase angle control

The phase angle control can be used for almost any ohmic and inductive consumers and is the most common way to control the power consumption of a consumer. The consumer is connected to the supply network via the power thyristor. The thyristors are controlled in such a way, that the consumer is not supplied with the complete sinusoidal oscillation but only a part (depending on the steering angle), whereas the voltage average value can be adjusted continuously.

Oscillation control

The oscillation control is used with inert consumers like heaters. Contrary to the phase angle control, complete sinusoidal waves are switched through to the consumer with the oscillation control. The control of the average voltage value is made by switching through a certain number of oscillations (depending on the switch-on time) within a certain time slot (clock cycle). Thus convertor feedback effects to the power supply network in form of harmonic components are avoided.

TS1 1-phase

TS1 1-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	230 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Ambient temperature	0..+45 °C
Protection	IP40
Enclosure	ABS
Mounting	Snap-mounting on DIN rail.
Notice	Other output currents on request
Dimensions	100x70x100 mm

TS1 1-phase – Phase angle control		
Typ	Art. No.	€
TS1 1-phase 1-ph 2 A 0,46 kW	229678	156,80
TS1 1-phase 1-ph 4 A 0,92 kW	226639	182,90
TS1 1-phase 1-ph 6 A 1,38 kW	224000	212,70
TS1 1-phase 1-ph 8 A 1,84 kW	236980	235,10
TS1 1-phase 1-ph 10 A 2,30 kW	223874	253,80

TS1 1-phase – Oscillation package		
Typ	Art. No.	€
TS1 1-phase SP 1-ph 2 A 0,46 kW	283137	156,80
TS1 1-phase SP 1-ph 4 A 0,92 kW	226622	182,90
TS1 1-phase SP 1-ph 6 A 1,38 kW	238885	212,70
TS1 1-phase SP 1-ph 8 A 1,84 kW	255189	235,10
TS1 1-phase SP 1-ph 10 A 2,30 kW	266109	253,80

TS3 1-phase

TS3 1-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	230 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Ambient temperature	0..+45 °C
Protection	IP40
Enclosure	Aluminium
Mounting	TS3 1phase: Snap-mounting on DIN rail
Notice	Other output currents on request
Dimensions	1phase: 82x125x90 mm

TS3 1-phase – Phase angle control		
Typ	Art. No.	€
TS3 1-phase 1-ph 15A 3,45 kW	237161	302,50
TS3 1-phase 1-ph 25A 5,75 kW	241649	430,00
TS3 1-phase 1-ph 35A 8,05 kW	238489	455,50
TS3 1-phase 1-ph 50A 11,50 kW	361200	528,30

TS3 1-phase – Oscillation package		
Typ	Art. No.	€
TS3 1-phase SP 1-ph 15A 3,45 kW	245500	302,50
TS3 1-phase SP 1-ph 25A 5,75 kW	231091	430,00
TS3 1-phase SP 1-ph 35A 8,05 kW	270977	455,50
TS3 1-phase SP 1-ph 50A 11,50 kW	344333	528,30

TS2 1-phase

TS2 1-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	230 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Fault indication	Low voltage Thyristor failure Heat sink temperature Phase failure
Ambient temperature	0..+45 °C
Protection	IP20
Enclosure	Aluminium with plexiglas cover
Mounting	Screw assembling
Notice	Other output currents on request
Dimensions	Depends on type

TS2 1-phase – Phase angle control		
Typ	Art. No.	€
TS2 1-phase 1-ph 75 A 17,25 kW	223867	1238,80
TS2 1-phase 1-ph 90 A 20,70 kW	361484	1501,20
TS2 1-phase 1-ph 120 A 27,60 kW	361491	1810,90

TS2 1-phase – Oscillation package		
Typ	Art. No.	€
TS2 1-phase SP 1-ph 75 A 17,25 kW	361453	1238,80
TS2 1-phase SP 1-ph 90 A 20,70 kW	361460	1501,20
TS2 1-phase SP 1-ph 120 A 27,60 kW	361477	1810,90

