IDEM Explosion-Proof Safety Cable-Pull Switches



IDEM's range of explosion-proof cable-pull switches has been developed to satisfy the latest IECEx and ATEX Standards and provide explosion-proof switching for use in hazardous locations created within the oil, chemical, pharmaceutical, food processing, packaging and other hazardous industries.

These switches provide positively operated switching contacts. They combine explosion-proof protection and satisfy high functional safety requirements all in one device.

These switches are manufactured with ATEX Exd IIC T6 certified explosion proof contact blocks. All electrical switching elements are fully encapsulated.

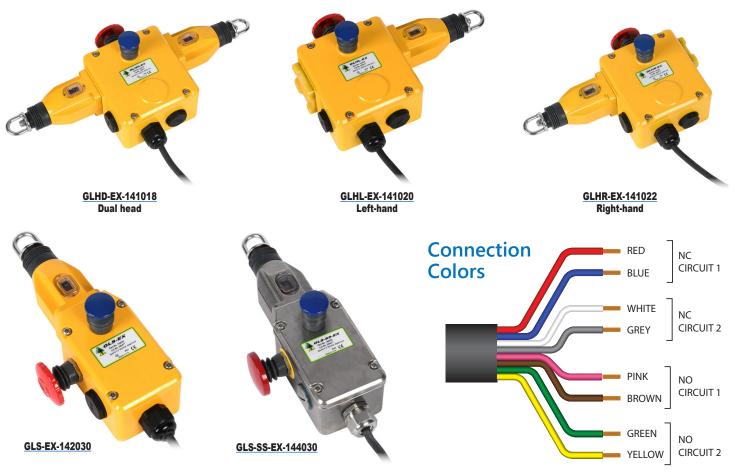
Features

- 3m [9.84 ft] prewired pigtail cable
- Includes one tamper-proof T20 Torx bit
- Rope Pull kits sold separately and recommended for increased reliability
- 80m [262ft], 100m [328ft], 125m [410ft] and 250m [820ft] maximum length systems



IDEM Explosion-Proof Safety Cable-Pull Switches									
Part Number	Price	Maximum Rope Length	Construction Material	Mounting Profile	E-Stop	LED	Contact Configuration	Weight (lb [kg])	Drawings
GLS-EX-142030	\$770.00	80m [262ft]	Die-cast aluminum	100mm [3.94 in]	Yes	No	2 NO, 2 NC	2.34 [1.06]	<u>PDF</u>
GLS-SS-EX-144030	\$1,010.00	100m [328ft]	316 stainless steel	100mm [3.94 in]	Yes	No	2 NO, 2 NC	4.59 [2.08]	<u>PDF</u>
GLHL-EX-141020	\$785.00	125m [410ft]	Die-cast aluminum	100mm [3.94 in] Left-hand head	Yes	No	2 NO, 2 NC	2.89 [1.31]	<u>PDF</u>
GLHR-EX-141022	\$785.00	125m [410ft]	Die-cast aluminum	100mm [3.94 in] Right-hand head	Yes	No	2 NO, 2 NC	2.89 [1.31]	PDF
GLHD-EX-141018	\$977.00	250m [820ft]	Die-cast aluminum	100mm [3.94 in] Dual head	Yes	No	2 NO, 2 NC	3.39 [1.54]	<u>PDF</u>

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



IDEM Cable-Pull Safety Rope Switches



	Cable Kits for IDEM Cable-Pull Safety Switches								
Part Number	Price	Description	Cable Length (m [ft])	Construction Material	Weight (lb [kg])				
140002	\$96.00	Includes (1) cable, (5) eyebolts,	10 [20]	Galvanized steel	0.8 [0.36]				
140011	\$133.00	(1) tensioner / gripper and (1) allen key.	10 [32]	Stainless steel	1.3 [0.59]				
140004	\$135.00	Includes (1) cable, (9) eyebolts,	20 [65]	Galvanized steel	2.2 [1.0]				
140013	\$160.00	(1) tensioner / gripper and (1) allen key.	20 [05]	Stainless steel	2.9 [1.32]				
<u>140005</u>	\$152.00	Includes (1) cable, (12) eyebolts,	30 [98]	Galvanized steel	2.8 [1.27]				
140014	\$191.00	(1) tensioner / gripper and (1) allen key.	30 [96]	Stainless steel	3.9 [1.77]				
140006	\$182.00	Includes (1) cable, (20) eyebolts,	E0 [464]	Galvanized steel	4.5 [2.04]				
140015	\$215.00	(1) tensioner / gripper and (1) allen key.	50 [164]	Stainless steel	6.0 [2.72]				
140007	\$203.00	Includes (1) cable, (30) eyebolts,	90 (262)	Galvanized steel	7.0 [3.18]				
140016	\$271.00	(2) tensioner / grippers and (1) allen key.	80 [262]	Stainless steel	9.5 [4.31]				
140009	\$244.00	Includes (1) cable, (45) eyebolts,	126 [413]	Galvanized steel	13.9 [6.28]				
<u>140018</u>	\$340.00	(0) () () () () () ()		Stainless steel	14.0 [6.35]				





