



# MODEL RS

## CABLE OPERATED SAFETY STOP CONTROL FOR CONVEYORS

### WHAT IT IS, AND WHAT IT DOES

*The Model RS is a rugged safety control that provides a quick positive shut off of dangerous equipment in emergencies or normal operation. It is actuated by a cable pulled by endangered personnel. The output contacts of the Model RS can control up to two separated circuits, one for machinery shutdown and one for alarm.*

### WHY IS IT NECESSARY?

*Safety minded operators of conveyors, production lines, elevator equipment, assembly lines, material handling systems, cranes, etc. consider it a must for employee protection. Most states have safety statutes that require these controls on conveyor and related equipment. American National Standard institute recommends their use (ANSI Standard No. ASME B20.1).*

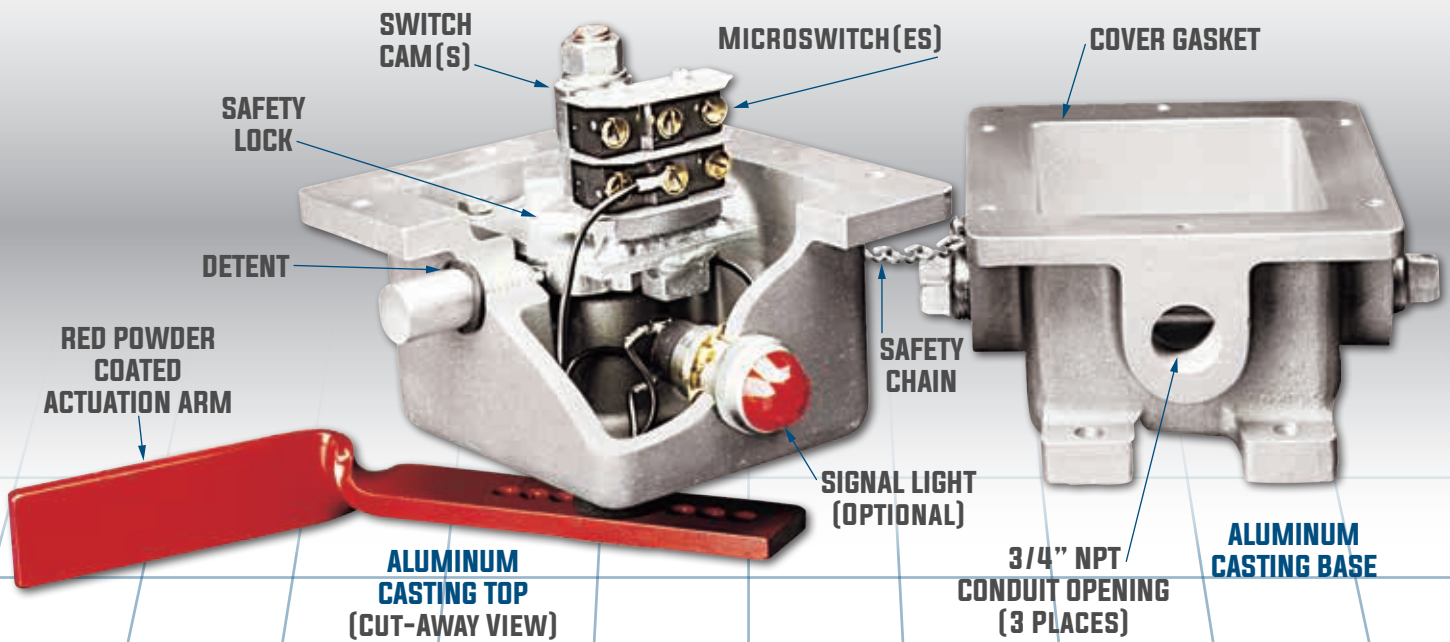
### RS TECHNICAL INFORMATION

MODEL	DESCRIPTION
RS-1	One SP/DT microswitch, weatherproof
RS-1X	Explosion proof with one SP/DT microswitch, for NEMA 7 and 9
RS-2	Two SP/DT microswitches, weatherproof
RS-2L	Two SP/DT microswitches with external signal light, includes 120V lamp, weatherproof
RS-2X	Explosion proof with two SP/DT microswitches, for NEMA 7 and 9
RS-5	Two DP/DT microswitches, weatherproof
RS-5X	Explosion proof with two DP/DT microswitches, for NEMA 7 and 9

Note: Dual-Rated enclosures also available. Contact Sales for details.

