

IDEM GLM and GLS Safety Rope Switches

GLM and GLS Series Pull Cord Housings

- Three 1/2 in. NPT female fittings
- Includes one tamper-proof T20 Torx bit
- 57 mm, 63 mm, and 65 mm mounting profiles
- Rope Pull kits sold separately and recommended for increased reliability
- 50m, 80m, and 100m length systems

See electrical specifications later in this section.

IDEM GLM/GLS Interlock Safety Switches								
Part Number	Price	Construction Material	Weight (lb)	E-Stop	LED	Maximum Rope Length	Contact Configuration	Dimensions
GLM-143002		57mm die-cast Aluminum	1.5	No	No	50m/164 ft.*	1 N.O., 2 N.C. Slow	Figure 1
GLM-143051			1.5	No	No		1 N.O., 3 N.C.	Figure 1
GLM-143053			1.5	No	No		2 N.O., 2 N.C.	Figure 1
GLM-143057			1.6	Yes	No		1 N.O., 3 N.C.	Figure 1
GLM-143067-AS			1.7	Yes	24VDC		1 N.O., 3 N.C.	Figure 2
GLM-143067-BS			1.7	Yes	110VAC		1 N.O., 3 N.C.	Figure 2
GLS-142002		63mm die-cast Aluminum	1.75	No	No	80m/262 ft.*	1 N.O., 2 N.C.	Figure 3
GLS-142051			1.75	No	No		1 N.O., 3 N.C.	Figure 3
GLS-142053			1.75	No	No		2 N.O., 2 N.C.	Figure 3
GLS-142063			1.85	Yes	No		1 N.O., 3 N.C.	Figure 3
GLS-142075-AS			1.9	Yes	24VDC		1 N.O., 3 N.C.	Figure 4
GLS-142075-BS			1.9	Yes	110VAC		1 N.O., 3 N.C.	Figure 4
GLS-SS-144002		65mm stainless steel	4.2	No	No	100m/328 ft.*	1 N.O., 3 N.C.	Figure 5
GLS-SS-144004			4.2	No	No		2 N.C., 2 N.O.	Figure 5
GLS-SS-144014			4.3	Yes	No		1 N.O., 3 N.C.	Figure 5
GLS-SS-144020-AS			4.4	Yes	24VDC		1 N.O., 3 N.C.	Figure 6
GLS-SS-144020-BS			4.4	Yes	110VAC		1 N.O., 3 N.C.	Figure 6

*See Recommended Rope Span Options and Fittings for number of switches recommended with specific maximum rope lengths.

[GLM-143067-AS](#)



[GLS-142053](#)



[GLS-SS-144020-AS](#)



Cable Kits for IDEM Cable-Pull Safety Switches

- One end of cables terminated with a thimble, permanent clamp, and a threaded quick link
- 4mm diameter cable with red plastic coating
- 4mm Allen key
- Kit includes everything needed for installation

Cable Kits for IDEM Cable-Pull Safety Switches					
Part Number	Price	Description	Cable Length	Construction Material	Weight (lb)
140002		Includes (1) cable, (5) eyebolts, (1) tensioner / gripper and (1) allen key.	10m/32 ft	Galvanized steel	0.8
140011				Stainless steel	1.3
140004		Includes (1) cable, (9) eyebolts, (1) tensioner / gripper and (1) allen key.	20m/65 ft	Galvanized steel	2.2
140013				Stainless steel	2.9
140005		Includes (1) cable, (12) eyebolts, (1) tensioner / gripper and (1) allen key.	30m/98 ft	Galvanized steel	2.8
140014				Stainless steel	3.9
140006		Includes (1) cable, (20) eyebolts, (1) tensioner / gripper and (1) allen key.	50m/164 ft	Galvanized steel	4.5
140015				Stainless steel	6.0
140007		Includes (1) cable, (30) eyebolts, (2) tensioner / grippers and (1) allen key.	80m/262 ft	Galvanized steel	7.0
140016				Stainless steel	9.5

[140002](#)



IDEM GLM and GLS Safety Rope Switches

Dimensions

mm [in]

