



### Description

The Guardmaster Ex Range of safety switches are specifically designed for potentially explosive atmospheres. They retain the safety features and operating principles of the conventional Guardmaster switches. They incorporate a sealed flameproof contact block, making them suitable for use in European Zone 1 and Zone 2 environments. In the US and Canada, these products can be used in areas classified as Class 1, Division 2 in Groups A (acetylene), B (hydrogen), C (ethylene) and D (propane). All the Guardmaster Ex switches conform to the exacting standards required by the European harmonized standards. The contact block in these switches has the following approvals: 112G EExd IIC T6 or T5 and 11 2D T80°C IP66.

EEx equipment conforms to types of protection standardised by CENELEC (European standards), EN50014 and EN50018 respectively and BS5501 parts 1-V.

The d suffix indicates that the contact block in the switch is a flameproof enclosure and is designed to ensure that if an internal explosion occurs it will be contained within the enclosure. The designation II indicates use in surface industries and c refers to the group of gases for which the switches are suitable. The designation T represents the surface temperature classification of the switch. These switches have been tested with an ambient temperature of 60°C as opposed to the normal test limit of only 40°C, allowing them to be used in gases having a low flash point.

It should be noted that these groups refer to the explosion-proof qualities of the switches and not corrosion-resistance characteristics. Special precautions may be required to protect the vulnerable parts such as PVC-covered cables against attack by certain corrosive elements and physical damage.

### Features

- For use in potentially explosive atmospheres
- Positive mode action, flameproof contact block
- Suitable for use in European Zone 1 and 2 environments
- US and Canada: Class 1, Division 2 in Groups A, B, C and D

### Specifications

All switches excluding Ferrogard GS2

#### Contact Block Electrical Specifications

Certifications	112G EExd 11C T6 or T5 112D T80°C IP 66 under ATEX
Safety Contacts	1 N.C. & 1 N.O. or 2 N.C.
Enclosure Protection	IP66
Rated Voltage	250V AC and 250V DC
Rated Current	5 A AC and 0.25 A DC
AC Ratings, Resistive	6 A @ 250V, 6 A @ 125V
AC Ratings, Inductive	2.5 A @ 250V, 3 A @ 125V
DC Ratings, Resistive	0.25 A @ 250V, 0.5 A @ 125V, 1 A @ 75V, 7 A @ 30V
DC Ratings, Inductive	0.1 A @ 250V, 0.2 A @ 125V, 1 A @ 75V, 5 A @ 30V

#### Contact Block Technical Specifications

Operating Force	1.6 N - 0.4/ - 0.2 N
Release Force	0.4 N
Pre-travel	0.8 mm (0.03 in.)
Over Travel	0.6 mm (0.02 in.)
Return Travel	1.1 mm (0.04 in.)
Differential Travel	0.5 mm (0.19 in.)
Release Travel	0.2 mm (0.007 in.)
Positive Break Travel	0.4 mm (0.01 in.)
Repeatability	+0.01 mm (0.0003 in.)
Switching Speed, Min.	1 mm (0.039 in.)
Switching Frequency, Max.	3000 operations/hour
Mechanical Life	2,000,000 operations
Electrical Life	Dependent on loading
Operating Temperature [C (F)]	-25...70° (-10...284°)
Electrical Connection	Potted in leads. Flexible 4 x 0.75 mm <sup>2</sup> , 2 m long

#### Ferrogard GS2

Certifications	EExd IIC T6 Baseefa. Not suitable for Group 1 gases
Safety Contacts	1 N.C.
Enclosure Protection	IP67 (NEMA 6P)
Rated Voltage	250V AC
Rated Current	2 A
Rated VA	100V A max @ 50V 200V A max @ 110V 500V A max @ 250V
Operating Distance, Make [mm (in.)]	15 (0.59)
Operating Distance, Break [mm (in.)]	26 (1.02)
Closing Time	3.0 ms
Drop-Out Time	2.1 ms
Bounce Time	0.7 ms
Shock	<50 g
Vibration	15 g, 20...1000 Hz
Contact Resistance, Initial	0.07 Ω (excluding cable)
Mechanical Life	100,000,000 operations
Electrical Life	5,000,000 operations
Operating Temperature [C (F)]	-10...40° (14...104°)
Housing Material	Brass or Stainless Steel
Cable Length	3 m (9.8 ft), 5 m (32.8 ft), or 10 m (32.8 ft)
Cable Type	Termorad

Product Selection

Switch	Description	Type	Safety Contacts	Cable Length	Cat. No.
	Ex Trojan 5. Explosion proof tongue operated safety interlock switch.	Trojan 5-EX	2 N.C.	2 m (6.5 ft)	440K-H11145
				6 m (19.7 ft)	440K-H11160
				15 m (39.2 ft)	440K-H11161
	Ex Ferrogard GS2. Explosion proof magnetically actuated, noncontact safety interlock switches.	GS2-Ex (stainless steel)	1 N.C.	3 m (9.8 ft)	440N-H02047
		Ferrogard GS2-EX (stainless steel)		10 m (32.8 ft)	440N-H02087
	Ex Lifeline 4. Explosion proof, cable and push button actuated Emergency Stop switch.	Lifeline 4-EX	1 N.C. & 1 N.O.	2 m (6.5 ft)	440E-H13046
			2 N.C.		440E-H13069
	Ex Rotacam. Explosion proof, hinge actuated safety interlock switch.	Rotocam-HS-2-EX	1 N.C. & 1 N.O.		440H-H03077

9-**Explosion  
Proof**

