



EX SWITCHES

EEXd EXPLOSION PROOF SAFETY SWITCHES



**SPECIFICALLY DESIGNED FOR
POTENTIALLY EXPLOSIVE ATMOSPHERES**



SEALED FLAMEPROOF CONTACT BLOCK



**POSITIVE OPERATION
GUARANTEES FAILURE TO SAFETY**



**SUITABLE FOR USE IN ZONE 1
& ZONE 2 ENVIRONMENTS**



**CONFORMS TO THE EUROPEAN
HARMONISED STANDARDS**



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 upon which they are based.

They incorporate a sealed flameproof contact block, making them suitable for use in Zone 1 and Zone 2 environments such as those found in the chemical, petrochemical, powder and pressurised container filling and gas/oil processing industries.

All the Guardmaster Ex switches conform to the exacting standards required by the European harmonised standards. All the switches carry the classification E Exd T6.

The designation E Ex indicates that they meet the harmonised safety standard of CENELEC EN500 14 & EN500 18 resp. & BS5501 parts 1-V.

The 'd' suffix indicates that the explosion proof enclosure of the contact block is designed to ensure that if an internal explosion occurs it will be contained within the enclosure and will not

ignite a surrounding flammable atmosphere.

The designation IIc refers to the group of gases for which the switches are suitable. Group II refers to a large range of gases common in industry and it is sub-divided into three categories by the suffix a, b or c. Suffix c gases are the most flammable and present the maximum hazard within group II. They include gases such as hydrogen. 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.

The designation T represents the surface temperature classification of the switch and is divided into categories with the suffix 1 to 6. T6 is the lowest temperature and thus the safest classification with a maximum permitted surface temperature of 85°C (providing that the electric loading of the switch does not exceed its stated current rating). 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.

These switches are not suitable for use in atmospheres containing Group I gases eg methane (firedamp).

INSTALLATION

The mechanical installation of these Ex switches is in accordance with the normal Lifeline 1, Rotacam, Centurion, Senator or Telescopic. However the electrical installation and maintenance should be in accordance with the relevant parts of BS5345 (or with the equivalent regulations if installed abroad). Such installations should be carried out by competent personnel to the satisfaction of the local safety officer, factory inspector, consultant or insurance assessor.

All terminations within the area of risk must be protected by an Ex-termination enclosure. A suitable enclosure can be supplied, please contact us for details.

ALSO AVAILABLE

Explosion Proof Garrison - See page 22

Explosion Proof Ferrogard GS2 - See page 27



EX SWITCHES

A large range of Explosion proof switches for non safety interlocking use is available from Sigma Controls Ltd., A sister company to Guardmaster.

Contact Sigma direct tel: 0942 522211.

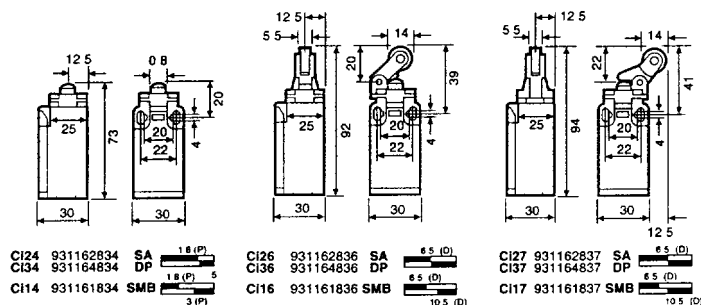
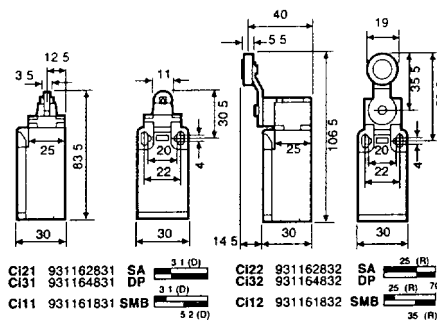
EX-SWITCHES ORDERING DETAILS

