P.O. Box 652
Fremont, Indiana 46737
P: (260) 495-9811 • F: (260) 495-2186
Email: sales@reesinc.com
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Depend on our switches for the immediate shut off of conveyors, material handling systems and other equipment vital to employee safety.

Material Handling Industry
Refineries
Coal Mining
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REES

SINCE
1 • 9 • 2 • 9

Warning – Danger

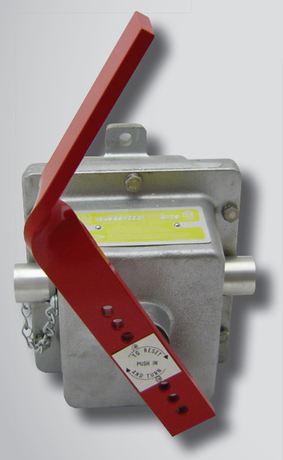
These products should only be used where point-of-operation guarding devices have been properly installed and maintained so that all appropriate OSHA and ANSI B 11.1 regulations and standards are met. Misapplication of these products on machinery lacking effective point-of-operation safeguards can cause serious injury to the operator of that machinery.

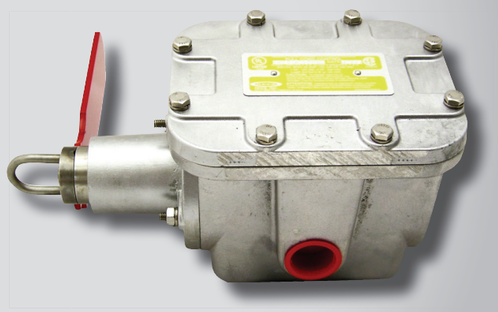
Product selection

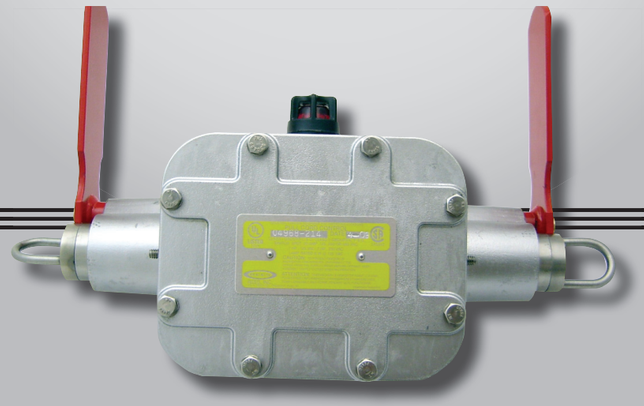
Due to the variety of operating conditions and applications for the products, the user, through their own analysis and testing, is solely responsible for making the final selection of the product and assuring that all performance, safety and warning requirements of the application are met.

FEATURING:

Explosion Proof Switches







INTRODUCTION

REES EXPLOSION PROOF CABLE OPERATED SWITCHES

Rees, Inc. now offers rugged cable operated switches for use in hazardous atmospheres as defined by the National Electric Code handbook and the National Electrical Manufacturers Association Stands for NEMA 7 and 9 hazardous locations. Specifically, they are listed for Class I, Div. I, Groups C and D and Class II, Div. I, Groups E, F and G.

These switches provide a quick positive shut off of dangerous equipment in an emergency or normal operation by pulling on the attached cable. The output contacts can control up to two separate circuits, one for machinery shutdown and one for alarm.

Available styles include; taut cable with broken cable detection, slack cable with a positive safety lock and slack cable with flag status indicators.

Operators of conveyors, assembly lines, material handling systems, etc. will be provided with a means to safely and quickly stop equipment with the pull of cable installed for easy access.

NEMA Type 7 – Hazardous Locations – Class I, Groups C or D (Flammable Gases)
Designed to meet the applications requirements of the National Electrical Code and is in accordance with the latest specifications of Underwriters' Laboratories, Inc., for Groups C and D, Class I (Atmospheres containing ethyl ether vapor, ethylene, cyclo-propane, gasoline, hexane, naphtha, benzene, butane, propane, acetone, benzol, lacquers, solvent vapors and natural gas.