Figure 1

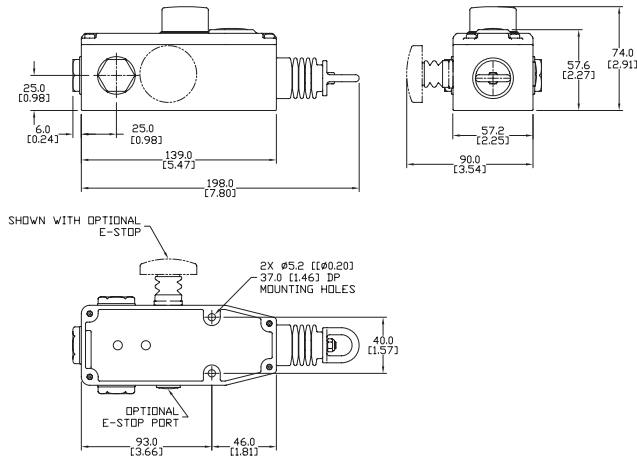


Figure 2

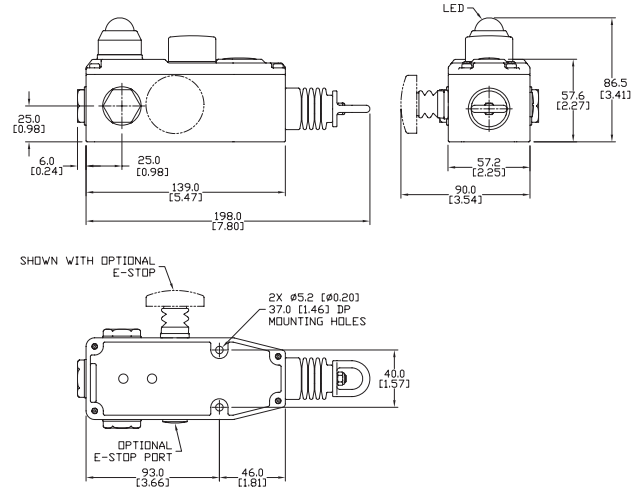


Figure 3

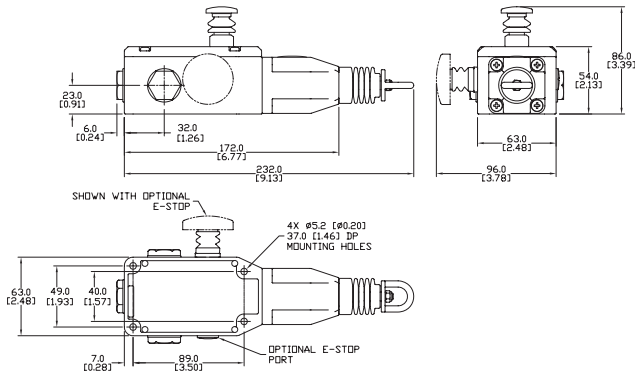


Figure 4

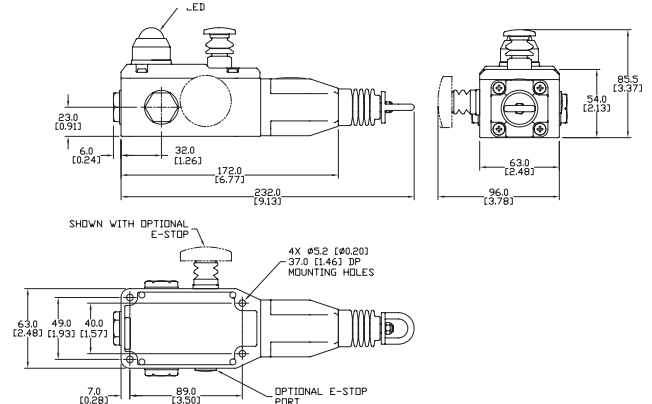


Figure 5

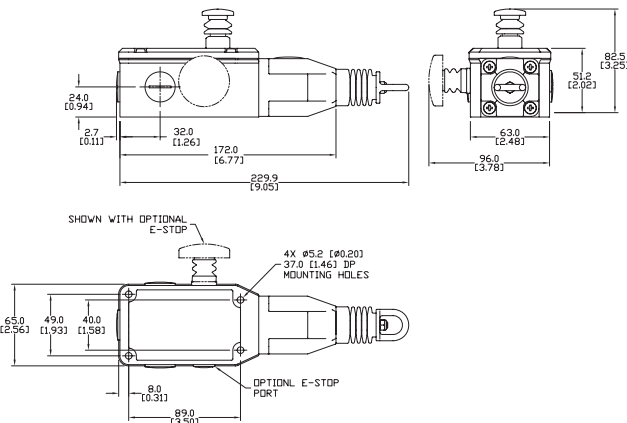
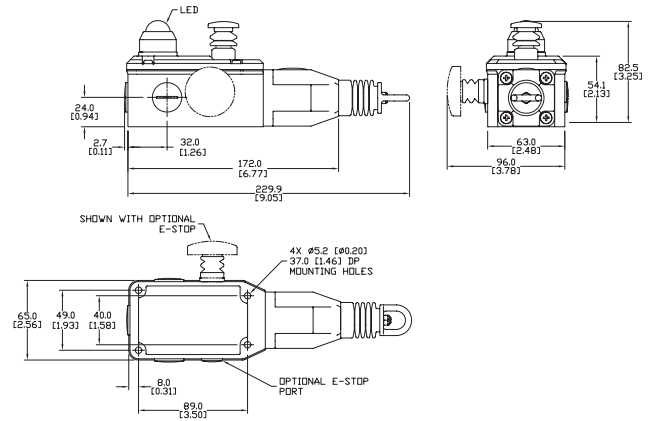


Figure 6



IDEM Interlock Safety Rope Switch Accessories

Steel Cable for IDEM Cable-Pull Safety Switches				
Part Number	Price	Description	Cable Length	Weight (lb)
140033		5 meter length steel cable, 4mm diameter, red	5m/16 ft.	0.35
140034		10 meter length steel cable, 4mm diameter, red	10m/32 ft.	0.7
140036		20 meter length steel cable, 4mm diameter, red	20m/65 ft.	1.4
140037		30 meter length steel cable, 4mm diameter, red	30m/98 ft.	2.1
140038		50 meter length steel cable, 4mm diameter, red	50m/164 ft.	3.5
140039		80 meter length steel cable, 4mm diameter, red	80m/262 ft.	5.4
140040		100 meter length steel cable, 4mm diameter, red	100m/328 ft.	6.6
140041		126 meter length steel cable, 4mm diameter, red	126m/413 ft.	8.42



IDEM Interlock Safety Switch Accessories					
Part Number	Price	Description	Construction Material	Weight (lb)	Dimensions
140019		Cable Tensioner / Gripper. Includes 4mm allen wrench	Stainless Steel	0.5	Figure 1
140020			Galvanized Steel	0.3	Figure 1
140021		Pulley assembly	Stainless Steel	0.3	Figure 2
140064			Galvanized Steel	0.2	Figure 2
140045		Eye bolt 84mm long, M8 x 1.25 threads. Includes (2) flat washers and (2) nuts per eye bolt. Package of 8.	Stainless Steel	0.8	Figure 3
140046			Galvanized Steel	0.5	Figure 3
140043		Spring, 220mm long	Stainless Steel	0.4	Figure 4
140132-AS		Replacement LED assembly, 24VDC, bi-color steady green and red. Use with GLM, GLS or GLS-SS series cable pull switches.	NA	0.08	NA
140132-BS		Replacement LED assembly, 110VAC, bi-color steady green and red. Use with GLM, GLS or GLS-SS series cable pull switches.	NA	0.08	NA



Dimensions

mm [in]