TYPE	DESCRIPTION	Conduit entry BS20mm Part No
LRS-1-Ex	Explosion proof Lifeline 1 rope switch	13018
HS-1-Ex	Explosion proof Rotacam hinge operating safety switch	03049
TDBS-2-Ex	Explosion proof Centurion time delay bolt switch RH	04014
TDBS-2-Ex	Explosion proof Centurion time delay bolt switch LH	04020
CP11-Ex	Explosion proof plastic case Senator limit switch - roller	922164851
CP14-Ex	Explosion proof plastic case Senator limit switch - plunger actuator	922164854
CP15-Ex	Explosion proof Telescopic switch	05004
GS2	Explosion proof Ferrogard switch (see page 27)	02049

The safety contacts of the Guardmaster switches are described as normally closed (N/C) i.e. with the guard closed, actuator in place (where relevant) and the machine able to be started.

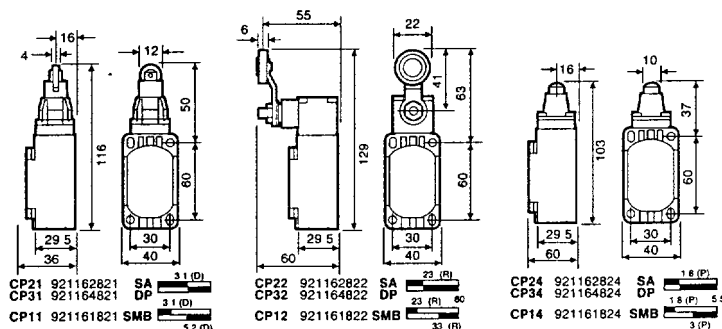
TYPE CI PLASTIC CASE

Case	Glass reinforced plastic
Contact Block	1A-500V, 2A-250V, 5A-100V, AC 1N/C1, N/O or 2N/C
Protection	IP65
Operating Temp	-20° C to + 70°C
Mounting	Any position
Fixing	M4
Conduit Entry	1 x BS16mm
Cleaning	May be steam cleaned or pressure hosed



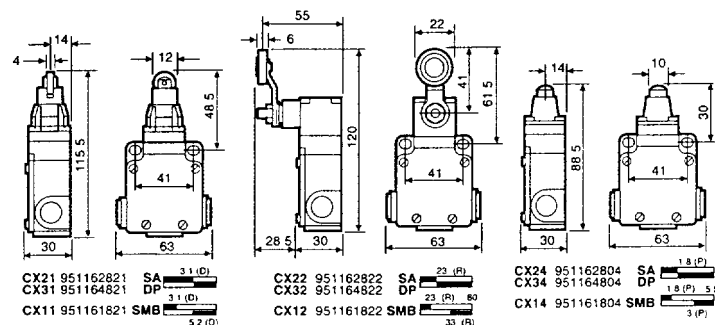
TYPE CP PLASTIC CASE

Case	Glass reinforced plastic
Contact Block	1A-500V, 2A-250V, 5A-100V, AC 1N/C, 1N/O or 2N/C
Protection	IP65
Operating Temp	-20° C to + 70°C
Mounting	Any position
Fixing	M5
Conduit Entry	1 x BS20mm
Cleaning	May be steam cleaned or pressure hosed



TYPE CX METAL CASE

Case	Die cast alloy
Contact Block	1A-500V, 2A-250V, 5A-100V, AC 1N/C, N/O or 2N/C
Protection	IP65
Operating Temp	-20° C to + 70°C
Mounting	Any position
Fixing	M5
Conduit Entry	1 x BS20mm
Cleaning	May be steam cleaned or pressure hosed



TYPE CM METAL CASE

Case	Die cast alloy
Contact Block	1A-500V, 2A-250V, 5A-100V, AC 1N/C, N/O or 2N/C
Protection	IP65
Operating Temp	-20° C to + 70°C
Mounting	Any position
Fixing	M5
Conduit Entry	1 x BS20mm
Cleaning	May be steam cleaned or pressure hosed