NEMA Type 9 – Hazardous Locations – Class II, Groups E, F and G (Combustible Dust)
Designed to meet application requirements under the National Electrical Code and also in accordance with Underwriters' Laboratories for requirements of Class II, Group E, F and G locations. (Atmospheres containing metal dust, including aluminum, magnesium (and their commercial alloys), and other materials of slightly hazardous characteristics: carbon, back coal or coal dust, flour, starch or grain dust.)

Class I, Division 1 – Where ignitable concentration of flammable gases, vapors or liquids can exist all of the time or some of the time under normal operating conditions.

Class II, Division 1 – Where ignitable concentrations of combustible dust can exist all of the time or some of the time under normal operation conditions.

ASME B20.1-2000, 5.11.4 – Conveyor controls shall be so arranged that, in case of emergency stop, manual reset or start at the location where the emergency stop was initiated shall be required for the conveyor(s) and associated equipment to resume operations.

Explosion Proof Switch

WARNING – DANGER
These products should only be used where point-of-operation guarding devices have been properly installed & maintained so that appropriate OSHA and ANSI B11.1 regulations & standards are met. Misapplication of the products on machinery lacking effective point-of-operation safeguards can cause serious injury to the operator of that machinery.

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Explosion Proof Switch

-WITH ACTUATING ARM-

FEATURES/ APPLICATIONS

These slack cable style switches are equipped with a positive safety lock. Once actuated, they cannot be accidentally reset causing dangerous equipment to restart.

The cable may be extended in either or both directions with no changes required in the internal mechanism. There is one electrical connection inside eliminating the double electrical connections typically required in two ended units employing a separate micro switch for cable in each direction.

The actuation force required is simply adjusted in the field by attaching the cable to any one of the three holes provided on the switch actuating arm.

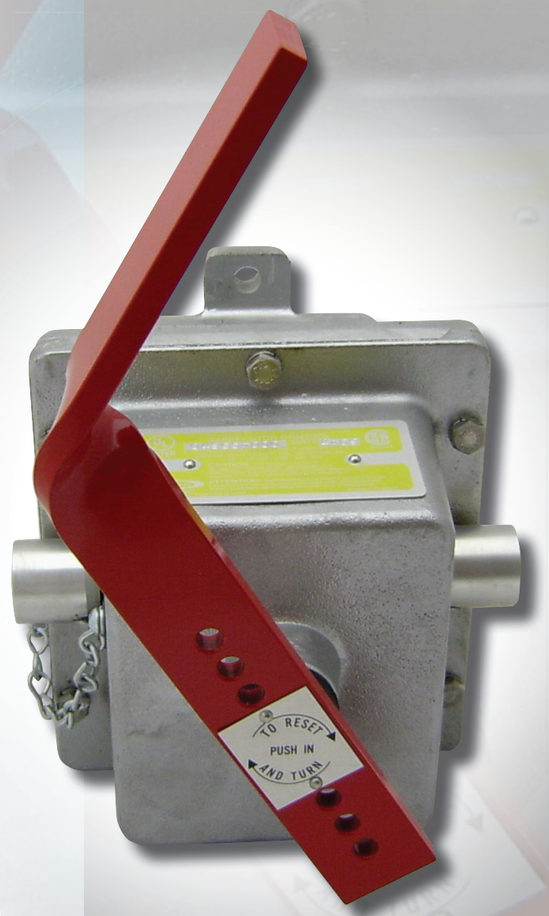
The standard construction of these switches consists of the corrosion resistant aluminum housing complete with stainless steel hardware, red powder coated actuation handle and stainless steel actuation shaft.

These switches are usually installed with cable running in both directions from the crank type actuating arm. The cable should be supported by eyebolts every 10 feet to ensure that the weight of the cable alone will not actuate the switch.

Recommended cable length is 100 feet maximum on each end.