TS1 3-phase

TS1 3-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	400 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Ambient temperature	0..+45 °C
Protection	IP40
Enclosure	ABS
Mounting	Snap-mounting on DIN rail.
Notice	Other output currents on request
Dimensions	100x70x100 mm

TS1 3-phase – Phase angle control		
Typ	Art. No.	€
TS1 3-phase 3-ph 2A 1,39 kW	230148	179,20
TS1 3-phase 3-ph 4A 2,77 kW	246514	197,80
TS1 3-phase 3-ph 6A 4,15 kW	224260	220,20
TS1 3-phase 3-ph 8A 5,54 kW	233736	242,60
TS1 3-phase 3-ph 10A 6,93 kW	224314	268,70

TS1 3-phase – Oscillation package		
Typ	Art. No.	€
TS1 3-phase SP 3-ph 2A 1,39 kW	273558	179,20
TS1 3-phase SP 3-ph 4A 2,77 kW	268226	197,80
TS1 3-phase SP 3-ph 6A 4,15 kW	275910	220,20
TS1 3-phase SP 3-ph 8A 5,54 kW	275927	242,60
TS1 3-phase SP 3-ph 10A 6,93 kW	241182	268,70

TS3 3-phase

TS3 3-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	400 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Ambient temperature	0..+45 °C
Protection	IP40
Enclosure	Aluminium
Mounting	Screw assembling
Notice	Other output currents on request
Dimensions	3phase: 130x200x135 mm

TS3 3-phase – Phase angle control		
Typ	Art. No.	€
TS3 3-phase 3-ph 15A 10,38 kW	224796	590,30
TS3 3-phase 3-ph 25A 17,30 kW	225649	674,10
TS3 3-phase 3-ph 35A 24,22 kW	225656	787,00
TS3 3-phase 3-ph 50A 34,60 kW	256353	878,10

TS3 3-phase – Oscillation package		
Typ	Art. No.	€
TS3 3-phase SP 3-ph 15A 10,38 kW	225236	590,30
TS3 3-phase SP 3-ph 25A 17,30 kW	240970	674,10
TS3 3-phase SP 3-ph 35A 24,22 kW	241014	787,00
TS3 3-phase SP 3-ph 50A 34,60 kW	223836	878,10

