

Interlock Switches

Non contact Switches

Ferrogard GD2



Description

The Ferrogard range of magnetically actuated safety switches offers Non contact reliability together with tolerance to misalignment. They are designed to be installed so that when a guard door is opened, the action of the magnetic actuator being removed from the switch opens the N.C. safety contacts which are intended for the isolation of control power to a machine primary control element.

The GD2 version has a stainless steel housing for added protection against inadvertent impacts to the housing. The contacts are completely sealed to meet IP68 (NEMA6P) requirements, making them ideal for wet environments. The GD2 also has a wider temperature range than the plastic Ferrogard switches, making them useful in a wider range of applications.

Unlike some magnetic switches, the Ferrogards have protected safety contacts to help ensure that they do not fail to danger. In addition, some versions have independent auxiliary signal contacts to indicate the machine and guard condition.

All Ferrogards have internal non-resettable overload protection on the safety contact. They should be protected by an external fuse rated as shown in the specifications table.

Features

- Non contact actuation
- High tolerance to misalignment
- High switching current (up to 2A AC, 1A DC)
- Wide Temperature Range (-25°C to +125°C)
- Stainless Steel Housing
- Various Contact Arrangements

Specifications

Standards	EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, ANSI B11.19, AS4024.1
Category	Cat. 1 Device per EN954-1 Dual channel interlocks suitable for Cat. 3 or 4 systems
Approvals	CE marked for all applicable directives and cULus
Reed Contacts	Safety Auxiliary
Operating Distance – Make	12mm (0.47in) 15mm (0.59in)
Operating Distance – Break	23mm (0.91in) 26mm (1.02in)
Closing Time	3.0ms 0.5ms
Dropout Time	2.1ms 0.3ms
Bounce Time	0.7ms 0.7ms
Initial Contact Resistance	15mΩ 10mΩ
Initial Capacitance, Terminal to Terminal	0.65pF 0.2pF
Initial Insulation Resistance, Terminal to Terminal	1x10 ⁶ Ω 1x10 ⁶ Ω
Safety Contact Switching Capability	AC 250V AC 2A max DC 24V DC 1A max
Safety Contact External Fusing	AC ≤1.6A quick blow DC ≤0.8A quick blow
Auxiliary Contact Switching Capability	300V DC, 250V AC, 0.5A including inrush. 15VA/10W suitable for AC/DC circuits
Min Initial Breakdown Voltage	600V AC 600V AC
Environmental	IP68 (NEMA 6P)
Cable	0.50mm ² (20 AWG) 7 wire Flexible thermoplastic elastomer Jacket OD 8mm (0.2in)
Operating Temperature	-25°C to +125°C (-13° to +257°F)
Case Material	Stainless Steel; BS3146 ANC4B (316L)
Mounting	Any Position; M4 mounting security screws included
Weight (not including cable)	Sensor 156g (0.34lbs) Actuator 168g (0.37lbs)
Electrical Life	1 x 10 ⁶ at rated load
Mechanical Life	10 x 10 ⁶
Vibration	7-15g, 10 to 200Hz
Shock	50g

Product Selection

Safety Contact Switching Capability	Safety Contacts	Auxiliary Contacts	Connection	Housing Material	Type	Catalogue Number
250V AC 2A	1 N.C.	1 N.O.	3m Cable	Stainless Steel	FRS 2 GD2	440N-G02112
	2 N.C.	None			FRS 20 GD2	440N-G02113
24V DC 1A	1 N.C.	1 N.O.			FRS 21 GD2	440N-G02117
	2 N.C.	None			FRS 2 GD2	440N-G02118
		1 N.O.			FRS 20 GD2	440N-G02119
					FRS 21 GD2	440N-G02123

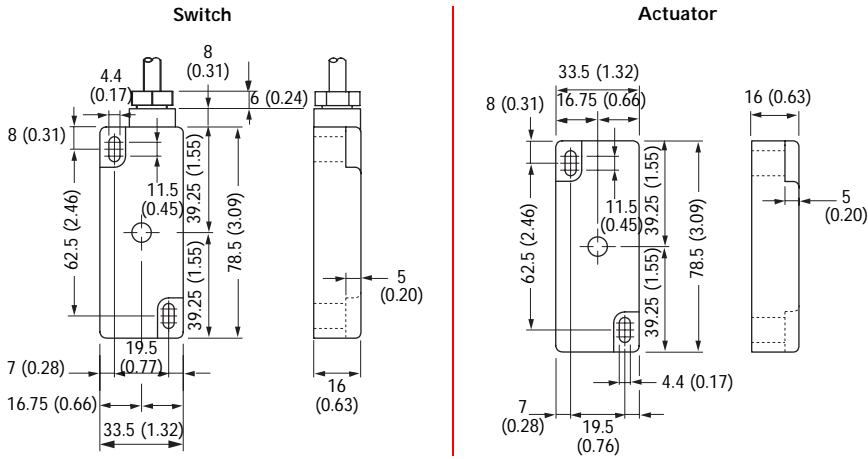
Note: Contacts are described with the guard door closed, that is, actuator in place. Switch is shipped with complete actuator.

Accessories

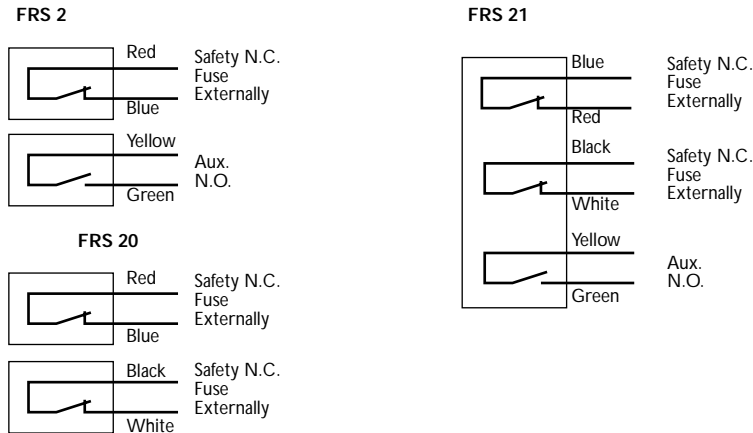
Description	Page Number	Catalogue Number
Actuator	—	440N-A02128

Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for installation purposes.



Typical Wiring Diagrams



Note: Unit must be to a grounded to a grounded metal frame or grounded via the field wiring per NEC requirements.

Application Details

See page 3-54 for operating principles and mounting examples.