



# MATERIAL CONTROL, INC

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## MODEL PC SAFETY STOP CONTROL INSTRUCTIONS



### **WARNING:**

**Failure to strictly follow all instructions may result in DEATH or SERIOUS INJURY.**

**Before servicing, shut down and physically lock-out the conveyor system. Disconnect power before servicing.**

### OPERATION:

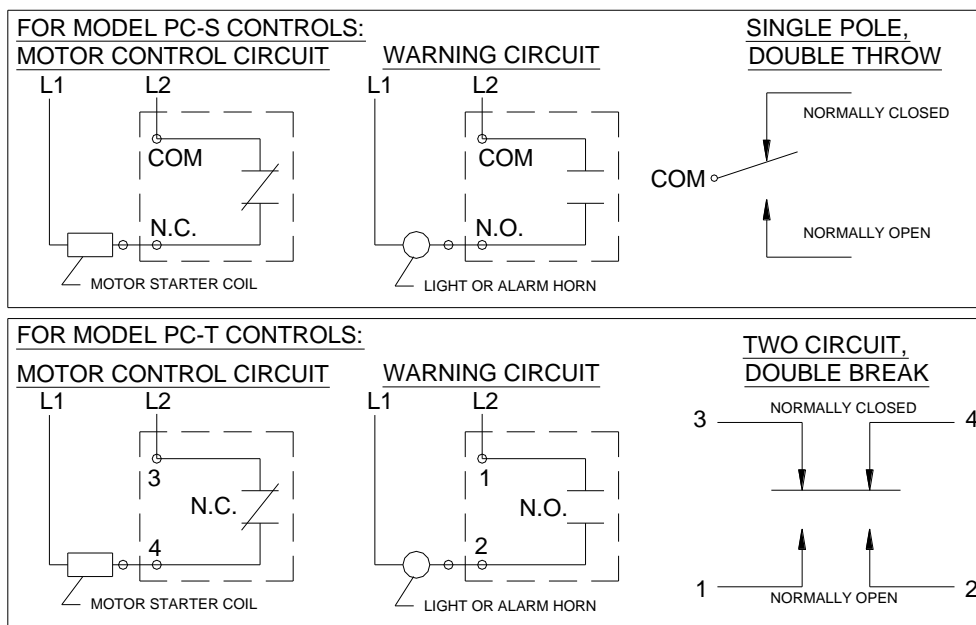
A cable is connected from a fixed point to the cable end connection clevis (refer to figure 2). A pull on the cable with a movement of approximately 1/2" will actuate the control and trip the flag arm and lock the control / flag arm in the actuated position. The unit is reset by rotating the flag arm to the normal position. The standard control is supplied with an actuation (pull) force of 16 lbs. Units with a factory set pull of 24 lbs. are available.

### INSTALLATION:

1. DO NOT remove hubs or mounting foot from explosion proof units at any time. Modifications to the units or hub assemblies may affect functionality and reliability and will void the warranty. Modifications of all models must be done at the factory only.
2. Notice: cover screws must be tightened at 12ft-lbs each. Field wiring must meet or exceed the requirements of the National Electrical Code and any other agency or authority having jurisdiction over the installation. Conduit fittings must meet applicable CSA and UL standards.
3. BEFORE you begin, lock out all power to the conveyor system to prevent accidental start-up.
4. Control should be mounted on a flat surface by using 3/8" diameter bolts in the four 13/32" diameter mounting holes provided.
5. Distances between controls should not exceed 200 feet. We suggest not using more than 100 ft. of cable at each control end for safety purposes. A minimum of 2" of slack for 100 ft. of cable is required (refer to figure 3) to avoid pulling out the cable end connection clevis toward the actuated position. Care should be taken to keep the cable from becoming too slack as too much cable and slack can result in a "long pull" situation. Recommended spacing of cable support eye bolts is 10 ft.
6. Connect one end of the activation cable to a fixed point, and the other end to the cable connection clevis on the control hub. Leave 2" of slack in the cable (refer to figure 3).
7. Test the micro-switch(es) before wiring. Remove the cover, and follow step 6 or 7, depending on which micro-switch is supplied with the PC control.
8. To test an SP/DT, PC-S model switch-hub assembly, connect a continuity tester to the common screw and each of the N.O. and N.C. screws in turn. When testing, be sure to test each of the two combinations of common and N.O. and N.C. terminals. Slowly apply a pulling force to the hub's cable connection clevis away from the assembly. The switch shall activate before the flag moves. The continuity tester should indicate the correct change in electrical continuity from Common to N.C. and Common to N.O. If it does not, please contact Material Control, Inc. for assistance.