TS2 3-phase

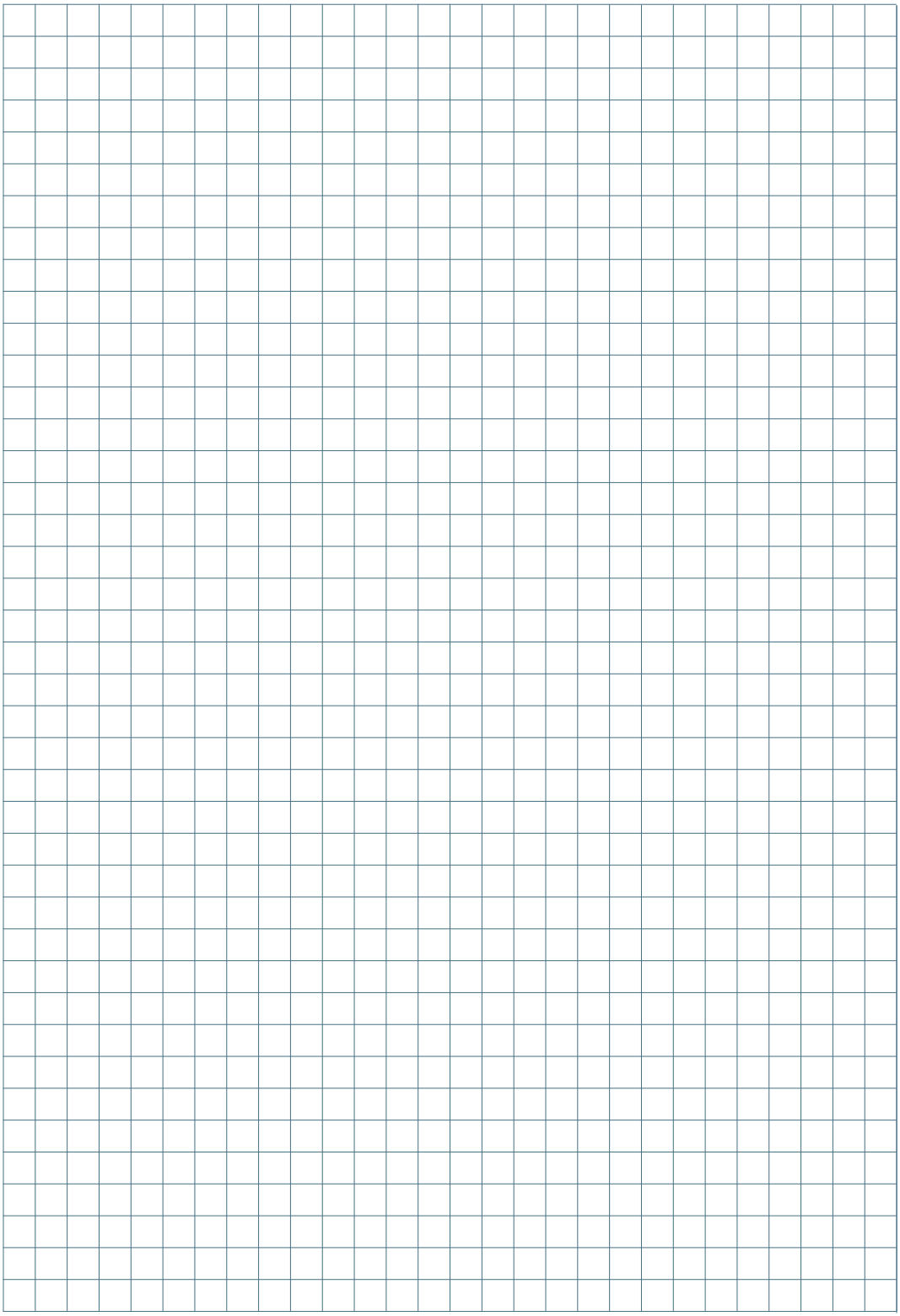
TS2 3-phase

Power thyristors are used as actuators for industrial power controls (e.g. fans, pumps, lamps, heating registers, industrial furnaces). Their solid and compact construction ensures reliable control and and high efficiency.

TECHNICAL DATA	
Supply voltage	Internal generation
Mains voltage	400 V ~
Inputs	0..10 V Potentiometer 10 kOhm
Fault indication	Low voltage Thyristor failure Heat sink temperature Phase failure
Ambient temperature	0..+45 °C
Protection	IP20
Enclosure	Aluminium with plexiglas cover
Mounting	Screw assembling
Notice	Other output currents on request
Dimensions	Depends on type

TS2 3-phase – Phase angle control		
Typ	Art. No.	€
TS2 3-phase 3-ph 75A 51,91 kW	236522	1439,20
TS2 3-phase 3-ph 90A 62,28 kW	260190	1694,30
TS2 3-phase 3-ph 120A 83,04 kW	304719	1938,40

TS2 3-phase – Oscillation package		
Typ	Art. No.	€
TS2 3-phase SP 3-ph 75A 51,91 kW	339094	1439,20
TS2 3-phase SP 3-ph 90A 62,28 kW	326926	1694,30
TS2 3-phase SP 3-ph 120A 83,04 kW	336482	1938,40



BigPoints Information

BigPoints	Preferential programme, on stock	276
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AVAILABLE FROM STOCK!