Figure 1

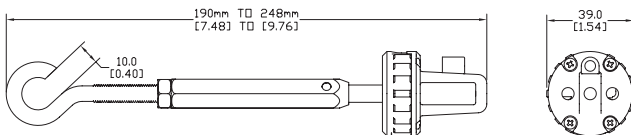


Figure 2

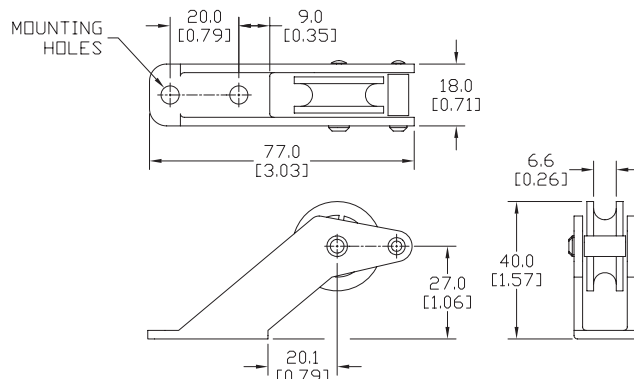


Figure 3

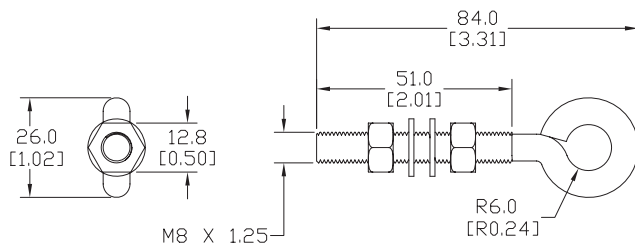
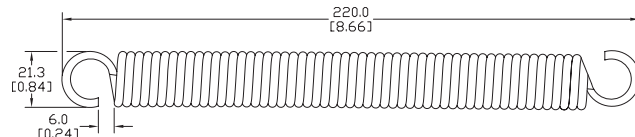


Figure 4



IDEM Interlock Rope Span Options

Recommended Options and Fittings

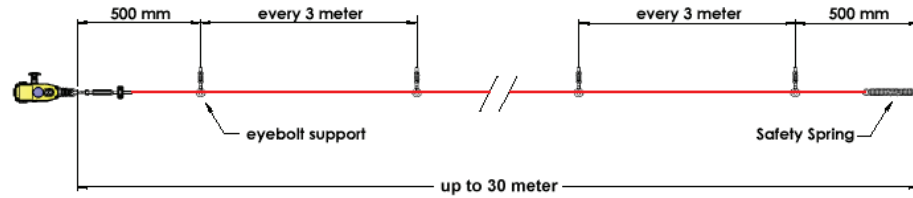
Recommended options and fittings:

- Use two switches when using two pulleys
- When using a safety spring, use a maximum of one corner pulley

