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Series 683A

Vibration Indicator with Alarm Set Points

For use with ICP® Accelerometers or 4-20 mA Industrial Vibration Sensors

Highlights

- 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)



CE



Series 683A Indicator/Alarm
displays machinery vibration levels and offers alarm set points to indicate deteriorating machinery condition

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.

As with all PCB® instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.





Specifications

Series 683A		
Performance	English	SI
Input Channels	1	
Display (4-digit, red LED)	0.56 inch	14.2 mm
Set Point Status Indicator	One LED per set point (up to four)	
Decimal Point	Selectable, X•X•X•X•	
Scale Factor (for display of units)	-1999 to +9999	
Overrange Indication	Display flash on pos. or neg. overrange	
Conversion (update) Rate	5 Hz	
Accuracy	± 0.05% of reading, plus 2 counts	
Environmental		
Operating Temperature Range	+32 to +140 °F	0 to +60 °C
Storage Temperature Range	-4 to +158 °F	-20 to +70 °C
Humidity (non-condensing)	< 95 %	
Electrical		
Input Signal from Sensor	100 mV/g (ICP®) or 4-20 mA	10.2 mV/g(m/s²) or 4-20 mA
Sensor/Transmitter Excitation Delivered	24 VDC @ 4 mA or 24 VDC	
Relays (individually adjustable HI or LOW)	Two 5 A Form A	
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, 3.5 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	

How to Order

Series 683 Model Matrix

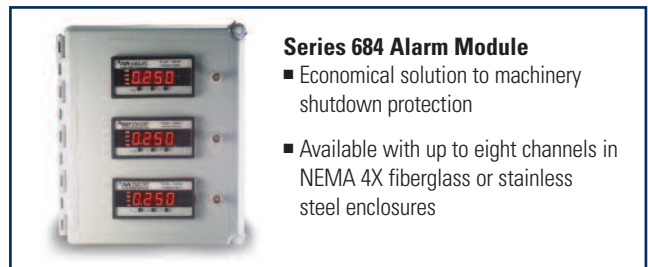
683A	Indicator / alarm with two, time-delayed, Form A, set-point relays	
Input		
0	4-20 mA DC with 24 VDC excitation delivered to sensor / transmitter	
1	100 mV/g (10.2 mV/(m/s²)) ICP® accelerometer with 24 VDC @ 4 mA delivered to sensor	
Power Required		
0	85 to 265 VAC or 95 to 370 VDC	
1	18 to 48 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 10k Hz (must be used for 4-20 mA versions)	
1	3 Hz to 1000k Hz	
2	10 Hz to 10k Hz	
3	10 Hz to 1000 Hz	
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

683A 1 0 0 0 0 1 Indicator / alarm for 100 mV/g ICP® accelerometer input, includes optional NEMA 4X front cover

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.

CE This product conforms to applicable European Directives for CE marking.



Series 684 Alarm Module

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



3425 Walden Avenue, Depew, NY 14043-2495 USA

Toll-Free in USA 800-959-4464

24-hour SensorLine™ 716-684-0003

Fax 716-684-3823 E-mail imi@pcb.com

Web Site www.imi-sensors.com

ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

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IMI Sensors designs and manufactures a full line of accelerometers, sensors, vibration switches, vibration transmitters, cables and accessories for predictive maintenance, continuous vibration monitoring, and machinery equipment protection. Products include rugged industrial ICP® accelerometers, 4-20 mA industrial vibration sensors and transmitters for 24/7 monitoring, electronic and mechanical vibration switches, the patented Bearing Fault Detector, high temperature accelerometers to +900 °F (+482 °C), 2-wire Smart Vibration Switch, and the patented Reciprocating Machinery Protector. CE approved and intrinsically safe versions are available for most products.

Visit www.imi-sensors.com to locate your nearest sales office