AKF10 Ø=7 mm – Duct-/Immersion Temperature Sensor				
Type	On stock	L	item No.	€
AKF10.062.07 LM235Z 120°C	●	62mm	10528	32,40
AKF10.062.07 Ni1000 160°C	●	62mm	9966	33,80
AKF10.062.07 Ni1000TK5000 160°C	●	62mm	10030	37,30
AKF10.062.07 NTC10k 150°C	●	62mm	10177	30,60
AKF10.062.07 NTC20k 150°C	●	62mm	10245	30,60
AKF10.062.07 PT100 160°C	●	62mm	9133	31,90
AKF10.062.07 PT1000 160°C	●	62mm	9829	34,10
AKF10.062.07 TRV 0-10V MultiRange	●	62mm	479127	74,20
AKF10.062.07 TRA 4-20mA MultiRange	●	62mm	479110	74,20
AKF10.135.07 LM235Z 120°C	●	135mm	10535	33,60
AKF10.135.07 Ni1000 160°C	●	135mm	9973	35,10
AKF10.135.07 Ni1000TK5000 160°C	●	135mm	10047	38,60
AKF10.135.07 NTC10k 150°C	●	135mm	10184	31,90
AKF10.135.07 NTC20k 150°C	●	135mm	10252	31,90
AKF10.135.07 PT100 160°C	●	135mm	9140	33,20
AKF10.135.07 PT1000 160°C	●	135mm	9836	35,40
AKF10.135.07 TRV 0-10V MultiRange	●	135mm	479141	75,20
AKF10.135.07 TRA 4-20mA MultiRange	●	135mm	479134	75,20
AKF10.192.07 LM235Z 120°C	●	192mm	10542	34,90
AKF10.192.07 Ni1000 160°C	●	192mm	9980	36,40
AKF10.192.07 Ni1000TK5000 160°C	●	192mm	10054	39,90
AKF10.192.07 NTC10k 150°C	●	192mm	10191	33,20
AKF10.192.07 NTC20k 150°C	●	192mm	10269	33,20
AKF10.192.07 PT100 160°C	●	192mm	9157	34,50
AKF10.192.07 PT1000 160°C	●	192mm	9843	36,70
AKF10.192.07 TRV 0-10V MultiRange	●	192mm	479165	76,10
AKF10.192.07 TRA 4-20mA MultiRange	●	192mm	479158	76,10
AKF10.240.07 LM235Z 120°C	●	240mm	10559	35,40
AKF10.240.07 Ni1000 160°C	●	240mm	9997	36,90
AKF10.240.07 Ni1000TK5000 160°C	●	240mm	10061	40,40
AKF10.240.07 NTC10k 150°C	●	240mm	10207	33,60
AKF10.240.07 NTC20k 150°C	●	240mm	10276	33,60
AKF10.240.07 PT100 160°C	●	240mm	9164	35,00
AKF10.240.07 PT1000 160°C	●	240mm	9850	37,20
AKF10.240.07 TRV 0-10V MultiRange	●	240mm	589871	76,50
AKF10.240.07 TRA 4-20mA MultiRange	●	240mm	589857	76,50
AKF10.320.07 LM235Z 120°C	●	320mm	10566	37,10
AKF10.320.07 Ni1000 160°C	●	320mm	10009	38,50
AKF10.320.07 Ni1000TK5000 160°C	●	320mm	10078	42,00
AKF10.320.07 NTC10k 150°C	●	320mm	10214	35,30
AKF10.320.07 NTC20k 150°C	●	320mm	10283	35,30
AKF10.320.07 PT100 160°C	●	320mm	9171	36,60
AKF10.320.07 PT1000 160°C	●	320mm	9867	38,80
AKF10.320.07 TRV 0-10V MultiRange	●	320mm	479189	77,80
AKF10.320.07 TRA 4-20mA MultiRange	●	320mm	479172	77,80
Accessories: Mount. flange MF7 flexible	●		399098	6,30

AVAILABLE FROM STOCK!

THMS/THVA – Immersion Pockets for AKF10				
Brass Nickel Plated				
Type	On stock	L	item No.	€
THMS50 for AKF10.062.07	●	50mm	1793	7,85
THMS120 for AKF10.135.07	●	120mm	1809	8,95
THMS185 for AKF10.192.07	●	185mm	1823	9,45
THMS225 for AKF10.240.07	●	225mm	1816	9,75
THMS300 for AKF10.320.07	●	300mm	1830	11,30
Stainless Steel				
THVA50 for AKF10.062.07	●	50mm	1885	17,10
THVA120 for AKF10.135.07	●	120mm	1854	18,90
THVA185 for AKF10.192.07	●	185mm	1915	20,30
THVA225 for AKF10.240.07	●	225mm	1861	21,40
THVA300 for AKF10.320.07	●	300mm	1892	26,60

