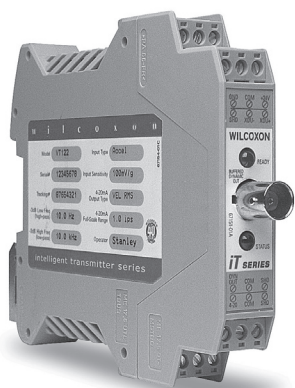


Model iT100, iT200 Series 4-20 mA vibration transmitter modules



Features

- Field adjustable filter settings
- Slim 17.5mm case
- Reverse wiring protection
- ESD protection
- Front panel BNC for dynamic signal output

Benefits

- Flexible filter frequencies allow users to make field adjustment easily, no hardware changes; easy to revert back to factory settings
- Dynamic signal available for portable data collectors (BNC) or hard wired on-line systems (terminals)
- Communicates with other iT Series modules through intergrated communication bus

The iT Series vibration transmitter module operates from a 24 Volt DC (nominal) power supply. They accept input directly from IEPE-type sensors. The module then processes the signal and produces an output 4-20 mA loop current proportional to the overall in-band vibration. The input dynamic vibration signal is buffered and presented as an output at the BNC connector and on one set of terminals. The standard 4-20 mA loop output signal is usually wired to a Programmable Logic Controller (PLC) or a Distributed Control System (DCS).

Wiring

Terminal designations

Terminal	Designation	Description
P1	+24V	Positive power input for iT module
	COM	Common for power input
	GND	Earth ground connection (to ground iT module)
P2	XDU+	Sensor power/signal Input
	XDU-	Sensor common Input
	SHD	Sensor shield wiring termination
P3	DYN OUT	Dynamic signal out
	COM	Common of dynamic signal out
	SHD	Shield point termination for dynamic out
P4	4-20	4-20 mA loop return signal
	COM	Common reference for 4-20 mA return
	SHD	Shield point termination for loop wiring

Front Panel

BNC connector
Green LED

Output BNC connection for buffered dynamic signal (for data collector)

"On" indicates 24 Volt power applied and Sensor connection OK

"Off" indicates no 24 Volt power applied or unit not ready

"Flashing" indicates BOV out of OK range (5V to 18V)

"Blinking" every 2 seconds, normal operation

Red LED

"ON" error condition, indicates signal clipping or internal circuit failure

Output, 4-20 mA loop current

Full scale, $\pm 2\%$ see chart on back
Output type peak (equivalent) or true RMS, true peak or true peak - peak

Frequency response, without filtering, -3dB:

Acceleration 0.3 Hz to 20 kHz
Velocity 2.0 Hz to 20 kHz

Repeatability 2%

Maximum 4-20mA loop load resistance¹ 600 Ω

Zero (4mA) accuracy ± 0.25 mA

Reading accuracy $\pm 2\%$ of Full Scale

High-pass filtering, 2-pole, pre-set² see chart on back

Low-pass filtering, 8-pole, pre-set² see chart on back

Temperature offset, maximum 0.1%/°C

Turn-on time 120 seconds

Output, buffered dynamic

Gain, RTI sensor 1.0 \pm 2%

Noise RT0, broadband, 1Hz - 10 kHz, RMS ≤ 0.0001 volts

Frequency response: amplitude (± 3 dB) ≤ 0.3 Hz to ≥ 100 kHz

Phase shift (at 1 kHz) 0° \pm 1°

Output type AC-coupled

Input

Sensor types IEPE accelerometers and IEPE Piezovelocuty transducers

Sensor sensitivities accepted:

Accelerometer 10 mV/g, 100 mV/g, 500 mV/g

PiezoVelocity 10 mV/ips, 100 mV/ips, 500 mV/ips

Sensor powering:

Open circuit voltage Vin - 2 \pm 1 Volts

Constant-current 3.6 mA $\pm 20\%$

Maximum dynamic signal input, for linear response³ ± 7 volts peak

Environmental

Power: voltage (Vin) 24 ± 4 volts, DC
absolute maximum voltage 32 volts DC @65°C
current draw ≤ 130 mA

Temperature -40°C to +85°C

Humidity, non-condensing $\leq 95\%$

Altitude limit, operating 3,000 meters

Physical

Mounting snap into 35 mm DIN rail

Width 17.5 mm (0.70")

Depth, front of BNC to back of DIN rail 127 mm (4.98")

Height 100 mm (3.90")

Notes: ¹ Determined at powering voltage of 24 Volts

² In "Manual Set" mode the filters are continuously variable. LF: 2 Hz to 1 kHz, HF: 200 Hz to 20 kHz