GLM 30m

Up to 30m

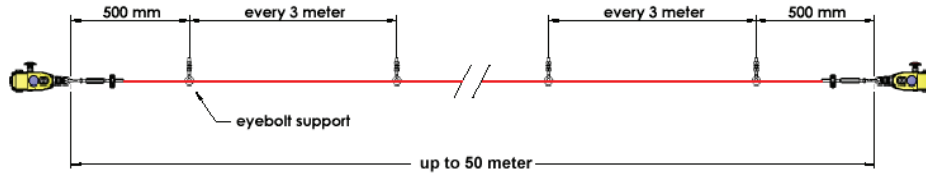
1 switch/1 spring



GLM 50m

30 to 60m

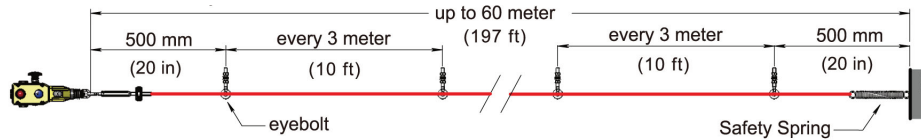
2 switches



GLS 60m

Up to 60m

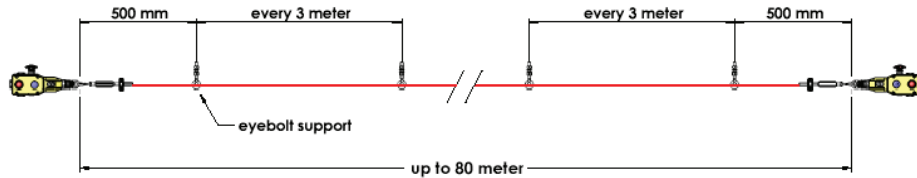
1 switch/1 spring



GLS 80m

60 to 80m

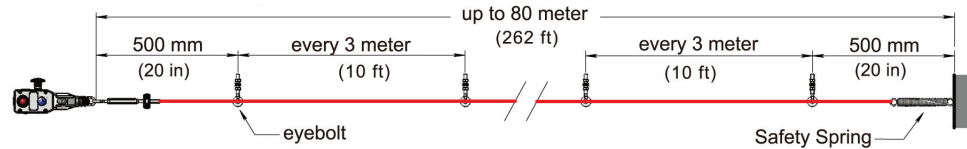
2 switches



GLS-SS 80m

Up to 80m

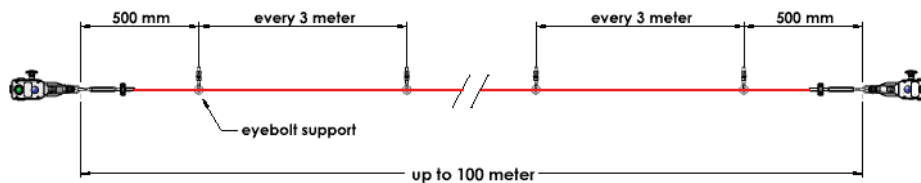
1 switch/1 spring



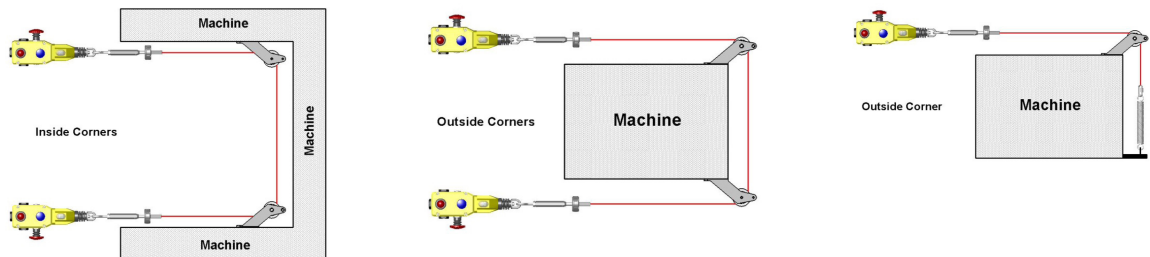
GLS-SS 100m

80 to 100m

2 switches



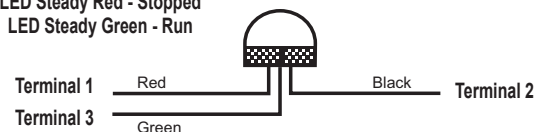
Universal Pulley Examples



LED

When power is applied to the Red wire (terminal 1), the lamp will illuminate Red. When power is applied to the Green Wire (terminal 3), the Lamp will illuminate Green. Black is 0 VDC or Neutral for 110 VAC and 230 VAC versions.

LED Steady Red - Stopped
LED Steady Green - Run

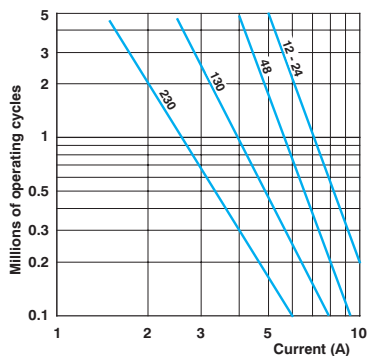


IDEM Interlock Safety Switches Specifications

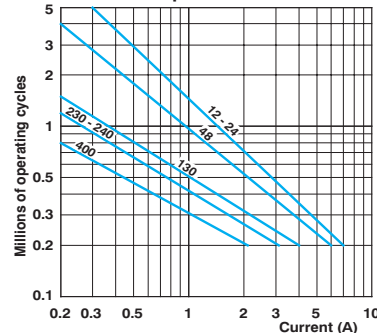
Specifications							
	IDIS	KM	KP/K-SS	K-15	GLM/GLS	INCH/MK1	HC
Safety Classification and Reliability Data							
Switching Reliability (B10d)	2.5 x 10 ⁶ operations at 100mA load						
ISO 13849-1	Up to PLe depending upon system architecture						
EN 62061	Up to SIL3 depending upon system architecture						
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days						
Agency Approvals	cULus (E258676), CE, TUV (rope pull switches)						
Electrical and General Specifications							
Conductor Sizes	16-12 AWG (1.5 to 2.5 mm ²)						
Utilization Category	AC15, A300, 3A						
Thermal Current	10A						
Short Circuit Overload Protection	External 10A Fast Acting recommended						
Rated Insulation Voltage	500 VAC				600 VAC		
Contact Terminals	Stainless steel (Snap action Plated Brass); Max conductor 1.5 m ² (IDIS), 2.5 m ² (KM, K/K-15); 1 Nm torque						
Max. Switching Current	2.5A @24 VDC 6A @ 120VAC, 3A @ 240VDC (720VA Break)						
Maximum Approach/Withdrawal Speed	600mm/s						
Enclosure Protection	IP67 (IP69K on all models with both stainless steel head and body)				IP67 Plastic or IP69K Stainless Steel 316		
Operating Temperature	-25C to 80C / -13F to 176F						
Vibration	IEC 68-2-6, 10-55Hz+1Hz						
Lid Screws/Torque	Plated Brass; 1Nm (0.74 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel; 1Nm (0.74 lb-ft)		Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel; 1Nm (0.74 lb-ft)	
Recommended Mounting Screws/Torque	M4; 1.5 Nm (1.11 lb-ft)	M5; 4Nm (2.95 lb-ft)			M4; 1.5 Nm (1.11 lb-ft)		
Head Screws/Torque	Stainless Steel, except snap (Plated Brass); 1Nm (0.74 lb-ft)	Stainless Steel; T20 Torx; 1Nm (0.74 lb-ft)	Stainless Steel; 1Nm (0.74 lb-ft)				