AGS54 – Outdoor Temperature Sensor			
Type	On stock	item No.	€
AGS54 LM235Z 120°C	●	25485	15,30
AGS54 Ni1000 160°C	●	25300	16,70
AGS54 Ni1000TK5000 160°C	●	25317	20,30
AGS54 NTC10k 150°C	●	25379	13,60
AGS54 NTC20k 150°C	●	25386	13,60
AGS54 PT100 160°C	●	25263	14,90
AGS54 PT1000 160°C	●	25287	17,10
AGS54ext. TRV 0-10V MultiRange	●	479097	75,30
AGS54ext. TRA 4-20mA MultiRange	●	479066	75,30
Accessories: Rawlplugs and screws	●	102209	0,80

VFG54 – Contact Temperature Sensor			
Type	On stock	item No.	€
VFG54 LM235Z 120°C	●	30458	19,90
VFG54 Ni1000 160°C	●	30274	20,50
VFG54 Ni1000TK5000 160°C	●	30281	24,10
VFG54 NTC10k 150°C	●	30342	17,30
VFG54 NTC20k 150°C	●	30359	17,30
VFG54 PT100 160°C	●	30236	18,60
VFG54 PT1000 160°C	●	30250	20,80
VFG54 TRV 0-10V MultiRange	●	479226	71,70
VFG54 TRA 4-20mA MultiRange	●	479219	71,70
Access.: Tightening strap / contact fluid	●	102254	1,65

AVAILABLE FROM STOCK

TF25 – Cable Temperature Sensor				
Connection Wire 2m – Pocket 6x50mm – IP67 (rolled)				
Type	On stock	Output	item No.	€
TF25.200.06 LM235Z IP67 120 °C			133913	19,50
TF25.200.06 Ni1000 IP67 180 °C			115438	20,90
TF25.200.06 Ni1000TK5000 IP67 180 °C			123549	24,40
TF25.200.06 NTC10k IP67 150 °C			126700	17,80
TF25.200.06 NTC20k IP67 150 °C			126762	17,80
TF25.200.06 PT100 3-Leiter IP67 180 °C			115636	21,30
TF25.200.06 PT1000 IP67 180 °C			116756	21,20
TF25.200.06 TRV MultiRange IP67 180 °C		0..10 V	479240	72,70
TF25.200.06 TRA MultiRange IP67 180 °C		4..20 mA	479233	71,20

WRF04 – Room Temperature Sensor				
Type	On stock	Output	Art. No.	€
WRF04 LM235Z			193191	20,20
WRF04 Ni1000			191616	21,60
WRF04 Ni1000TK5000			193214	25,10
WRF04 NTC10k			207584	18,40
WRF04 NTC20k			193177	18,40
WRF04 PT100			193221	19,70
WRF04 PT1000			191623	21,90
WRF04 TRV 0..10 V MultiRange		0..10 V	479202	64,60
WRF04 TRA 4..20 mA MultiRange		4..20 mA	479196	64,60
Accessories: Rawlplugs and screws			102209	0,80

SPECIAL ENGRAVING / SPECIAL LASERING	
Order Quantity	**€ /pc.**
1-5 pcs.	35,20
6-10 pcs	25,60
11-20 pcs	19,20

SPECIAL PRINTING	
Order Quantity (minimum 20 pcs.)	**per colour, € /pc.**
20-49 pcs.	8,05
50-99 pcs.	5,45
100-249 pcs.	4,35
250-499 pcs.	3,30
500-1.000 pcs.	1,65
Tool costs for one-colour print	one time, net 140,00
Tool costs for two-colour print	one time, net 211,00

SPECIAL PAINTING	
Order Quantity	**€ /pc.**
1-9 pcs.	16,50
10-49 pcs.	11,40
50-100 pcs.	8,25
Tool costs per colour	net 95,00