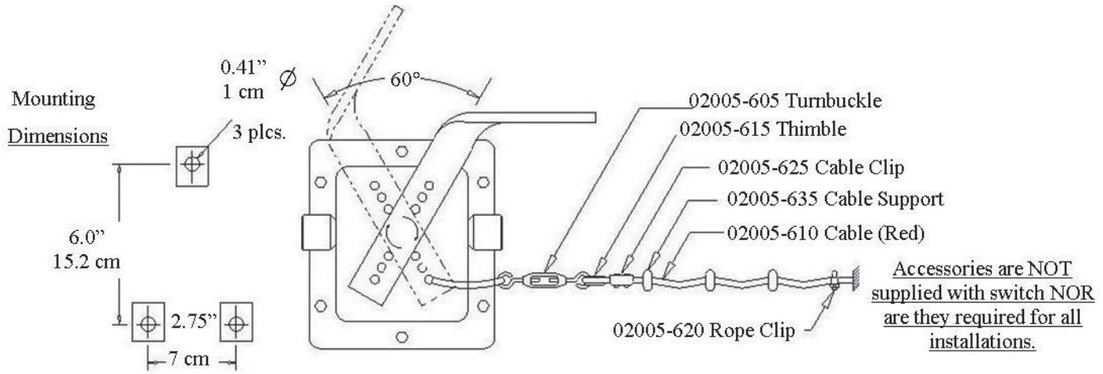
A pull on the cable at any point will rotate the red actuation arm 60 degrees. The actuation arm will end in a position that is easily seen from a distance, thus identifying the actuated unit. Two spring loaded detents riding on a hardened steel cam provide resistance to arm rotation. When the actuation force overcomes this resistance the assembly rotates 60 degrees and is locked in place by the detents. Affixed to the rotating shaft is a cam mechanism which actuates up to two micro switches during rotation. The micro switches are held in the actuated position by the detents.

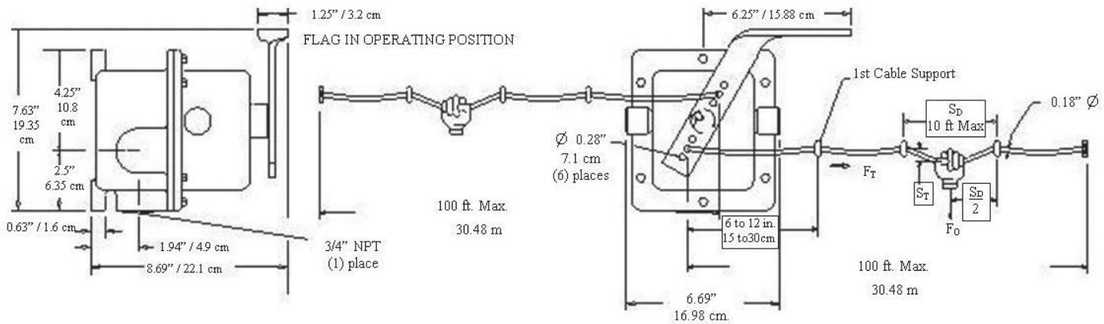
To reset the switch and deactivate the micro switches, the actuation arm must be pushed in and rotated backwards.



04965-000

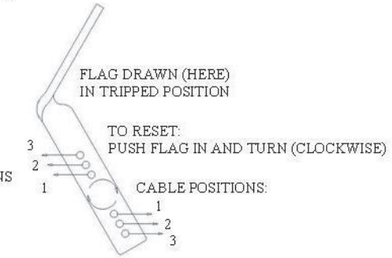
DETAILS





F_T = The value of force, along the cable, which trips the switch.
F_O = The value of force, applied by the operator perpendicular to the cable, which trips the switch.
S_D = The distance between the cable supports.
S_T = The distance the cable is deflected at the time of tripping.

