

OVERVIEW

The Model IT6810/IT6811/IT6812 Impact Transmitter measures impact severity on reciprocating machinery. Impact is a proven method of detecting mechanical looseness on large reciprocating compressors. The Impact Transmitter combines the benefits of this measurement with the convenience of 4-20 mA loop powered sensor technology. It has a built-in piezoelectric crystal sensing element, and uses a timing function as part of its severity determination. An impact event counter and memory device is used to record events meeting a preset amplitude threshold level.

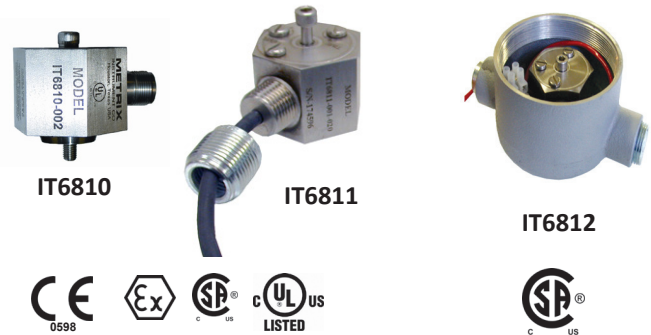
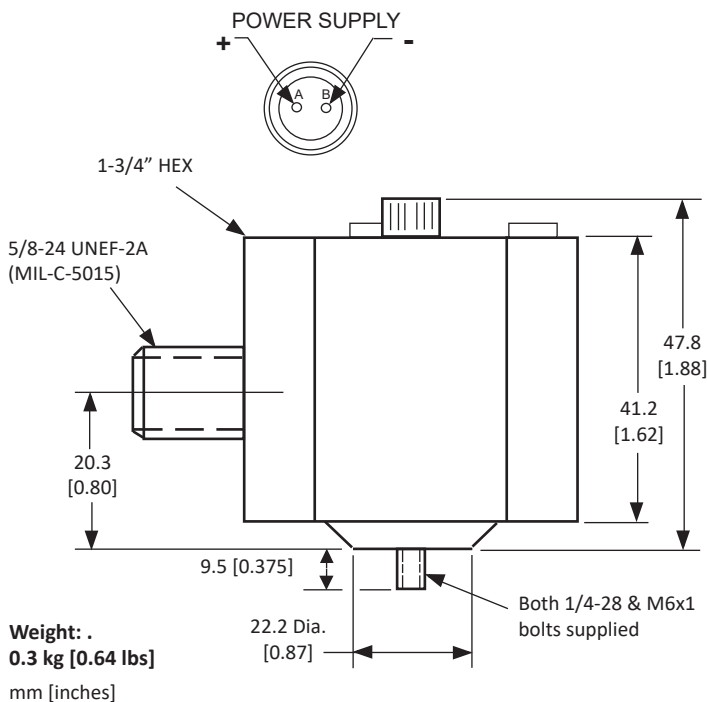
FEATURES

- Measures mechanical looseness
- Loop powered, self contained sensor
- Center bolt for mounting ease
- Stainless steel housing
- 4-20 mA output
- 2-Pin MS connector

APPLICATIONS

- Reciprocating Compressors
- Engines
- Pumps

WEIGHTS AND DIMENSIONS



SPECIFICATIONS

Sensor	Piezoelectric accelerometer with integral signal conditioner
Output	4 - 20 mA proportional to a number of impacts above a threshold within a time period (16 impacts = 20 mA)
Time Period	Adjustable 0.8 to 3.2 sec.
Impact Threshold	50 mV to 1200 mV.
Case Material	303 stainless steel
Mounting	Center through-hole supplied with 1/4"-28 and M6 captive allen screws
Shock Limit	5,000 g peak
Temperature Range	-40° to +100°C (-40° to +212°F)
Sensitivity vs. Temp.	<0.05 %/°C
Cross Axis Response	Less than 5%
Loop Supply Voltage	15 to 30 V _{DC}
Max. Load Resistance	50 (V _S -15) Ω
Sealing	Welded construction with sealed adjustments
Electrical Connection	2-pin MIL-C-5015 Style
Isolation	500 V _{RMS} circuit to case
Agency Approvals	IT6810/IT6811: CSA certified Class I, Div. 1, Class I, Div. 2 Groups A-D. IT6812: CSA certified, explosion proof, Class I, Div. 1, Groups B-D
Environmental Rating	NEMA 4 / IP 20
Electromagnetic Compatibility	No

