

## 1-895 Vibration Switch

### Applications

- Motors
- Turbochargers
- Generators
- Industrial Fans & Blowers
- Gear Boxes
- Pumps
- Compressors
- Cooling Towers

### Features

- Dual alarms
- Easy alarm setup
- 3-digit LCD display
- Start-up trip delay (30 seconds), prevents false alarms
- Alarm trip delays (3 seconds) , filters out transients
- 4-20mA output
- LED alarm indication
- Remote alarm reset input
- Remote start input
- Displacement or Velocity response



### DESCRIPTION

The 1-895 is a versatile multi-purpose vibration switch. It features a built-in accelerometer and solid state electronics. The 1-895 constantly monitors the vibration levels on critical machinery and provides timely feedback in the event of machine breakdown. There is a 30-second monitor start-up delay that is initiated by the application of power or the grounding of the start input. The 1-895 is available in a variety of ranges.

### OPERATION

The 1-895 constantly monitors the vibration levels on critical machinery and provides timely feedback in the event of machine breakdown. There is a 30 second monitor start up delay that is initiated by the application of power or the grounding of the start input. The delay does not begin until the start input is released.

The current vibration level is displayed on a 3 digit LCD and output on a proportional 4-20 mA current loop. The alarm levels are set by two front panel push-buttons and the display. Two alarm indicators are present and indicate when an alarm level is exceeded. The corresponding output is also enabled. The alarms are latched and must be reset at the 1-895 or via a remote alarm reset input.

**Vibration Range (See ordering guide)**

- Velocity:** inches per second (ips), peak
- Acceleration:** g's, peak
- Displacement:** mils, peak-peak
- Frequency Range:** 5 Hz to 500 Hz ±3 dB (internal sensor)
- Alarm Setpoints:** User programmable 0 - full scale
- Alarm Outputs:** Dual alarm relays are isolated from system electronics
- Analog Output:** 4-20 mA current loop proportional to the full scale output
- Alarm reset / start inputs:** External inputs must be shorted to return to activate
- Display:** 3-digit LCD display
- Power:** 18-30 VDC @ 125 mA
- Temperature Range**
  - Operating:** 0°F to +185°F (-18°C to +85°C)
  - Storage:** -67°F to +185°F (-55°C to +85°C)
- Humidity:** 0 to 95% relative humidity non-condensing

**I/O Connections**

- Power Connections:** +24 VDC  
-Return (24 VDC)
- Analog Output:** 4-20 mA+  
4-20 mA-
- Control Inputs:** Start Input  
Reset Input
- Alarms:** 1 Out -  
1 Out +  
2 Out -  
2 Out +

In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.

**ORDERING GUIDE**

CEC P/N 1 - 8 9 A - B C D D

<b>A</b>	<b>ENCLOSURE TYPE</b> 0 = NEMA 4X, IS Rated 5 = Explosion Rated																								
<b>B</b>	<b>SENSOR INPUT TYPE</b> 0 = Internal Sensor Remote Sensor Options 1 = 100 mV/g constant current (use CEC model 4-180) 2 = 100 mV/ips constant current (use CEC model 4-181) 3 = 100 mV/ips velocity coil 4 = 145 mV/ips velocity coil (use CEC model 4-130, 4-131, 4-137) 5 = 150 mV/ips velocity coil (use CEC P/N 4-131-0103) 6 = 200 mV/ips velocity coil (use CEC P/N 4-131-0116, 368925)																								
<b>C</b>	<b>RELAY TYPE</b> 0 = DC contact rating is 3 to 60 VDC @ 1 Amp 1 = AC contact rating is 12 to 240 VAC @ 1 Amp																								
<b>D</b>	<b>OUTPUT TYPE (Full Scale Range &amp; Unit of Measure)</b> <table border="0"> <tr> <td>Displacement</td> <td>Velocity</td> <td>Acceleration</td> <td>Velocity (Metric Units)</td> </tr> <tr> <td>01 = 0-5 mils, pk-pk</td> <td>10 = 0-0.5 ips, peak</td> <td>21 = 0-5 g's, peak</td> <td>31 = 3-40 mm/s, peak</td> </tr> <tr> <td>02 = 0-10 mils, pk-pk</td> <td>11 = 0-1 ips, peak</td> <td>22 = 0-10 g's, peak</td> <td>32 = 0-80 mm/s, peak</td> </tr> <tr> <td>03 = 0-20 mils, pk-pk</td> <td>12 = 0-2 ips, peak</td> <td>23 = 0-25 g's, peak</td> <td></td> </tr> <tr> <td>04 = 0-150 mils, pk-pk</td> <td>13 = 0-5 ips, peak</td> <td></td> <td></td> </tr> <tr> <td>05 = 0-100 mils, pk-pk</td> <td>14 = 0-10 ips, peak</td> <td></td> <td></td> </tr> </table>	Displacement	Velocity	Acceleration	Velocity (Metric Units)	01 = 0-5 mils, pk-pk	10 = 0-0.5 ips, peak	21 = 0-5 g's, peak	31 = 3-40 mm/s, peak	02 = 0-10 mils, pk-pk	11 = 0-1 ips, peak	22 = 0-10 g's, peak	32 = 0-80 mm/s, peak	03 = 0-20 mils, pk-pk	12 = 0-2 ips, peak	23 = 0-25 g's, peak		04 = 0-150 mils, pk-pk	13 = 0-5 ips, peak			05 = 0-100 mils, pk-pk	14 = 0-10 ips, peak		
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NOTE: Special configurations can be accommodated. Please consult the factory for assistance.

Example P/N 1-89 5-00012

The example unit is housed in an explosion proof enclosure. The switch has the internal sensor, and DC relay contacts. The display and 4-20 mA output are scaled for 0 to 2 ips, peak velocity.

**Hazardous Approvals**

- CSA C/US
- CLI, DIV2, GRP ABCD T5
- ATEX
- EExd IIC T5

