



## AZM 161 Z ST1-AS RA

- Solenoid supply aus AS interface
- Guard locking monitored
- Manual release
- Solenoid interlock
- Thermoplastic enclosure
- High holding force 2000
- 130 mm x 90 mm x 30 mm
- Interlock with protection against incorrect locking.
- Double-insulated
- Long life
- Integrated AS-Interface

## Data

### Ordering data

Product type description	AZM 161 Z ST1-AS RA
Article number (order number)	101209104
EAN (European Article Number)	4030661396477
eCl@ss number, version 12.0	27-27-26-03
eCl@ss number, version 11.0	27-27-26-03
eCl@ss number, version 9.0	27-27-26-03
ETIM number, version 7.0	EC002593
ETIM number, version 6.0	EC002593

### Approvals - Standards

Certificates	TÜV cULus ASi-SaW
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## General data

Standards	EN IEC 62026-2 EN ISO 13849-1 EN IEC 60947-5-1 EN IEC 61508
Coding level according to EN ISO 14119	Low
Working principle	electromechanical
Housing material	Plastic, glass-fibre reinforced thermoplastic, self-extinguishing
Reaction time, maximum	100 ms
Gross weight	465 g

## General data - Features

Power to lock	Yes
Solenoid interlock monitored	Yes
Manual release	Yes
Integral system diagnostics, status	Yes
Number of actuating directions	3

## Safety classification

Standards	EN ISO 13849-1 EN IEC 61508
Performance Level, up to	c
Category	1
PFH value	$1.14 \times 10^{-6}$ /h
Note (PFH-value)	up to max. 100,000 switching cycles/year

Safety Integrity Level (SIL), suitable for applications in	1
Mission time	20 Year(s)

### Safety classification - Fault exclusion

Please note:	Can be used when fault exclusion for dangerous damage to the 1-channel mechanism is permissible and sufficient protection against manipulation is guaranteed.
Performance Level, up to	d
Category	3
PFH value	$1.01 \times 10^{-7}$ /h
Note (PFH-value)	up to max. 100,000 switching cycles/year
Safety Integrity Level (SIL), suitable for applications in	2
Mission time	20 Year(s)

### Safety classification - Guard locking function

Performance Level, up to	e
Note (Performance Level)	Information for the safety classification of the guard locking function is documented in the "Operating instructions" or in the "Operation and mounting" instructions.

### Mechanical data

Mechanical life, minimum	1,000,000 Operations
Actuating play in direction of actuation	5.5 mm
Holding force $F_{Zh}$ in accordance with EN ISO 14119	2,000 N
Holding force $F_{max}$ maximum	2,600 N
Latching force	30 N
Actuating speed, maximum	2 m/s

Mounting    Screws

Type of the fixing screws    3x M6

### **Mechanical data - Connection technique**

Connector position                          Centre

Termination                                  Connector plug M12, 4-pole, (A-coding)

### **Mechanical data - Dimensions**

Length of sensor                              30 mm

Width of sensor                                130 mm

Height of sensor                               90 mm

### **Ambient conditions**

Degree of protection                        IP67

Ambient temperature                        -25 ... +60 °C

Storage and transport  
temperature                                    -25 ... +85 °C

Relative humidity,  
minimum                                        30 %

Relative humidity,  
maximum                                        95 %

Note (Relative humidity)                  non-condensing  
non-icing

Resistance to vibrations                    10 Hz ... 150 Hz, amplitude 0.35 mm

Resistance to shock                         30 g / 11 ms

Protection class                                II

Permissible installation  
altitude above sea level,  
maximum                                        2,000 m

### **Ambient conditions - Insulation values**

Rated insulation voltage U    32 VDC

Rated impulse withstand voltage $U_{imp}$	0.8 kV
Overtoltage category	III
Degree of pollution	3

## Electrical data

Maximum switching frequency	1,000 /h
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## Electrical data - AS Interface

Rated operating voltage	26.5 ... 31.6 VDC (Protection against polarity reversal)
AS-i Current consumption, maximum	250 mA

