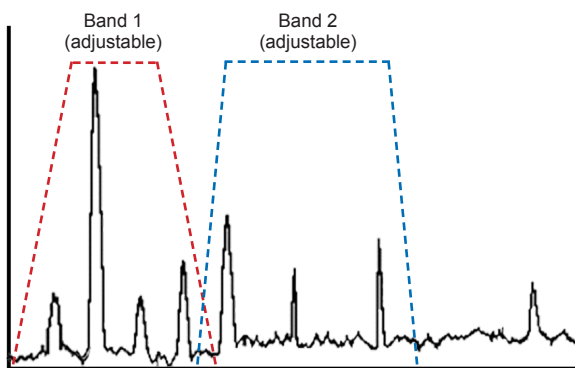


4-20 mA configurable vibration transmitter module

iT300

The iT300 transmitter provides an easy means to connect a standard IEPE vibration sensor to a PLC, DCS or SCADA system. The transmitter's input provides power to and measures the signal from either an accelerometer, piezovelocity sensor or dual output sensor. The input circuitry has a wide frequency response, capable of measuring signals between 0.2 Hz and 20,000 Hz.



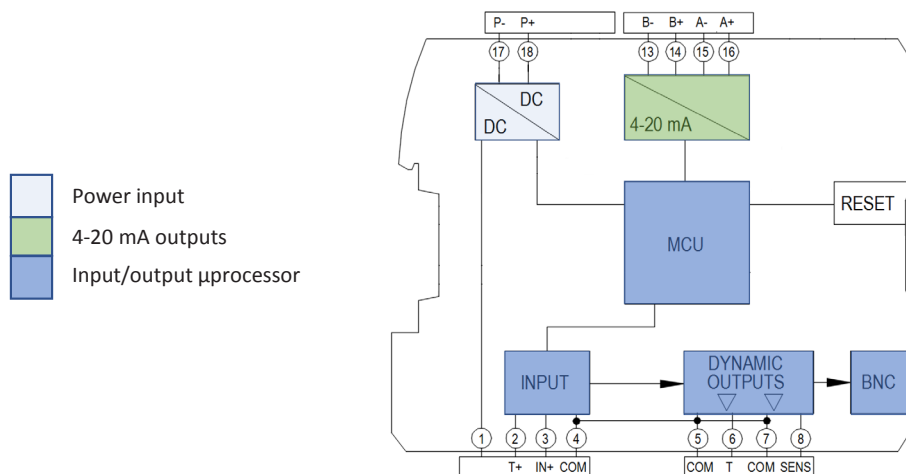
The transmitter has two independent processing bands with flexible mapping options to two separate 4-20 mA analog outputs. The processing channels contain selectable integration, allowing input from accelerometers to be output as acceleration or velocity. Selectable band filters and detector types make it easy to tailor the processing to specific machines or applications.



Key features

- Accepts input from accelerometers (single or dual output) or piezovelocity sensors
- Input signal is split into two independent processing bands
- Measures real-time sensor bands, BOV, true peak and temperature (if applicable)
- Built-in web server for custom configuration of bandwidth/detection type
- 2 x 4-20 mA outputs, user-defined
- Text field for user entry of machine information
- Configurations can be stored
- Selectable speed range
- Manufactured in an approved ISO 9001 facility