### EXCLUSIVE FEATURES

1. The Model RS is equipped with a positive safety lock. Having once been actuated, it cannot be accidentally reset causing dangerous equipment to restart. In order to reset the control, the actuation arm must be pushed in and turned. It takes no longer and it makes this a true "safety" control.
2. The Model RS is installed with cable extending in both directions from the actuating handle. There is one electrical connection inside. This simple arrangement eliminates the double electrical connections required in two ended units employing a separate microswitch for cable in each direction.
3. The actuation force required is simply adjusted in the field by a change in the position of the cable in holes provided in the actuation arm. One of our units will handle as much cable length as a double ended competitive unit and there is no longer a need to specify actuating force or right or left handed units.
4. The standard construction of the unit is a corrosion resistant aluminum housing complete with stainless steel hardware and red powder coated actuation handle. The actuation shaft is of stainless steel. Epoxy coating is also available if required.
5. The Model RS controls are listed by UL, Inc. and CSA Group. The general purpose models are listed for non-hazardous atmospheres. Explosion proof models are listed for use in hazardous atmospheres as defined by the National Electric Code handbook and the National Electrical Manufacturers Association Standards for NEMA type 7 and 9 hazardous locations. Specifically, they are listed for Class I, Div 1, Groups C and D; and Class II, Div. 1, Groups E, F and G.
6. Model RS offers the lowest cost per foot of protection because it incorporates fewer switches and less wiring is required. Cable may be extended in either or both directions with no changes required in the internal mechanism of the unit and the wiring is still of a simple uncomplicated nature.
7. The unit is available with a warning light that may be wired to indicate actuation. This permits easy identification of actuated units in areas where visual identification is difficult.



## OPERATION OF THE UNIT

The Unit is usually installed with cable running in both directions from the crank type actuating arm. Each of the two sections of the cable runs to a fixed point through eyebolts spaced at regular intervals.

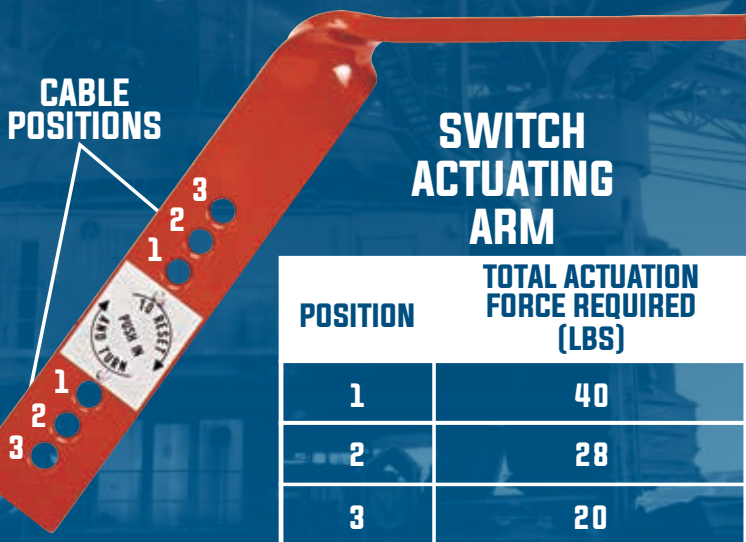
A pull on the cable at any point along its run will rotate the red actuation arm approximately 60°. The actuation arm will end in a position that is easily seen from a distance, thus identifying the actuated unit. Two spring loaded detents riding on a hardened steel cam provide resistance to arm rotation.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

To reset the unit and deactivate the microswitches, the actuation arm is pushed in and rotated backwards.