ORDERING INFORMATION

IT6810 - A A A			
□□□			
A			Machine RPM Range and Baseline ¹ Range
0	0	1	Low, <500 RPM and <500mV Baseline ²
0	0	2	Medium, 500-1000 RPM and <500mV Baseline ²
0	0	3	High, >1000 RPM or >500mV Baseline
IT6811 - A A A - B B B			
□□□ - □□□			
A			Machine RPM and Baseline ¹ Range
0	0	1	Low, <500 RPM and <500mV Baseline ²
0	0	2	Medium, 500-1000 RPM and <500mV Baseline ²
0	0	3	High, >1000 RPM or >500mV Baseline
B			Cable Length
			Order in 1 meter increments 003 = 0.3 mts (1 ft) minimum 200 = 20 mts (66 ft) maximum
IT6812 - A A A - B B B ³ - C C C			
□□□ - □□□ - □□□			
A			Machine RPM Range and Baseline ¹ Range
0	0	1	Low, <500 RPM and <500mV Baseline ²
0	0	2	Medium, 500-1000 RPM and <500mV Baseline ²
0	0	3	High, >1000 RPM or >500mV Baseline
B			Cable Length
0	0	3	003 = 0.3 mts (1 ft)
C			Housing Type (9288)
0	0	0	No Housing
0	0	1	For 1/4-28 UNC Transmitter, 1/2-13 UNC Machine Mount
0	0	2	For 1/4-28 UNC Transmitter, 1/4-18 UNC Machine Mount
0	0	3	For 1/4-28 UNC Transmitter, 1/2-14 UNC Machine Mount

Notes:

- See Manual Page 5 of 12
- For Ariel Compressors, when the RPM is greater than 500, use option -003
- Use 9061-XXX cable for IT6812

OPTIONAL ACCESSORIES

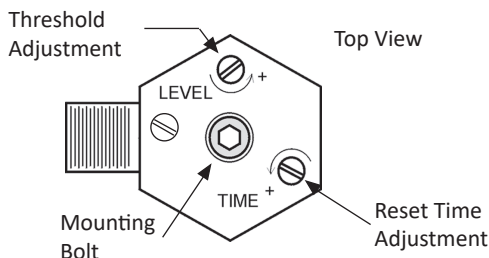
9334-211-XXXX-YYYY, Cable Assembly, w/Stainless Steel Armor

Two (2) pin socket connector with 7.1 mm (0.28") diameter, ss armored jacket with cable, twisted shielded pair wires.

xxx.x = Armor length in meters. yyy.y = Cable length in meters.



FIELD ADJUSTMENTS



Note: Remove sealing screws to gain access to adjustment potentiometers

IT6810/IT6811/IT6812 IMPACT TRANSMITTER

Datasheet

THEORY OF OPERATION

The output of the Impact Transmitter is a 4-20 mA signal proportional to the number of impact events over the threshold in a set time period. The relationship between the mA signal and the number of impact events remains the same. The time frame (reset time) over which the events are measured can be changed. This allows you to match the measuring time frame with the RPM range of your equipment. Chart #1 indicates mA output vs. impact events over the set threshold.

Waveform being detected by IT6810 Impact Transmitter

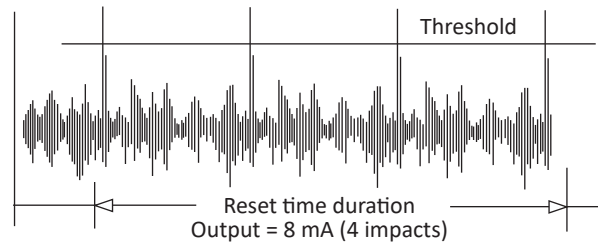
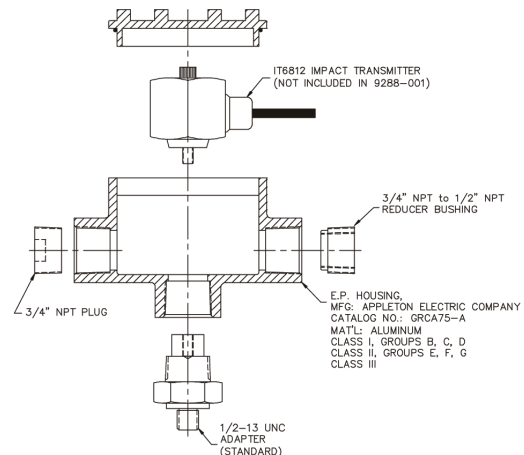


CHART 1	
Severity Level	Output
16 impacts > threshold	20 mA
14 impacts > threshold	18 mA
12 impacts > threshold	16 mA
10 impacts > threshold	14 mA
8 impacts > threshold	12 mA
6 impacts > threshold	10 mA
4 impacts > threshold	8 mA
2 impacts > threshold	6 mA
No impacts > threshold	4 mA
Loss of Power	0 mA

Translates number of impact events into 4-20 mA signal

Option for Class 1, Div 1 area

Specify IT6812 and 9288-series EP housing and mounting kit. Area classification met by using housing.



Note: Metrix is continuously improving our products. Please refer to our website to download the latest version of this datasheet.