PLATINUM RESISTORS	
Temperature Sensors	**€**
PT100 DIN Kl. B	7,05
PT100 1/3 DIN Kl. B	10,80
PT100 1/10 DIN Kl. B	35,80
PT500 DIN Kl. B	9,20
PT1000 DIN Kl. B	9,20
PT1000 1/3 DIN Kl. B	12,00
PT1000 1/10 DIN Kl. B	41,40

NTC RESISTORS	
Temperature Sensors	**€**
NTC 1k, 3k, 5k, 10k, 10k Precon, 20k, 30k, 50k	5,70
NTC 1,8k	7,00
NTC 12k Gas Module	3,65

PTC RESISTORS	
Temperature Sensors	**€**
KTY81-110, -121, -122,-210*	3,55

NICKEL RESISTORS	
Temperature Sensors	**€**
Ni1000 DIN Kl. B	8,90
Ni1000 1/2 DIN	11,10
Ni1000TK5000	12,40

ELEKTRONIC RESISTORS	
Temperature Sensors	**€**
LM235Z*	7,45
AD592*	11,10
SMT160*	15,30
DS18B20*	7,10

MULTISENS RESISTORS	
Temperature Sensors	**€**
FeT*	15,40
Balco500	15,40
T30*, T105*	28,90

*not suitable for temperature sensors with Ø 4mm / sensor prices include installation in our standard sensors

TEMP. °C	PT100 OHM	PT1000 OHM	NI1000 OHM	NI1000 TK5000 OHM	KTY81-110 OHM	KTY81-121 OHM	KTY81-122 OHM
-50	80,31	803,10	743,00	790,88	515	505	525
-40	84,27	842,70	791,00	830,83	567	557	577
-30	88,22	882,20	842,00	871,69	624	614	634
-20	92,16	921,60	893,00	913,48	684	674	694
-10	96,09	960,90	946,00	956,24	747	737	757
0	100,00	1.000,00	1.000,00	1.000,00	815	805	825
10	103,90	1.039,00	1.056,00	1.044,79	886	876	896
20	107,79	1.077,90	1.112,00	1.090,65	961	951	971
25	109,74	1.097,40	1.141,00	1.113,99	1.000	990	1.010
30	111,67	1.116,70	1.171,00	1.137,61	1.040	1.030	1.050
40	115,54	1.155,40	1.230,00	1.185,71	1.122	1.112	1.132
50	119,40	1.194,00	1.291,00	1.234,97	1.209	1.199	1.219
60	123,24	1.232,40	1.353,00	1.285,44	1.299	1.289	1.309
70	127,07	1.270,00	1.417,00	1.337,14	1.392	1.382	1.402
80	130,89	1.308,90	1.483,00	1.390,12	1.490	1.480	1.500
90	134,70	1.347,00	1.549,00	1.444,39	1.591	1.581	1.601
100	138,50	1.385,00	1.618,00	1.500,00	1.696	1.686	1.706
110	142,29	1.422,00	1.688,00	1.556,98	1.805	1.795	1.815
120	146,06	1.460,60	1.760,00	1.615,36	1.915	1.905	1.925
130	149,82	1.498,20	1.853,00	1.675,18	2.023	2.013	2.033
140	153,58	1.535,80	1.909,00	1.736,47	2.124	2.114	2.134
150	157,31	1.573,10	1.987,00	1.799,26	2.211	2.201	2.221