## Electrical data - AS-Interface specification

AS-i Specification	Safety-Slave
AS-i Version	V 2.1
AS-i Profile	S-7.B.F.E
AS-i, IO-Code	0x7
AS-i, ID-Code	0xB
AS-i, ID-Code1	0xF
AS-i, ID-Code2	0xE
AS-i Input, Channel 1	Data bits DI 0 / DI 1 = dynamic code transmission
AS-i Input, Channel 2	Data bits DI 2 / DI 3 = dynamic code transmission
AS-i Outputs, DO 0	Solenoid control
AS-i Outputs, DO 1	No Function
AS-i Outputs, DO 2	No Function
AS-i Outputs, DO 3	No Function
AS-i Parameter bits, P0	Actuator detected
AS-i Parameter bits, P1	Solenoid interlock locked
AS-i Parameter bits, P2	Magnet voltage in tolerance range
AS-i Parameter bits, P3	Error message - locking/unlocking of the solenoid interlock blocked

Note (AS-i Parameter bits)	Set the parameter outputs to "1111" (0xF) FID: periphery error
AS-i Input module address	0
Note (AS-i Input module address)	Preset to address 0, can be changed through AS-interface bus master or hand-held programming device

## Status indication

Note (LED switching conditions display)	(1) LED yellow: Channel 2 / AS-i SaW Bit 2.3 (2) LED green/red (AS-i duo LED): Supply voltage / communication error / slave address = 0 / periphery error detected (3) LED yellow: Channel 1 / AS-i SaW Bit 0.1
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## Other data

Note (applications)	sliding safety guard removable guard hinged safety guard
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## Pin assignment

PIN 1	AS-i +
PIN 2	n.c.
PIN 3	AS-Interface -
PIN 4	n.c.

## Scope of delivery

Scope of delivery	Actuator must be ordered separately.
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## Note

Note (General)	Interlocks with the power to lock principle may only be used in special cases after a thorough evaluation of the accident risk, since the guarding device can immediately be opened on failure of the electrical power supply or when the main switch is opened.
Note (Manual release)	For maintenance, installation, etc. For manual release using M5 triangular key, available as accessory

## Ordering code

Product type description:

AZM 161 (1) (2)-AS (3)(4)(5)(6)

(1)	
<b>Z</b>	Guard locking monitored
<b>B</b>	Actuator monitored
<b>BZ</b>	Combined monitoring of actuator and solenoid interlock
(2)	
<b>ST1</b>	Bottom-side connector
<b>ST2</b>	Connector at the right-hand side
(3)	
<b>without</b>	Latching force 5 N
<b>R</b>	Latching force 30 N
(4)	
<b>without</b>	Power to unlock
<b>A</b>	Power to lock
(5)	
<b>without</b>	Magnet supply from AS-Interface
<b>P</b>	Magnet supply 24 VDC (AUX)
(6)	
<b>without</b>	Manual release
<b>N</b>	Emergency release
<b>T</b>	Emergency exit

## Pictures

**Product picture (catalogue individual photo)**



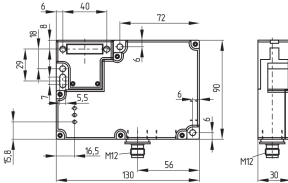
ID: kazm1f53

| 643,1 kB | .jpg | 352.778 x 277.283 mm - 1000 x 786 px - 72 dpi

| 45,9 kB | .png | 74.083 x 58.208 mm - 210 x 165 px - 72 dpi

| 76,1 kB | .jpg | 123.472 x 97.014 mm - 350 x 275 px - 72 dpi

## Dimensional drawing basic component



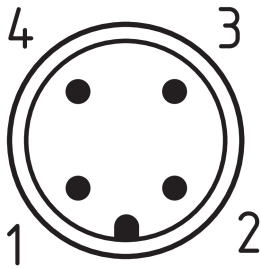
ID: lazm1g06

| 41,6 kB | .cdr |

| 9,6 kB | .png | 74.083 x 51.506 mm - 210 x 146 px - 72 dpi

| 115,1 kB | .jpg | 352.778 x 245.181 mm - 1000 x 695 px - 72 dpi

## Contact arrangement

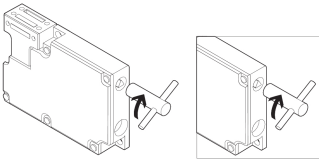


ID: km12-k4c

| 4,2 kB | .png | 74.083 x 74.083 mm - 210 x 210 px - 72 dpi

| 113,3 kB | .jpg | 352.778 x 352.778 mm - 1000 x 1000 px - 72 dpi

## Operating principle



ID: kazm1a41

| 105,3 kB | .jpg | 352.778 x 170.744 mm - 1000 x 484 px - 72 dpi

| 13,0 kB | .png | 74.083 x 35.983 mm - 210 x 102 px - 72 dpi

Schmersal France SAS, BP 18, 38181 Seyssins Cedex

The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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