** S_T is in addition to any slack "droop" required for set-up.



Catalog Number	Contact Arrangement	Cable Position	F_T Trip Force	S_D = 5 ft. / 1.5 m		S_D = 10 ft. / 3.0 m	
				F_O	S_T **	F_O	S_T
04965-000	1 (NO / NC) SPDT	1	40 lb. / 18.1 kg	20 lb. / 9.1 kg	7.7 in. / 19.6 cm	15 lb. / 6.8 kg	10.8 in. / 27.4 cm
		2	28 lb. / 12.7 kg	14 lb. / 6.3 kg	9.2 in. / 23.2 cm	10.5 lb./ 4.8 kg	12.9 in. / 32.8 cm
		3	20 lb. / 9.1 kg	10 lb. / 4.5 kg	10.2 in. / 25.8 cm	7.5 lb. / 3.4 kg	14.3 in. / 36.3 cm
04965-200	2 (NO / NC) SPDT	1	40 lb. / 18.1 kg	20 lb. / 9.1 kg	7.7 in. / 19.6 cm	15 lb. / 6.8 kg	10.8 in. / 27.4 cm
		2	28 lb. / 12.7 kg	14 lb. / 6.3 kg	9.2 in. / 23.2 cm	10.5 lb./ 4.8 kg	12.9 in. / 32.8 cm
		3	20 lb. / 9.1 kg	10 lb. / 4.5 kg	10.2 in. / 25.8 cm	7.5 lb. / 3.4 kg	14.3 in. / 36.3 cm

UL Listed (File E327580);
These switches comply with: UL - 698;
Electrical Ratings: 20 A: 125, 250 or 480 VAC;
10 A: 125 VAC "L" (tungsten filament lamp load);
1 HP: 125 VAC; 2 HP: 250 VAC
½ A: 24 VDC; ½ A: 125 VDC; ¼ A: 250 VDC;

CSA Certified (245842 – 2130218);
CSA – C 22.2 No. 14, No. 25, & No. 30;
Explosion Rated: NEMA Type 7 – Class I, Groups C & D;
UL/NEMA Type 9 Class II, Groups E, F & G for Hazardous Locations

Operating Position: Can be mounted in any position.

Explosion Proof Switch

-with Actuating Arm & Broken Cable Detection-

FEATURES/ APPLICATIONS

These taut cable switches are equipped with a positive safety lock and broken cable option. Once actuated, they cannot be accidentally reset causing dangerous equipment to restart. The broken cable option feature ensures actuation even if the cable is broken or cut.

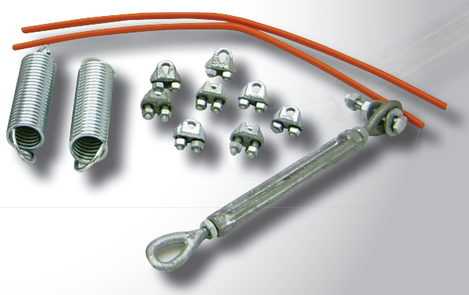
There is one electrical connection inside eliminating the double electrical connections typically required in two ended units employing a separate micro switch for cable in each direction. This style has extension springs (included with switch), attached to opposite ends of the pull cable, which maintain the cable under constant tension.

The switch is mounted so that it is centered between the end springs which minimizes any cable length changes caused by temperature changes. The operating handle is held in the center vertical position with the internal switch in a normally closed condition. If the cable is pulled or breaks, the handle rotates to release the switch lever. The alarm signal is generated for either condition. The operating handle must be manually reset back to the center position after the cause has been corrected.

The standard construction of these switches consists of the corrosion resistant aluminum housing complete with stainless steel hardware, red powder coated actuation handle and stainless steel actuation shaft.

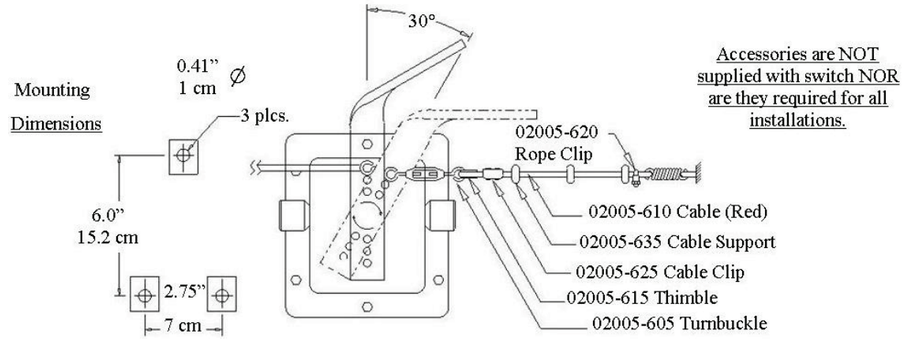
Recommended cable length is 100 feet maximum on each end.