TEMP. °C	KTY81-210 OHM	FET OHM	LM235Z mVOLT	BALCO 500 OHM	NTC 1,6K OHM	NTC1,8K OHM	NTC2,2K OHM
-50	1.030			382,1			
-40	1.135		2.332	399,8	53.370		73.060
-30	1.247	1.934,70	2.432	418,0	28.173	24.500	38.550
-20	1.367	2.030,41	2.532	435,6	15.489	14.000	21.200
-10	1.495	2.127,68	2.632	453,3	8.840	8.400	12.110
0	1.630	2.226,53	2.732	471,0	5.222	5.200	7.162
10	1.772	2.327,01	2.832	488,7	3.184	3.330	4.372
20	1.922	2.429,15	2.932	497,3	1.999	2.200	2.747
25	2.000	2.480,86	2.982	506,3	1.600	1.800	2.200
30	2.080	2.533,00	3.032	523,6	1.289	1.480	1.773
40	2.245	2.638,60	3.132	541,3	851,9	1.040	1.173
50	2.417	2.745,99	3.232	558,5	576,1	740	793
60	2.597	2.855,23	3.332	576,2	397,9	540	548
70	2.785	2.966,36	3.432	593,4	280,2	402	386
80	2.980	3.079,42	3.532	610,6	200,9	306	276
90	3.182	3.194,47	3.632	627,8	146,5	240	201
100	3.392	3.311,56	3.732	645,1	108,5	187	149
110	3.607	3.430,75	3.832	662,3	81,5	149	112
120	3.817	3.552,09	3.932	679,1	62,1	118	85
130	4.008	3.675,65		696,3	47,9	95	66
140	4.166	3.801,48		713,1	37,4	77	51
150	4.280	3.929,65			29,5	64	40

TEMP. °C	NTC3K OHM	NTC 3,3K OHM	NTC5K OHM Kurve K3, B-Wert 3970	NTC 5,369 OHM	NTC-SAT OHM	NTC10K kOHM Kurve K3, B-Wert 3970	NTC10K PRE kOHM Kurve K2, B-Wert 3690
-50			333.914,00			667,83	441,30
-40	102.690	109.600	167.835,50	116.300	9.709	335,67	239,80
-30	53.730	57.820	88.341,50	66.190	9.462	176,68	135,20
-20	29.346	31.800	48.487,00	39.100	9.063	96,97	78,91
-10	16.674	18.160	27.649,00	23.890	8.468	55,30	47,54
0	9.822	10.740	16.325,40	15.060	7.658	32,65	29,49
10	5.976	6.558	9.951,75	9.778	6.665	19,90	18,79
20	3.750	4.121	6.246,85	6.517	5.573	12,49	12,26
25	3.000	3.300	5.000,00	5.369	5.025	10,00	10,00
30	2.417	2.660	4.028,00	4.449	4.493	8,06	8,19
40	1.598	1.759	2.662,45	3.104	3.519	5,32	5,59
50	1.081	1.190	1.800,50	2.209	2.704	3,60	3,89
60	747,3	822	1.243,55	1.600	2.059	2,49	2,76
70	526,8	579	875,80	1.178	1.566	1,75	1,99
80	378,3	415	628,09	880,5	1.198	1,26	1,46
90	276,3	302	458,06	666,6	925	0,92	1,08
100	204,9	224	339,32	510,3	725	0,68	0,82
110	154,2	168	255,03	393,6	577	0,51	0,62
120	117,7	128	194,30	305,2	468	0,39	0,48
130	90,9	98	149,91	238,9	386	0,30	0,38
140	71,1	77	117,04	188,4	325	0,23	0,30
150	56,2	60	92,40	150,2	278	0,18	0,24

TEMP. °C	NTC10-CAREL OHM	NTC12K OHM	NTC20K kOHM	NTC30K OHM	NTC50K OHM	NTC100K OHM
-50		309.400	1.667,57	1.219.109,9	2076963	2.193.000
-40	186.796	171.800	813,44	622.923,0	1054556	1.256.000
-30	110.881	98.930	415,48	331.870,2	558919	743.600
-20	67.683	58.880	221,30	183.695,8	308124	454.200
-10	42.431	36.130	122,47	105.305,0	176114	285.400
0	27.280	22.800	70,20	62.342,6	104056	184.200
10	17.961	14.770	41,56	38.018,9	63384	121.900
20	12.092	12.000	25,35	30.000,0	50000	100.000
25	10.000	9.804	20,00	23.828,5	39709	82.490
30	8.312	6.652	15,89	15.317,0	25529	57.020
40	5.826	4.607	10,21	10.079,0	16810	40.200
50	4.159	3.252	6,72	6.777,8	11316	28.860
60	3.020	2.337	4,52	4.650,6	7774	21.070
70	2.228	1.707	3,10	3.251,4	5443	15.620
80	1.668	1.266	2,12	2.313,2	3879	11.760
90	1.266	952	1,54	1.672,7	2809	8.968
100	974	726	1,12	1.228,1	2066	6.928
110	758	560	0,82	914,5	1541	5.416
120	597	438	0,61	690,2	1165	4.282
130	475	345	0,46	527,4	891,9	3.420
140	382	275	0,35	407,7	690,5	2.758
150	310	157,31	0,27	1.987	1.799,26	2.211