³ Under all conditions the input vibration should not exceed 50ips

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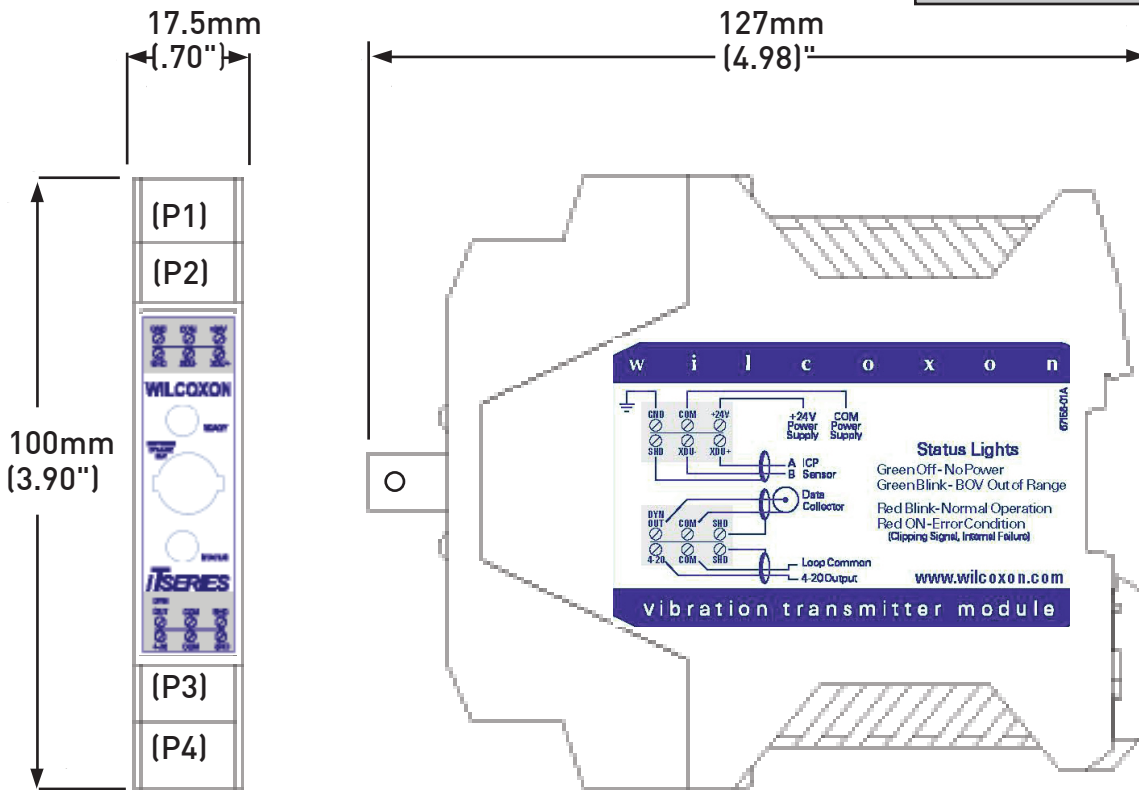
Fax: 301 330 8873

Email: sensors@wilcoxon.com

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MEGGITT
smart engineering for
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98881 Rev.D.1 11/05



Ordering information

iT □□□ - **F** □□ - **S** □□□□ - **L** □□□□□.□ - **H** □□□□□ (displayed on side label)

iT	iT Model type																																
111	Acceleration input, acceleration 4-20 mA output; g-peak																																
112	Acceleration input, acceleration 4-20 mA output; g-RMS																																
113	Acceleration input, acceleration 4-20 mA output; g-true peak																																
114	Acceleration input, acceleration 4-20 mA output; g-true peak - peak																																
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231	PiezVelocity (PVT) input, displacement 4-20 mA output; mil-peak																																
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L Low frequency corner (high-pass)	
0000.3	0.3 Hz (Acceleration models only)
0001.0	1 Hz (lowest freq. velocity or displacement, S > 500)
0002.0	2 Hz (lowest freq. velocity or displacement, S > 100)
0005.0	5 Hz (lowest freq. velocity or displacement, S > 010)
0010.0	10 Hz
0020.0	20 Hz
0030.0	30 Hz
0050.0	50 Hz
0080.0	80 Hz
0100.0	100 Hz
0200.0	200 Hz
0300.0	300 Hz
0500.0	500 Hz
1000.0	1000 Hz
H High frequency corner (low-pass)	
00200	200 Hz
00300	300 Hz
00500	500 Hz
00800	800 Hz
01000	1000 Hz
02000	2000 Hz (highest frequency for displacement models)
03000	3000 Hz
05000	5000 Hz (highest frequency for velocity models)
10000	10000 Hz (highest frequency for true peak or true peak - peak)
20000	20000 Hz (acceleration models only)