## DETERMINATION OF NUMBER OF UNITS REQUIRED

The Model RS control is designed so that a maximum of 100 feet (30m) of cable can be used on each side of the unit. A single control can therefore cover a maximum of 200 feet of conveyor belt or other machinery. Of course, if necessary, cable can be extended in only one direction from either side of the unit. The electrical characteristics of the application will determine the numbers of microswitches to be specified in the unit: either one, or two. The environmental considerations will determine whether or not the unit is to be explosion proof or to have special paint or coatings. The possibility of a light to aid in identification or actuated units should be considered.

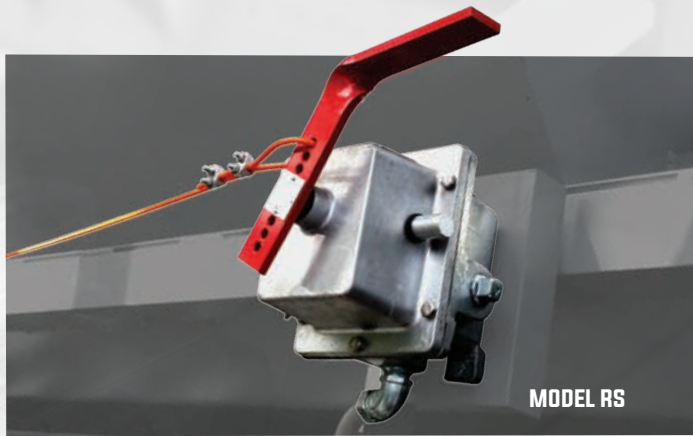
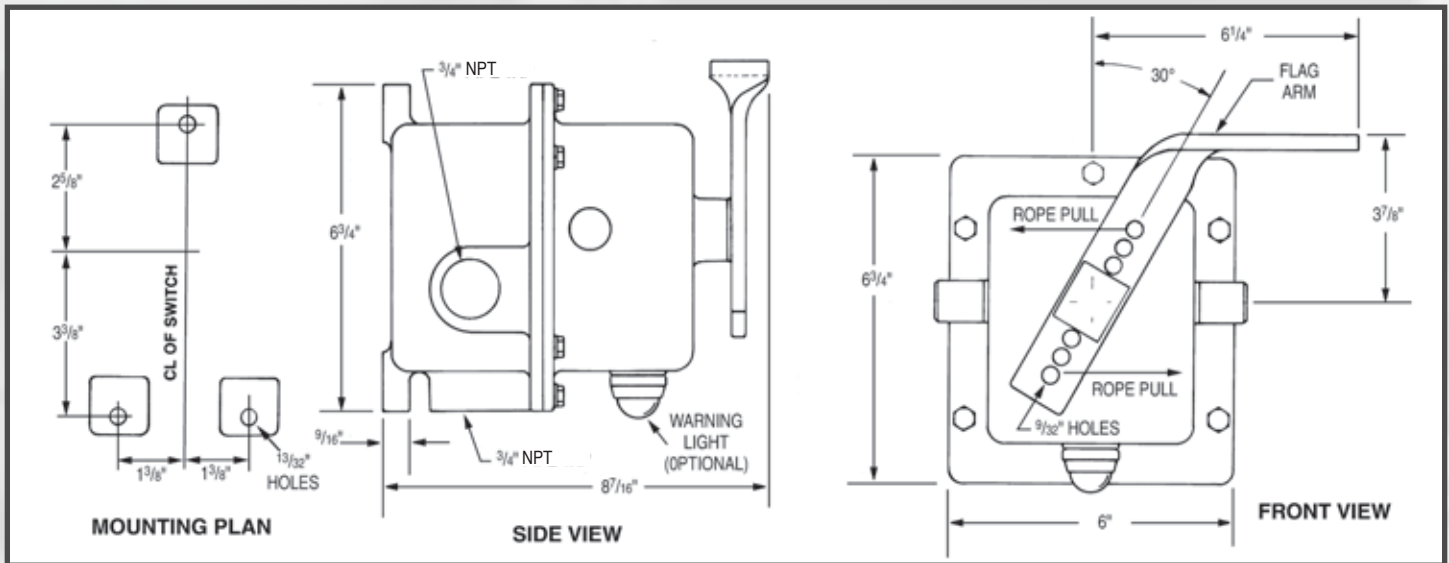
We recommend that high quality cable be used with the control to assure proper actuation with no stretching. We recommend our own galvanized aircraft cable which is available with either vinyl or nylon coating. It is orange in color and weighs 0.03 lbs. per foot and has an outside jacketed diameter of 3/16\".