Electrical Durability (according to IEC 947-5-1)

AC-15 Slow Action



AC-15 Snap Action



IDEM Interlock/Hinge Safety Travel Charts

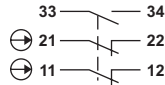
Interlock Safety Switch Types

Slow-make/slow-break contacts: A contact element in which the contact motion is dependent on the actuator speed.

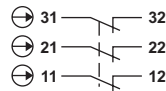
Snap-action contact: A contact element in which the contact motion is independent of the speed of the actuator. This feature ensures reliable electrical performance even in applications involving very slow moving actuators.

Contacts Configuration

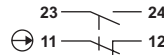
1 N.O. and 2 N.C.
Slow-make/ slow-break contacts



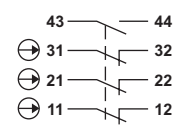
3 N.C.
Slow-make/ slow-break contacts



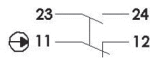
1 N.O. and 1 N.C.
Snap action contacts



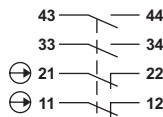
1 N.O. and 3 N.C.
Slow-make/ slow-break contacts



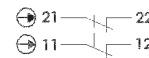
1 N.O. and 1 N.C.
Slow-make/ slow-break contacts



2 N.O. and 2 N.C.
Slow-make/ slow-break contacts



2 N.C.
Slow-make/ slow-break contacts



Travel Charts



Interlock Switches

2NC 1NO 6.8 6.0 0 mm

11/12	Open	
21/22	Open	
33/34		Open

3NC 6.0 0 mm

11/12	Open	
21/22	Open	
31/32	Open	

3NC 1NO 6.8 6.0 0 mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

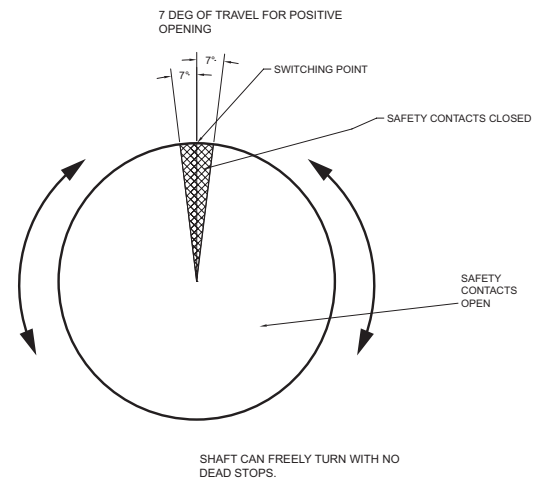
2NC 2NO 6.8 6.0 0 mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

1NC 1NO (SNAP) 6.5 0 mm

11/12	Open	
23/24		Open

Hinge Switch



User to ensure that by correct positioning of the shaft at installation causes the safety contacts to open such that no hazard exists to the operator when the door is opened a few degrees.

Safety Rope Switches

	0 mm	3.5 mm	14.5 mm	17.0 mm		
EX	1 N.O./2 N.C.	1 N.O./3 N.C.	2 N.O./2 N.C.	Latched off - Rope Slack	Tension Range (Switch Reset)	Rope Pulled
NC	11/12	11/12	11/12	Open		Open
	21/22	21/22	21/22	Open		Open
		31/32		Open		Open
NO	33/34	43/44	33/44		Open	
			43/44		Open	

130N Force

Safety Products



Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

AutomationDirect does not provide design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with the safety requirements for any application.