9. To test a two-circuit double break switch model PC-T, connect a continuity tester across the screws of each the N.C. and N.O. circuits in turn. When testing, be sure to test each of the two combinations of N.O. and N.C. terminals. Slowly apply a pulling force to the hub's cable connection clevis away from the assembly. The switch shall activate before the flag moves. The continuity tester should indicate the correct change in electrical continuity from Normally Closed to Open and Normally Open to Closed. If it does not, please contact Material Control, Inc. for assistance.
10. Once testing is complete, then check the supply / control wiring with a voltmeter to insure there is no electrical power present. Then wire the control (refer to figure 1). Note: wiring should only be through the motor control circuit. Replace the cover and cover hardware.
11. Power-up the PC control and the conveyor system. Test the control operation by pulling the actuation cable. This will ensure that there is not too much slack in the cable and that there are no obstructions to the cable or flag arm. The conveyor should stop, and the flag arm should rotate, locking the cable clevis assembly in the out position.
12. Test each PC control periodically by pulling the actuation cable and observing its operation. The conveyor should stop, and the flag arm should rotate, locking the cable clevis in the out position. If the control fails to operate, lock out the system, and carefully inspect the installation. If necessary, contact Material Control, Inc. for assistance or replacement parts and availability.

Figure 1: Typical PC Control Circuits



NOTE: The two circuit double break switches must be wired to equal voltage sources and the same polarity. Loads should be on the same side of the lines. Terminal 1 has the same polarity as terminal 3.

**ENCLOSURE RATINGS:**

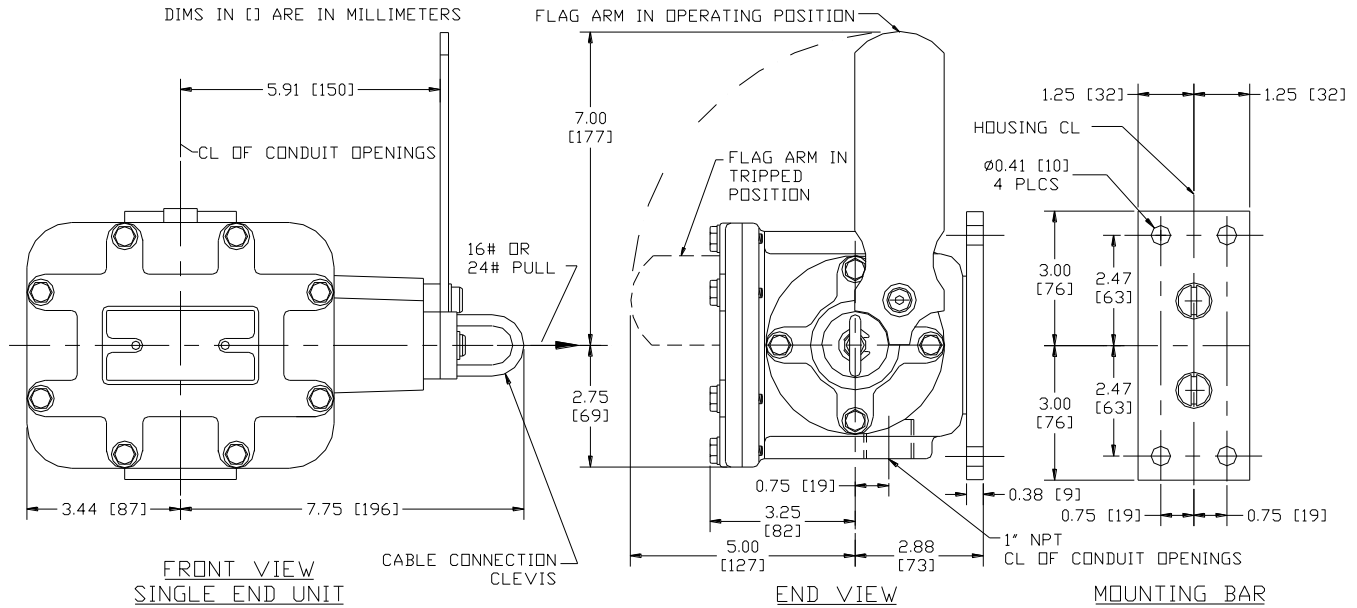
Standard General Purpose Models: UL Types 3, 4, 4X; CSA Types 3, 3S, 4, 4X

Standard Hazardous Location Models: UL / CSA for Class I, Groups C & D; Class II, Groups E, F & G Hazardous Locations

**MICRO-SWITCH INFORMATION:**

Standard "S" Switch: SP/DT, one or two switches per end of control	Optional "T" Switch: Two Circuit Double Break, one or two switches per end of control
20 amps, 125, 250, or 480 VAC	15 amps, 120, 240, 480 or 600 VAC
10 amps, 125 VAC "L" (tungsten lamp load)	½ HP, 120 VAC
1 HP, 125 VAC	1 HP, 240 VAC
2 HP, 250 VAC	0.8 amps, 115 VDC
½ amp, 125 VDC	0.4 amps, 230 VDC
¼ amp, 250 VDC	

**Figure 2: Dimensions**



**Figure 3: Cable Connection with Slack**