Glossary

OUTPUTS

A, AA, 2A	1 resp. 2 outputs 4..20 mA; output values depending on product
V, VV, 3xV, 4xV oder 2V, 3V, 4V	1, 2, 3, 4 outputs 0..10 V; output values depending on product
AS, AAS, VS, VVS	1 resp. 2 active outputs + 1 passive output temperature (S)
TRA	Output 4..20 mA, digit for measuring range temperature following
TRV	Output 0..10 , digit for measuring range temperature following
TRA1/TRV1	Range -50..+50 °C
TRA2/TRV2	Range -10..+120 °C
TRA3/TRV3	Range 0..+50 °C
TRA4/TRV4	Range 0..+160 °C
TRA5/TRV5	Range 0..+250 °C
TRA6/TRV6	Range 0..+400 °C
TRA7/TRV7	Range 0..+600 °C
TRA8/TRV8	Range -15..+35 °C
MultiRange	Range adjustable at the device

SI-PROTECTION

Changes in temperature are causing formation of humidity. Thus, there is a risk that the humidity can permeate in the contact point of the sensor. As a result, the sensor would corrode and oxygenate. Thus, the contact point would become unreliable. The SI-Protection procedure provides the contact point with epoxy gum and a fluidized bed coating which unites with the insulation material of the wire. Thus, a complete unit is built protecting the sensor against vibrations and humidity.

Protection against mechanical overstress
SI-Protection
humidity and vibration

MEASURING VALUES

rF bzw. rH	relative humidity
Temp.	Temperature
CO2	carbon dioxide measuring value for air quality
VOC	volatile organic compound; measuring value for air quality
Dual Channel	Calibration method for CO2 sensors (automatical self-calibration)

COMMUNICATION

EasySens	Thermokon radio based on EnOcean IEC 14543-3-10
BACnet	BACnet MS/TP, communication protocol specifically designed for building automation; BACnet IP, if mentioned in catalogue
KNX	EIB-KNX interface
LON	LON FTX, communication protocol specifically designed for building automation; other standards, if mentioned in catalogue
Modbus	RS485 Modbus RTU

ROOM OPERATING UNITS OPERATING ELEMENTS

P	Potentiometer (setpoint adjustment)
MS	Slide switch
S	Switch (e.g. for fan stages)
T	Button (e.g. for occupancy status)
D	LED
LCD/-D	Inclusive display
-Z	Traffic light shwoing air quality (3 LEDs)
-R	Relay

TERMS AND CONDITIONS

Orders
We will happily take your order by phone, email or fax, stating the product name and item number from the catalogue. Please do not hesitate to contact us for technical support or support with specific applications or sensor technology.

Delivery Time
We stock a variety of standard sensors in limited quantities, of which delivery is within 1 week, often immediately after receipt of order. Delivery times for larger quantities or custom designs available on request.

Pricing
All prices are list prices in € and do not include value added tax. Prices are valid from 1st April 2015. All previous prices are invalid.

Delivery Conditions
Delivery is done ex works by parcel or forwarding service, excluding cost for packing / insurance.

Terms of Payment
Within 14 days net.

Product return
Catalog products can be returned within a period of 6 months after delivery, for 2/3 credit of the initial purchase price. Only unused products in original packing will be accepted. Custom manufactured products such as room sensors with control elements, custom engraving, custom varnish or custom printing can not be returned.

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Publisher: Thermokon Sensortechnik GmbH, Platanenweg 1, 35756 Mittenaar, CEO Harald Zygan
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