The cable should be supported by eyebolts every 10 feet to ensure that the weight of the cable alone will not actuate the switch.

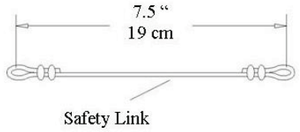


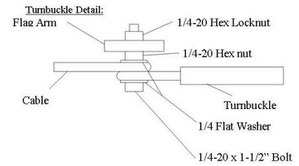
04966-000

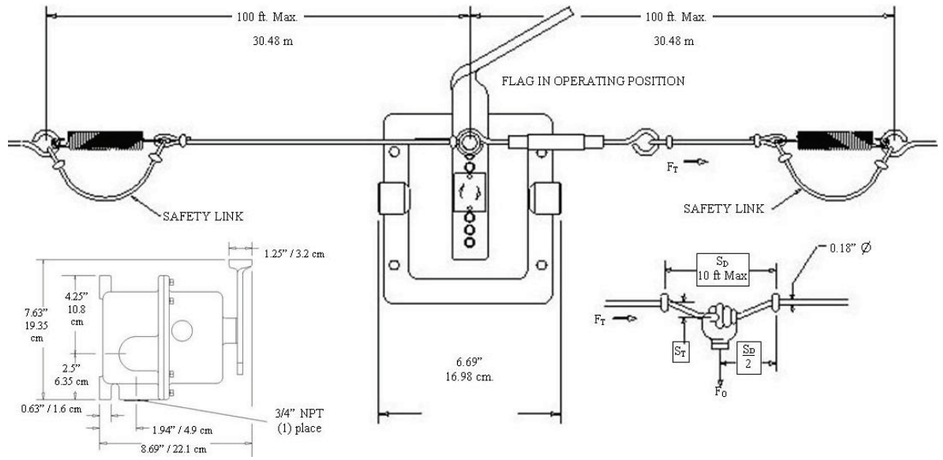
DETAILS



Accessories are NOT supplied with switch NOR are they required for all installations.







F_T = The value of force, along the cable, which trips the switch.
F_O = The value of force, applied by the operator perpendicular to the cable, which trips the switch.
S_D = The distance between the cable supports.
S_T = The distance the cable is deflected at the time of tripping.

Catalog Number	Contact Arrangement	Cable Position (hole)	F_T Trip Force	S_D = 5 ft. / 1.5 m		S_D = 10 ft. / 3.0 m	
				F_O	S_T	F_O	S_T
04966-000	1 (NO / NC) SPDT	Top	20 lb. / 9.1 kg	10 lb. / 4.5 kg	10.2 in. / 25.8 cm	7.5 lb. / 3.4 kg	14.3 in. / 36.3 cm
04966-200	2 (NO / NC) SPDT						

UL Listed (File E327580);
These switches comply with: U L- 698;
Electrical Ratings: 20 A: 125, 250 or 480 VAC;
10 A: 125 VAC "L" (tungsten filament lamp load);
1 HP: 125 VAC; 2 HP: 250 VAC
½ A: 24 VDC; ½ A: 125 VDC; ¼ A: 250 VDC;

Explosion Rated: NEMA Type 7 – Class I, Groups C & D;
UL/NEMA Type 9 Class II, Groups E, F & G for Hazardous Locations

Operating Position: Can be mounted in any position.

Explosion Proof Switch

-Flag Status Indicators-

FEATURES/ APPLICATIONS

Due to their rugged construction these heavy duty slack cable style switches withstand even harsh environments and conditions. They provide personnel with immediate positive shutdown of equipment.

The switches may be ordered with right hand, left hand or dual cable pull. Once the cable is properly connected to the switch a pull of approximately ½" will actuate the switch and trip the flag arm down locking the switch and flag arm in the actuated position. Unit is reset by returning the flag arm to the normal up position.