	Steel Cable for IDEM Cable-Pull Safety Switches							
Part Number Price		Description	Cable Length (m [ft])	Weight (lb [kg])				
140033	\$20.50	5m length steel cable, 4mm diameter, red	5 [16]	0.35 [0.16]				
<u>140034</u>	\$30.00	10m length steel cable, 4mm diameter, red	10 [32]	0.7 [0.32]				
<u>140036</u>	\$46.00	20m length steel cable, 4mm diameter, red	20 [65]	1.4 [0.64]				
140037	\$59.00	30m length steel cable, 4mm diameter, red	30 [98]	2.1 [0.95]				
<u>140038</u>	\$81.00	50m length steel cable, 4mm diameter, red	50 [164]	3.5 [1.59]				
140039 \$121.00		80m length steel cable, 4mm diameter, red	80 [262]	5.4 [2.45]				
<u>140040</u>	\$141.00	100m length steel cable, 4mm diameter, red	100 [328]	6.6 [2.99]				
<u>140041</u>	\$160.00	126m length steel cable, 4mm diameter, red	126 [413]	8.42 [3.82]				

	IDEM Cable-Pull Safety Switch Accessories						
Part Number	Price	Description	Construction Material	Weight (lb [kg])	Drawings		
<u>140019</u>	\$91.00	Cable tensioner / gripper. Includes 4mm allen wrench	Stainless steel	0.5 [0.27]	<u>PDF</u>		
<u>140020</u>	\$57.00	Cable tensioner / gripper. Includes 4mm allen wiench	Galvanized steel	0.3 [0.14]	<u>PDF</u>		
<u>140021</u>	\$39.00	Pulley assembly	Stainless steel	0.3 [0.14]	<u>PDF</u>		
<u>140064</u>	\$25.50	Fulley assembly	Galvanized steel	0.2 [0.09]	<u>PDF</u>		
<u>140045</u>	\$40.00	Eye bolt 84mm long, M8 x 1.25 threads. Includes (2) flat washers and (2) nuts per	Stainless steel	0.8 [0.36]	<u>PDF</u>		
<u>140046</u>	\$21.00	eye bolt. Package of 8.	Galvanized steel	0.5 [0.27]	<u>PDF</u>		
140043	\$27.00	Spring, 220mm long	Stainless steel	0.4 [0.18]	PDF		
140132-AS	\$50.00	Replacement LED assembly, 24VDC, bi-color steady green and red. Use with GL series cable pull switches.	NA	0.08 [0.04]	PDF		
<u>140132-BS</u>	\$59.00	Replacement LED assembly, 110VAC, bi-color steady green and red. Use with GL series cable pull switches.		0.08 [0.04]	PDF		











140132-AS

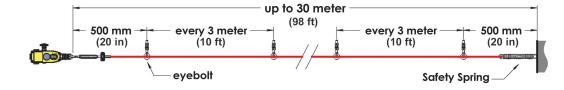
140043

IDEM Cable-Pull Rope Span Options and Fittings



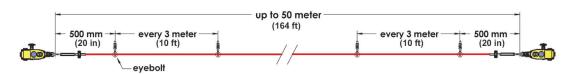
Recommended Rope Span Installations

GLM 30mUp to 30m [98ft] 1 switch / 1 spring



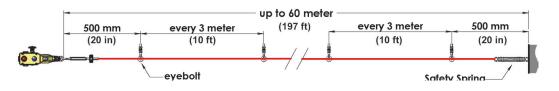
GLM 50m

30 to 60m [98 to 197ft] 2 switches



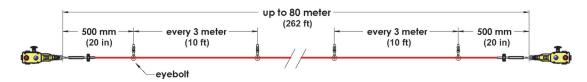
GLS 60m

Up to 60m [197ft] 1 switch / 1 spring



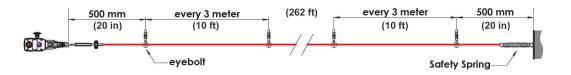
GLS 80m

60 to 80m [197 to 262ft] 2 switches



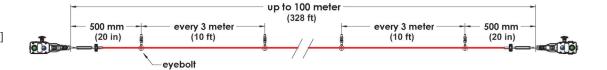
GLS-SS 80m

Up to 80m [262ft] 1 switch / 1 spring



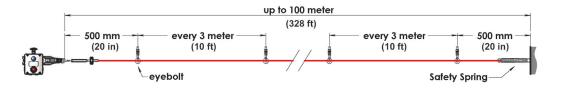
GLS-SS 100m

80 to 100m [262 to 328ft] 2 switches



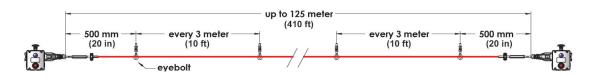
GLHL/R 100m With Safety Springs

Up to 100m [328ft] 1 switch / 1 spring



GLHL/R 125m

Up to 125m [410ft] 2 switches



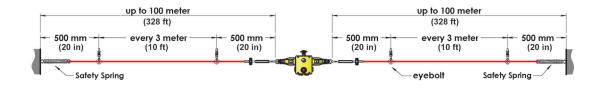
IDEM Cable-Pull Rope Span Options and Fittings



