

Vibration Switch

Model 4294A

Overview

Model 4294A vibration switch provides economical vibration protection for low to medium speed machinery. An inertia sensitive mechanism activates a snap-action switch with SPDT output contacts if the vibration exceeds an adjustable setpoint. The contacts can be used to activate an alarm or initiate equipment shutdown. The housing is weatherproof with an optional hazardous area rating. Electrical (remote) reset with start-up time delay and a second set of SPDT output contacts to accommodate DPDT needs are available.

Typical Applications

- Heat exchanger fans
- Cooling tower fans
- Engines
- Reciprocating compressors
- Motors
- Pumps

Key benefits

- Meets all the requirements for mechanical switches in one package
- Weatherproof and optional hazardous area rating
- Local and optional remote reset with startup display
- SPDT or DPDT switch output contacts
- Economic vibration protection for low-to-medium speed machinery
- Snap action switch activated by inertia mechanism



Model 4294A
Vibration Switch

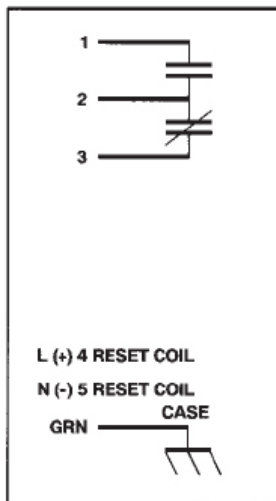
Vibration Switch - 4294A

Specification

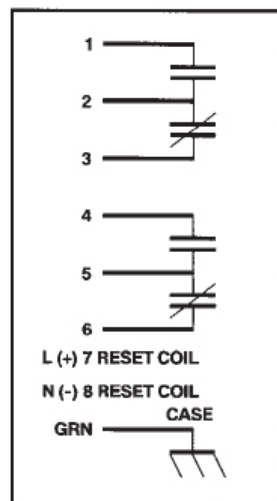
| | | |
|----------------------------------|---|---------------------------------------|
| Function: | Armature mechanism trips on high vibration and operates snap action switch(es) | |
| Amplitude range: | 2 - 10 g | |
| Frequency range: | 0 to 3600 RPM | |
| Set point adjust: | 0 to 100% of range | External set point adjustment. |
| Reset: | Local reset plus optional remote reset electrical coil. | |
| Start delay: | Applying reset coil voltage at startup holds mechanism from tripping for 20 to 30 seconds, after which the switch is automatically activated. Requires electric reset option. | |
| Temperature range: | -40°C to 70°C | -40°F to 158°F |
| Enclosure: | Cast aluminum | |
| Mounting plate: | Zinc plated steel | |
| Environmental rating: | IP65 & NEMA 4 | |
| Switch contact(s) rating: | 15 amps, 125 or 480 vac; 1/4 hp, 250 vac; 1/4 amp, 250 vdc | 1/8 hp, 125 vac; 1/2 amp, 125 vdc; |
| Hazard rating: | UL, ATEX. depending on model ordered | |
| Weight: | 1.8 kg | 4 lb |

User wiring diagram

SPDT contacts



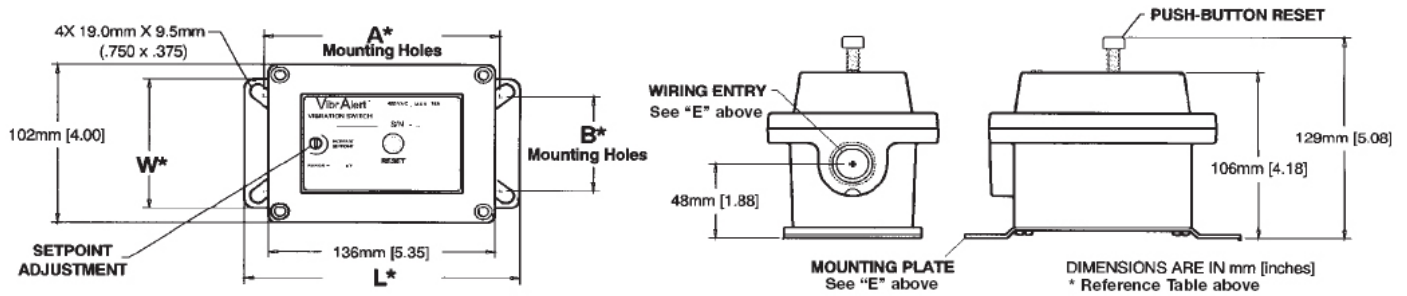
DPDT contacts



Vibration Switch - 4294A

Dimensions

| | L | | W | | A | | B | |
|----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|
| E = 1 | 165 mm | (6.50 in) | 83 mm | (3.25 in) | 141 mm | (5.56 in) | 59 mm | (2.33 in) |
| E = 2; 4 | 121 mm | (4.75 in) | 152 mm | (6.00 in) | 79 mm | (3.12 in) | 118 mm | (4.63 in) |
| E = 3 | 165 mm | (6.50 in) | 121 mm | (4.75 in) | 136 mm | (5.37 in) | 92 mm | (3.62 in) |



How to order

Use the tables below to select the unique specification of your Model 4294A vibration switch.

| Example Code | 4294A | 1 | 2 | 3 | 4 | 4 |
|--|-------|---|---|---|---|--|
| | | | | | | |
| | | | | | | Basic Model |
| Basic Model | 4294A | | | | | Cast Aluminum |
| | | | | | | Hazard area rating |
| Hazard area rating | | 0 | | | | None |
| | | 1 | | | | UL, cUL Explosion Proof Class I, Groups C&D, Div 1 Class II, Groups F&G, Div I |
| | | 2 | | | | UL, cUL Explosion Proof Class I, Groups B,C&D, Div 1 Class II, Groups F&G, Div I |
| | | 3 | | | | ATEX II 2 G/D Eex d IIB T6 |
| | | 4 | | | | ATEX Eex d IIB + H2 T6 |
| | | | | | | Contacts |
| Contacts | | 1 | | | | SPDT |
| | | 2 | | | | DPDT |
| | | | | | | Full scale range |
| Full scale range | | 1 | | | | 5 g |
| | | 2 | | | | 2 g |
| | | 3 | | | | 10 g |
| | | | | | | Reset coil and startup delay |
| Reset coil and startup delay | | 0 | | | | None |
| | | 1 | | | | 115 VAC |
| | | 2 | | | | 230 VAC |
| | | 3 | | | | 24 VDC |
| | | 4 | | | | 115 VDC |
| | | | | | | Wiring entry/mounting space (Retro Space Fit) |
| Wiring entry/mounting space (Retro Space Fit) | | 1 | | | | 3/4" NPT / AMOT 4290 / 4291 |
| | | 2 | | | | 3/4" NPT / AMOT 4292 |
| | | 3 | | | | 3/4" NPT / AMOT 4293 |
| | | 4 | | | | M20 x 1/5 with epoxy coated mounting plate |

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