SERIES 683A

VIBRATION INDICATOR WITH ALARM SET POINTS

- Provides excitation power for ICP® accelerometers or 4-20 mA industrial vibration sensors
- Highly visible, 4-digit, fully scalable LED display
- Up to four programmable set point relays alarm status indicators
- Adjustable time delay eliminates false alarm trips
- Field-selectable acceleration, velocity, or displacement units for display and signal retransmission (ICP® version)

ICP® ACCELEROMETERS OR 4-20 mA INDUSTRIAL VIBRATION SENSORS

Model 683A indicator/alarm is specifically designed for continuous vibration monitoring requirements with ICP® or 4-20 mA industrial vibration sensors. The unit operates from universal AC or DC power, provides 24 VDC sensor excitation, and can retransmit a 4-20 mA signal for remote monitoring or recording. Two, user-programmable set points activate individual, 5 amp, Form-A relay contacts to provide early warning of deteriorating machinery conditions. An adjustable time delay for each set point eliminates potential for false alarm trips due to ambient, short duration vibratory upsets. The unit installs into a standard, 1/8 DIN, panel cutout and is available with an optional NEMA 4X front cover.

Model 683A bridges the gap between unmonitored machinery and sophisticated vibration analysis, by permitting continuous vibration monitoring with instrumentation familiar to the process control technician.
SERIES 683A

**Performance**
<table>
<thead>
<tr>
<th>English (SI)</th>
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</thead>
<tbody>
<tr>
<td>Input Channels</td>
</tr>
<tr>
<td>Display (4-digit, red LED)</td>
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<tr>
<td>Set Point Status Indicator</td>
</tr>
<tr>
<td>Decimal Point</td>
</tr>
<tr>
<td>Scale Factor (for display of units)</td>
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<tr>
<td>Overrange Indication</td>
</tr>
<tr>
<td>Conversion (update) Rate</td>
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<tr>
<td>Accuracy (update) Rate</td>
</tr>
</tbody>
</table>

**Environmental**
- Operating Temperature Range: +32 to +140 °F (0 to +60 °C)
- Storage Temperature Range: -4 °F to +158 °F (-20 to +70 °C)
- Humidity (non-condensing): < 95 %

**Electrical**
- Input Signal from Sensor: 100 mV/g (ICP®) or 4-20 mA
- Sensor/Transmitter Excitation Delivered: 24 VDC @ 4 mA or 24 VDC
- Relays: (individually adjustable Hi or LOW)
- Time Delay on Relay Make or Break: 0 to 9999 sec
- Hysteresis (deadband) about Setpoint: ± (9999/2) counts from setpoint
- Power Required (auto sensing, wide range): 85 to 265 VAC or 95 to 370 VDC
- Power Consumption: 2.5 watt typical, 3.6 watt max
- Warm-Up Time: < 2 min

**Mechanical**
- Size: Bezel: 1/8 DIN (96 × 48 mm)
- Depth: 4.61 inch (117 mm)
- Connector Depth (add) (for right angle block): 0.47 inch (11.8 mm)
- Connector Depth (add) (for straight thru block): 0.79 inch (20 mm)
- Electrical Connections: Screw terminals on removable blocks
- Weight: 6.5 oz (184 gm)

**Programmability**
- Scale factor (Decimal point location): Peak and valley view and reset
- Offset (Set point adjustment): Time delay on relay make or break
- LED brightness (Relay hysteresis): HI or LOW set point relay action

**Options**
- Low Voltage Operation: 18-48 VAC or 10-72 VDC
- Analog Output: 4-20 mA retransmission
- NEMA 4X Lens Cover with Key Lock: Field installable
- Metal Surround Case: Must be factory installed
- Two Additional Set Point Relays, 5 A Form A: Without time delay function
- Two Additional Set Point Relays, 10 A Form C: Without time delay function

**MODEL MATRIX**

### Series 683

<table>
<thead>
<tr>
<th>683A</th>
<th>Indicator / alarm with two, time-delayed, Form A, set-point relays</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4-20 mA DC with 24 VDC excitation delivered to sensor / transmitter</td>
</tr>
<tr>
<td>1</td>
<td>100 mV/g (10.2 mV/(m/s²)) ICP® accelerometer with 24 VDC @ 4 mA delivered to sensor</td>
</tr>
</tbody>
</table>

#### Power Required
- 0: 85 to 265 VAC or 95 to 370 VDC
- 1: 18 to 48 VAC or 10 to 72 VDC

#### Analog Output
- 0: None
- 1: Isolated 16 bit user scalable 4-20 mA retransmit

#### Additional Relay Outputs
- 0: None (supplied standard with 2 Form A relays)
- 1: Dual 10 amp Form C relays (not time-delayed)
- 2: Dual 5 amp Form A relays (not time-delayed)

#### Frequency Response
- 0: 3 Hz to 10kHz (must be used for 4-20 mA versions)
- 1: 3 Hz to 100kHz
- 2: 10 Hz to 10kHz
- 3: 10 Hz to 100kHz

#### Accessories
- 0: None
- 1: NEMA 4x, clear lockable, splash-proof front cover
- 2: Metal surround case --- includes screw mounting clips
- 3: NEMA 4X, clear front cover and metal surround case

**Example**

<table>
<thead>
<tr>
<th>683A</th>
<th>1 0 0 0 0 1</th>
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</table>

Note: ICP® input version features field-selectable pk or rms acceleration, pk or rms velocity, or pk-pk displacement units for display and signal retransmission option.

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**SERIES 684 ALARM MODULE**

- Economical solution to machinery shutdown protection
- Available with up to eight channels in NEMA 4X fiberglass or stainless steel enclosures

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IMI Sensors, a division of PCB Piezotronics, Inc. manufactures industrial vibration monitoring instrumentation, such as accelerometers, vibration transmitters and switches that feature rugged stainless steel housings and survive in harsh environments like paper and steel mills, mines, gas turbines, water treatment facilities and power plants. Integrating with portable analyzers and PLC’s, IMI instrumentation helps maintenance departments reduce downtime and protect critical machinery. Visit IMI Sensors at www.pcb.com. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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MTS Sensors, a division of MTS Systems Corporation (NASDAQ: MTSC), vastly expanded its range of products and solutions after MTS acquired PCB Piezotronics, Inc. in July, 2016. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corp.; IMI Sensors and Larson Davis are divisions of PCB Piezotronics, Inc.; Accumetrics, Inc. and The Modal Shop, Inc. are subsidiaries of PCB Piezotronics, Inc.