Recommended Rope Span Installations (continued)

GLHD 200m With Safety Springs

Up to 200m [656ft] (100m [328ft] on each side) 1 switch / 2 springs



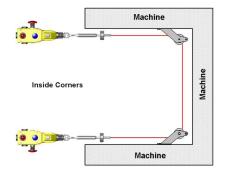
GLHD/L/R 250m

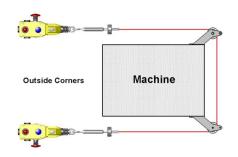
Up to 250m [820ft] (125m [410ft] on each side) 2 switches

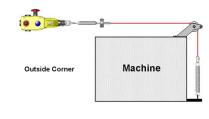


Universal Pulley Examples

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

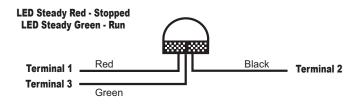






LED

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 OVDC or neutral for 110 VAC and 230VAC versions.



IDEM Explosion-Proof Safety Switches Specifications



	Specifications							
	HLM-EX / HLM-SS-EX KM-EX / KM-SS-EX KP-EX / K-SS-EX GLS-EX / GLS-SS-EX GLHx-EX							
	Safety Classification and Reliability Data							
Switching Reliability (B10 _d)	2.5 x 10 ⁶ operations at 100mA load 1.5 x 10 ⁶ operations at 100mA load				ns at 100mA load			
ISO 13849-1		Up to PI	_e depending upon system arcl	hitecture				
EN 62061		Up to SI	L3 depending upon system arc	hitecture				
Safety Data - Annual Usage		8 cycles	per hour / 24 hours per day / 3	365 days				
MTTF _d		356 years		214 :	/ears			
Agency Approvals		The contact block	ATEX, IECEx, CE c is cURus Hazardous Location	rated (E358295)				
		Electrical and Gene	eral Specifications					
Utilization Category			B300 (pilot duty)					
Minimum Switch Current	5mA, 5VDC							
Thermal Current			2.5 A max					
Maximum Switching Current			250VAC/DC, 2.5 A maximum					
Maximum Approach/Withdrawal Speed		600mm/s [23.6 in/s] NA			A			
Enclosure Protection		IP67 (IP69K on all	models with both stainless ste	el head and body)				
Operating Temperature			-20°C to 60°C [-4°F to 140°F]					
Vibration	IEC 68-2-6, 10Hz to 55Hz 0.35mm [0.01 in]	IEC 68-2-6, 10Hz to 55Hz + 1Hz						
Lid Screws/Torque	Plated brass 1 N•m [0.74 lb•ft]	Stainless steel T20 Torx 1 N•m [0.74 lb•ft]	Stainless steel		Stainless steel T20 Torx 1.5 N•m [1.11 lb•ft]			
Recommended Mounting Screws/ Torque	M4 2 N•m [1,48 lb•ft]	M5 4N•m [2.95 lb•ft]						
Head Screws/Torque	Stainless steel, except snap (plated brass) 1 N•m [0.74 lb•ft]	Stainless steel T20 Torx Stainless steel; 1 N•m [0.74 lb•ft] 1 N•m [0.74 lb•ft]			[]			

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 NO and 2 NC

3 NC

2 NO and 2 NC

Slow-make/slow-break contacts

1 NO and 1 NC

1 NO and 3 NC

Slow-make/slow-break contacts

1 NO and 1 NC

Slow-make/slow-break contacts

Slow-make/slow-break contacts

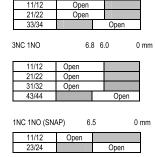
Slow-make/slow-break contacts

Travel Charts



Interlock Switches

2NC 1NO



6.8 6.0

0 mm

3NC	6.0			mm (
11/12	Open			
21/22	Open			
31/32	Open			
2NC 2NO	6.8	6.0		0 mm
11/12	Open			
21/22	Open			
33/34			Open	
43/44			Open	

7 DEG OF TRAVEL FOR POSITIVE OPENING Hinge Switch SAFETY CONTACTS CLOSED SAFETY CONTACTS OPEN

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 de

SHAFT CAN FREELY TURN WITH NO DEAD STOPS.

Safety Rope Switches

EX 1 NO/2 NC 1 NO/3 N.C. 2 NO/2 N.C. 11/12 11/12 11/12 NC 21/22 21/22 21/22 31/32 43/44 33/44 NO 43/44

0 mm 3.5	5 mm	14.5 r	mm 17.0	mm
Latched off - Rope Slack		nge (Switch set)	Rope Pulled	
Open			Open	
Open			Open	
Open			Open	
	Ol	pen		
	O	pen		

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.