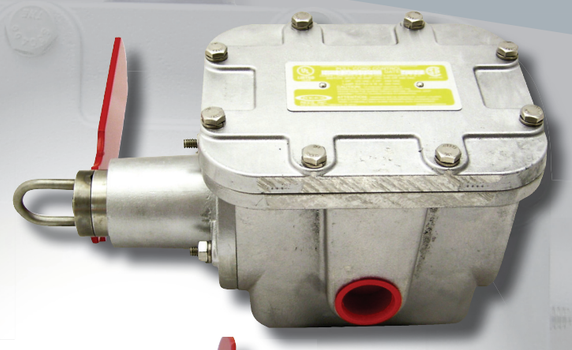
The standard actuation (pull) force of these switches is 16 lbs.

Recommended cable length is 100 feet maximum per end.

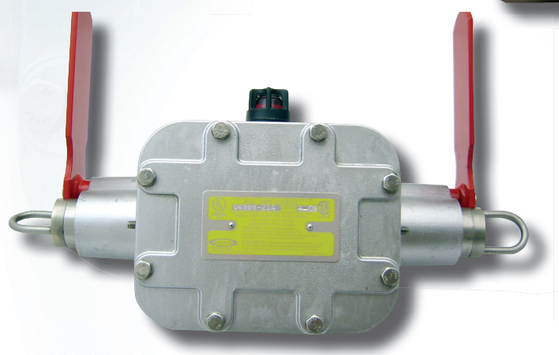
The cable must be supported every 10 feet to ensure that the weight of the cable alone will not actuate the switch.

The standard construction of these switches consists of the corrosion resistant aluminum housing complete with stainless steel hardware and red epoxy painted heavy duty flag(s).

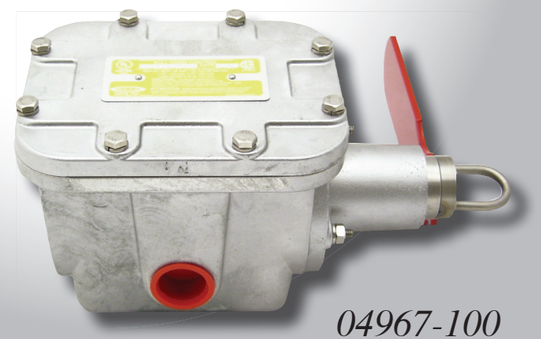
Switches are available with a warning light that may be wired to indicate actuation. Indicator lights are factory installed and cannot be added or removed by customer after purchasing. This permits easy identification of actuated switches in areas where visual identification is difficult.