As shown in the chart and picture of the actuating arm, the actuation force can be varied by attaching the cable at any one of the three positions.

The cable should be supported by eyebolts every 8-10 feet (3m). These supports ensure that the weight of the cable alone will not actuate the control.

# MODEL RS/RSB DIMENSIONAL INFORMATION



**Standard Construction** - Rubber gaskets seal unit for outside applications listed by UL for NEMA 4 dust-tight and rain tight construction. Applies to general purpose units.

**Housing** - Cast aluminum. Epoxy coating available.

**Conduit Opening** -  $\frac{3}{4}$ " NPT standard. 1" NPT optional (non UL). All units have three conduit openings.

**Actuating Arm** - Red powder-coated steel handle with stainless steel shaft.

**Internal Cam and Wear Plate** - Hardened steel.

**External Hardware** - Stainless steel.

**Switches** - SP/DT microswitches. Rated 20A @ 120 VAC, 240VAC, and 480 VAC; 1/2 amp at 125 VDC and 1/4 amp at 250 VDC. Switches may be wired for single throw operation, either normally open or normally closed as required. DP/DT (15A) microswitches also available.

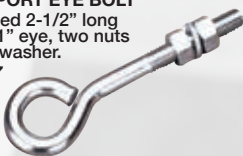
## RS & RSB INSTALLATION INSTRUCTIONS

1. The controls should be mounted on a flat surface using the three mounting holes on the bottom half of the housing. The holes are designed for  $\frac{3}{8}$ " bolts.
2. Each unit can cover a maximum of 200' of conveyor — 100' in each direction. Safety considerations dictate that not more than 100' of cable be attached on each side. More cable might result in too much slack, delaying actuation.
3. The eyebolts supporting the cable should be placed at intervals from 8-10'. Care must be taken that the cable does not become too slack. However, if the cable is too tight, false actuation of the switch might occur.
4. The Model RS control is designed for pilot duty. The control circuit should be wired through the motor starter circuit of the conveyor or other equipment to be controlled. Do not wire the unit directly into a heavy duty motor circuit.
5. The unit should be tested after installation by actuation of the cable. The protected equipment should stop and alarms should sound as required with a minimum of effort on the cable. Cable tension can be adjusted if necessary by changing the location of the cable on the handle.

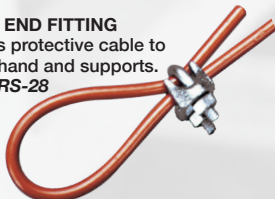


RS-30 BRACKET for mounting the Model RS stop switch to the conveyor stringer at an idler.

**CABLE SUPPORT EYE BOLT**  
1/2" x 6" plated 2-1/2" long  
N.C. thread, 1" eye, two nuts  
and one lockwasher.  
Item # RS-27



**CABLE END FITTING**  
Secures protective cable to  
switch hand and supports.  
Item # RS-28



**SAFETY CABLE**  
3/32" x 7x7 preformed,  
galvanized aircraft cable.  
Protective coating in either  
orange coated vinyl or nylon.  
3/16" O.D.  
Item # RS-25 (vinyl)  
RS-26 (nylon)



**CONDUIT PLUG**  
3/4" metal, socket  
head conduit plug.  
Item # RS-29