System architecture – input/output



Certifications



Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

4-20 mA configurable vibration transmitter module

iT300

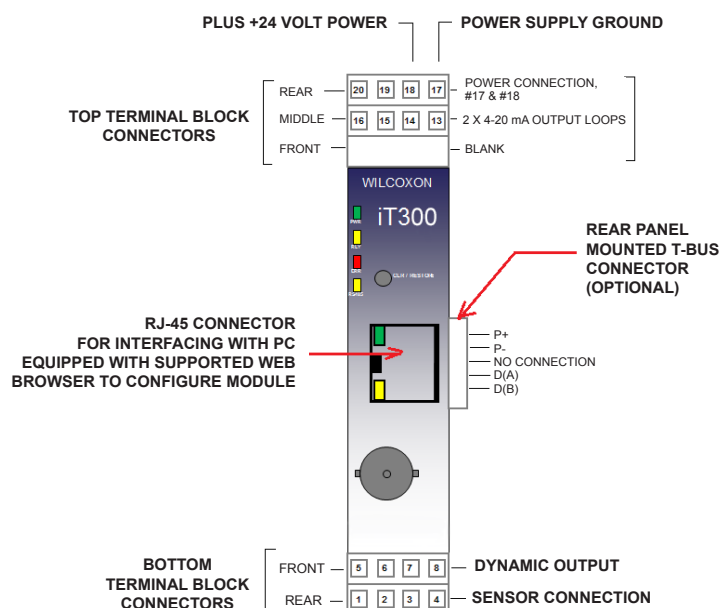
SPECIFICATIONS

INPUT		MAPPABLE OUTPUTS	
IEPE sensor type	Single-ended, DC coupled	4-20 mA output	2 user-configurable, based on (5) mappable options
Temperature sensor input	10 mV/°C	Max loop resistance	500 Ω
IEPE power source	+24 VDC, 4.5 mA	Output scaling ¹ :	
Sensitivity range:		acceleration	g (m/sec ²) - rms, peak, peak-peak
acceleration	9 - 11,000 mV/g	velocity	ips (mm/sec) - rms, peak, peak-peak
velocity	9 - 11,000 mV/ips	displacement	mils (mm) - rms, peak, peak-peak
Full scale input range	± 10 VDC	Output ranges ¹ :	
Frequency response	0.2 - 20 kHz (-3 dB, -0.1 dB)	acceleration	1 - 50 g (10 - 500 m/sec ²)
Fmax options	200, 500 Hz; 1, 2, 5, 10, 20 kHz	velocity	0.1-5 ips (2-100 mm/sec)
Accuracy	±0.2% of full scale, 100 Hz	displacement	10 - 200 mils (0.2 - 5.0 mm)
ADC sampling rate	48 kbps, 24 bits delta-sigma	ENVIRONMENTAL	
FFT resolution, windowing	1,600 lines, Hanning window	Temperature range	-40° to +70°C (storage: -40°C to +85°C)
Dynamic range	>90 dB	Power	11 - 32 VDC, 3.8 watts max (158 mA at 24 VDC)
CONFIGURABLE OPTIONS		Isolation	500 VAC
Frequency bands 1 and 2	Sensor unit ¹ or single integration ² Fstart ³ Fstop ³ Detection type: rms, peak, pk-pk	Connection type	screw terminal, 14 - 24 AWG
Fixed measurement bands	True peak, BOV, temperature ⁴	Mounting	35 mm DIN rail
		Dimensions	W x H x D: 22.5 x 99.2 x 114.5 mm

Notes: ¹ Based on IEPE sensor type (accelerometer or piezovelocity).
² Acceleration signal to velocity, velocity signal to displacement.
³ The available selections are affected by the Fmax setting.
⁴ 786T style sensors only.

System architecture

IO Port	Terminal numbers and signal assignments
Vibration sensor	1 - No connection 2 - Temperature sensor (in T+) 3 - Signal in / Sensor Power (IN+) 4 - Circuit Common (COM)
Temperature dynamic output	5 - Circuit Common (COM)
Sensor dynamic output	6 - Temperature out (T) 7 - Circuit Common (COM) 8 - Sensor out (SENS)
4-20 mA Loop B	13 - B- 14 - B+
4-20 mA Loop A	15 - A- 16 - A+
Power input	17 - P- 18 - P+
Not used	19 - 20 -



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Settings changes do not take effect until the "Save & Enable Changes" button is pressed

Save & Enable
Changes

Abandon
Changes

Login

Login required before any changes can be made

Machine Information

Location
Machine Name

Machine ID
Measurement Point

MACHINE INFORMATION

User entry of machine identity

Sensor Input

Sensor Type IEPE Power
Sensitivity (mV/g) Serial Number
Averaging Time

SENSOR INPUT

User entry of sensor parameters

Frequency Range

F max F min

FREQUENCY RANGE

User selection of frequency analysis range

Sensor Band Configuration

	Output Type	F start (Hz)	F stop (Hz)	Detector Type
Band 1	Velocity	5	5000	RMS
Band 2	Acceleration	5	5000	RMS

SENSOR BAND CONFIGURATION

Analysis band type and frequency limits

Measurement Results

	Result Unit	Present Level
Band 1	in/sec	1.000 in/sec
Band 2	g	1.000 g
True Peak	g	1.417 g
Temperature	Fahrenheit	32.0 °F
BOV	Volts	12.1 Volts

MEASUREMENT RESULTS

Results from each band in selectable units

Current Loops

	Loop Source	Full Scale	Level	Destination	Force Loop	Force Value (mA)
Loop A	Band 1	5	in/sec 7.20 mA	Loop A Dest	☐	10
Loop B	Disabled	5	0.00 mA	Loop B Dest	☐	10

CURRENT LOOPS

4-20 mA mapping

Network Configuration

IP Address Subnet Mask
Default Gateway MAC Address

NETWORK CONFIGURATION

Default configuration. Consult full manual on configuring your PC network adaptor.

Module Information

Model Hardware Revision
Serial Number Firmware Revision

Change
Password

Load Configuration
from File

Save Configuration
to File

Restore Factory
Defaults

Update
Firmware

Default user: user
Default password: admin
Remember to save your changes to have new values take effect.

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