04967-200

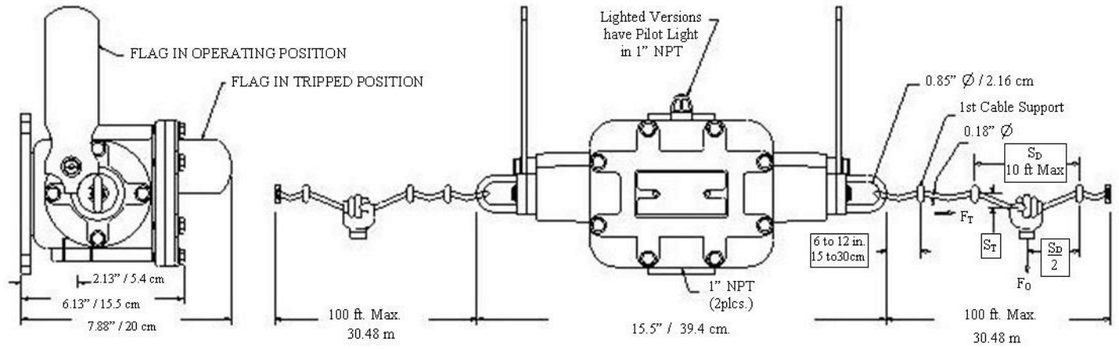


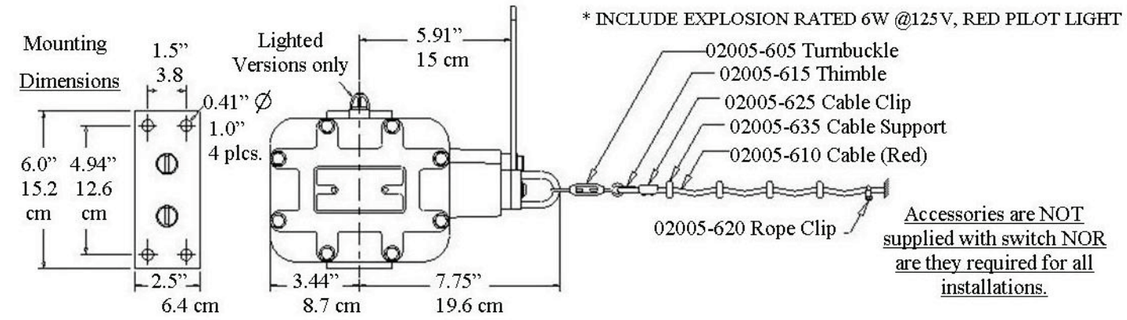
04968-214



04967-100

DETAILS





F_T = The value of force, along the cable, which trips the switch.
F_O = The value of force, applied by the operator perpendicular to the cable, which trips the switch.
S_D = The distance between the cable supports.
S_T = The distance the cable is deflected at the time of tripping. ** S_T is in addition to any slack "droop" req'd for set-up.

Catalog Number	Contact Arrangement - Per End	Operating End (Style)	F_T Trip Force	S_D = 5 ft. / 1.5 m		S_D = 10 ft. / 3.0 m	
				F_O	S_T	F_O	S_T
04967-100	1 (NO / NC) SPDT	Right	16 lb. 7.3 kg	2.7 lb. 1.2 kg	5 in. ** 12.7 cm	1.9 lb. 0.9 kg	7 in. ** 17.8 cm
04967-102	2 (NO / NC) SPDT						
04967-112 *	2 (NO / NC) SPDT, w / Light						
04967-200	1 (NO / NC) SPDT	Left					
04967-202	2 (NO / NC) SPDT						
04967-212 *	2 (NO / NC) SPDT, w / Light						
04968-202	1 (NO / NC) SPDT	Both	16 lb. 7.3 kg (each end)	2.7 lb. 1.2 kg (each end)	5 in. ** 12.7 cm (each end)	1.9 lb. 0.9 kg (each end)	7 in. ** 17.8 cm (each end)
04968-204	2 (NO / NC) SPDT						
04968-214 *	2 (NO / NC) SPDT, w / Light						

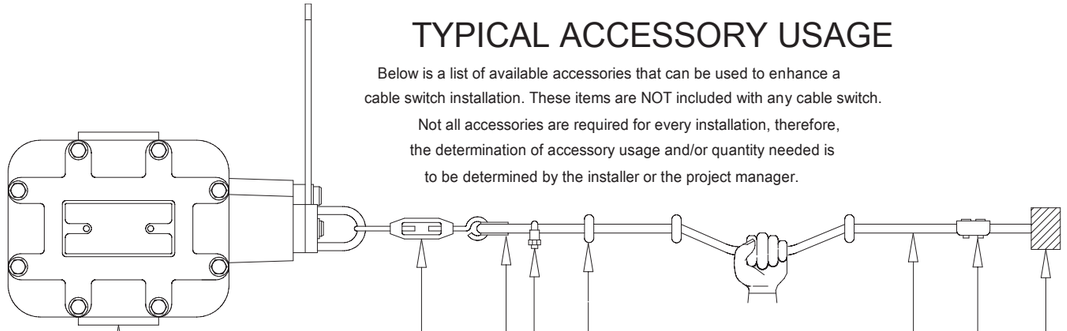
UL Listed (File E327580);
These switches comply with: UL - 698;
Electrical Ratings: 20 A: 125, 250 or 480 VAC;
10 A: 125 VAC "L" (tungsten filament lamp load);
1 HP: 125 VAC; 2 HP: 250 VAC
½ A: 24 VDC; ½ A: 125 VDC; ¼ A: 250 VDC;

CSA Certified (245842 – 2130218);
CSA – C 22.2 No. 14, No. 25, & No. 30;
Explosion Rated: NEMA Type 7 – Class I, Groups C & D;
UL/NEMA Type 9 Class II, Groups E, F & G for Hazardous Locations

Operating Position: Can be mounted in any position.

