

Hazardous Location & Pneumatic Switches

Explosion Proof

Ex Range



Description

Guardmaster Ex Range

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. These switches carry the classification EExd IIC T6 Baseefa.

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

Classification	EExd IIC T6 Class 1, Div 2, Groups A, B, C and D
Contact arrangement	1 N.C. & 1 N.O. or 2 N.C.
Protection	P66
Rated voltage	250V AC and 250V DC
Rated current	5A AC and 0.25A DC
AC ratings	250V 125V
Resistive	6A 6A
Inductive	2.5A 3A
DC ratings	250V 125V 75V 30V
Resistive	0.25A 0.5A 1A 7A
Inductive	0.1A 0.2A 1A 5A

Contact block—technical specifications

Operating force	1.6N - 0.4/ - 0.2N
Release force	0.4N
Pre-travel	0.8mm
Over-travel	0.6mm
Return travel	1.1mm
Differential travel	0.5mm
Release travel	0.2mm
Positive break travel	0.4mm
Repeatability	+0.01mm
Minimum plunger operating speed	1 mm/min.
Maximum switching rate	3000/h
Mechanical life	2 x 10 ⁶
Electrical life	Dependent on loading
Ambient temperature	-25°C to +70°C (-10°F to 284°F)
Electrical connection	Potted in leads. Flexible 4 x 0.75mm ² , 2m long

Ferrogard GS2

Classification	EExd IIC T6 Baseefa Not suitable for Group 1 gases
Contact arrangement	1 N & C
Protection	IP68
Rated voltage	250V AC
Rated current	2A
Max VA	100 at 50V 200 at 110V 500 at 250V
Safety contact operating distance	Make 15mm, break 26mm
Close time	3.0ms
Drop out time	2.1ms
Bounce time	0.7ms
Shock tolerance	<50G
Vibration tolerance	7-15G at 10-2000Hz
Initial resistance	0.07Ω (excluding cable)
Mechanical life	100 x 10 ⁶
Electrical life	5 x 10 ⁶
Ambient temperature	-10°C to +40°C (14°F to 104°F)
Housing	Brass or stainless steel
Cable	3m of Termorad

Note: For all other specifications and dimensions see relevant standard switch.

Product Selection

Switch	Description	Type	Contacts	Cable m (ft)	Catalogue Number
	Ex Trojan 5 Explosion proof tongue operated safety interlock switch.	Trojan 5-EX	2 N.C.	2 (6.5)	440K-H11145
				6 (19.7)	440K-H11160
				15 (39.2)	440K-H11161
	Ex Ferrogard GS2 Explosion proof magnetically actuated, noncontact safety interlock switches.	Ferrogard GS2-EX (stainless steel)	1 N.C.	3 (9.8)	440N-H02047
		Ferrogard GS2-EX (brass)		5 (32.8)	440N-H02046
		Ferrogard GS2-EX (stainless steel)		10 (32.8)	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 (6.5)	440E-H13046
			2 N.C.		440E-H13069
	Ex Rotacam Explosion proof, hinge actuated safety interlock switch.	Rotacam-HS-2-EX	1 N.C. & 1 N.O.		440H-H03077
			2 N.C.		440H-H03100
	Ex Centurion Explosion proof, manually operated time delay, bolt interlock switch.	Centurion-EX (left hand version)	1 N.C. & 1 N.O.		440K-H04035
		Centurion-EX (right hand version)	2 N.C.		440K-H04037
			1 N.C. & 1 N.O.		440K-H04036
			2 N.C.		440K-H04038
	Ex Telescopic Explosion proof telescopic (antenna) safety trip switch.	Telescopic CP15-EX	1 N.C. & 1 N.O.		440E-H05004
			2 N.C.		440E-H05019