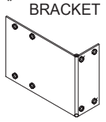
TYPICAL ACCESSORY USAGE

Below is a list of available accessories that can be used to enhance a cable switch installation. These items are NOT included with any cable switch. Not all accessories are required for every installation, therefore, the determination of accessory usage and/or quantity needed is to be determined by the installer or the project manager.



PART NO. 01004-050

* MOUNTING BRACKET

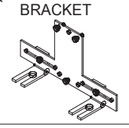


Sheet metal mounting bracket for 04967 (shown above) and 04968 switch models.

Painted gray, includes hardware for mounting.

PART NO. 01004-055

* MOUNTING BRACKET



Sheet metal mounting bracket for switch models 04965 and 04966.

Painted gray, includes hardware for mounting.

PART NO. 02005-605

TURNBUCKLE

Used for cable tension adjustment, this turn-buckle is only required on switches that require a taut cable to function. Placement in the cable run is not critical.

PART NO. 02005-615

THIMBLE

This metal strain relief is used to protect the cable against chafing where it is attached to the switch or to the turnbuckle or to the end anchor.

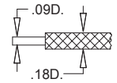
PART NO. 02005-625

CABLE CLIP

This is a stainless steel clip used to clamp a cable end or splice two pieces together to make a longer run.

PART NO. 02005-610

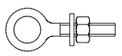
CABLE



This red vinyl covered steel (7x7) aircraft cable should only be used on switches with trip forces greater than 5 pounds. It is also available in blue and yellow.

PART NO. 02005-635

EYEBOLT ASSEMBLY



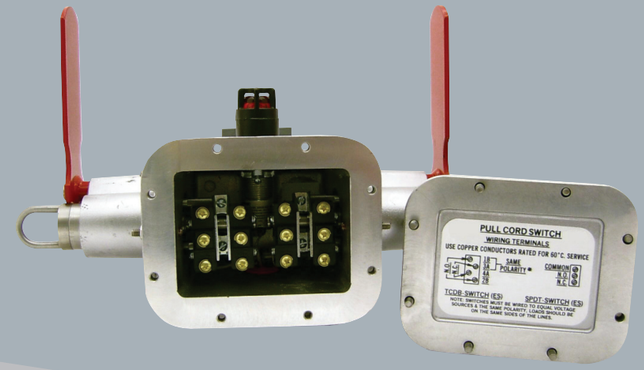
These standoff eyebolt assemblies (nut and washer included) are used to support the cable run and should be placed 5 to 10 feet max. apart.

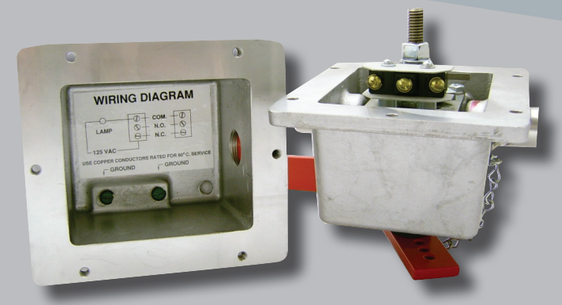
PART NO. 02005-620

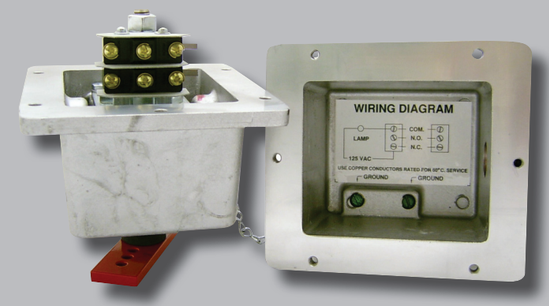
ROPE CLIP

This standard style clip is used wherever it is desired to clamp the cable. Generally multiple clips are used at either end for greater security.

ACCESSORIES







Explosion Proof Switch