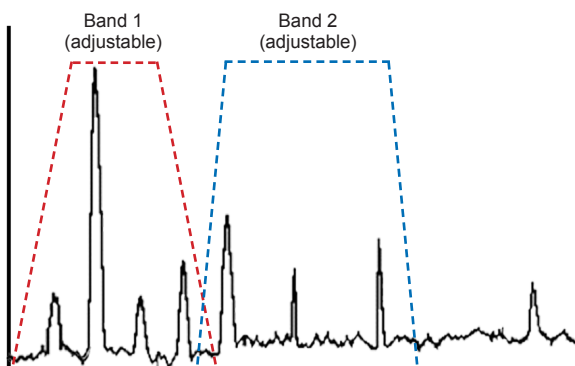


4-20 mA configurable vibration transmitter module

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.



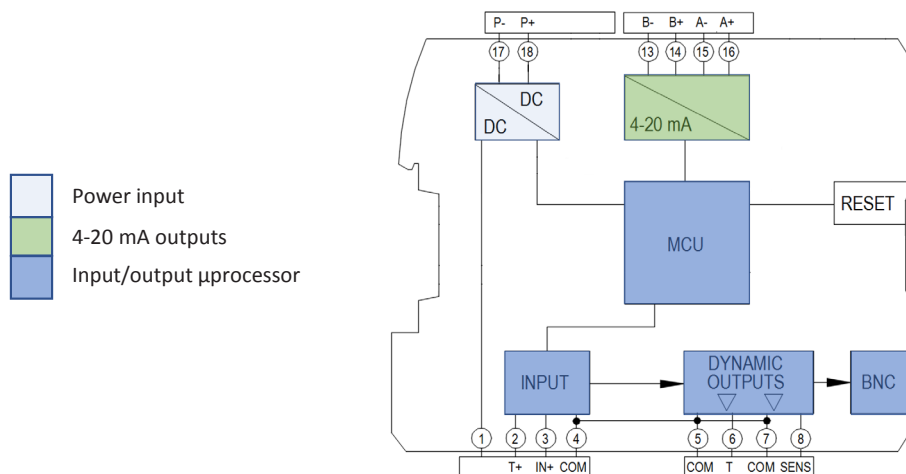
The transmitter has two independent processing bands with flexible mapping options to two separate 4-20 mA analog outputs. The processing channels contain selectable integration, allowing input from accelerometers to be output as acceleration or velocity. Selectable band filters and detector types make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

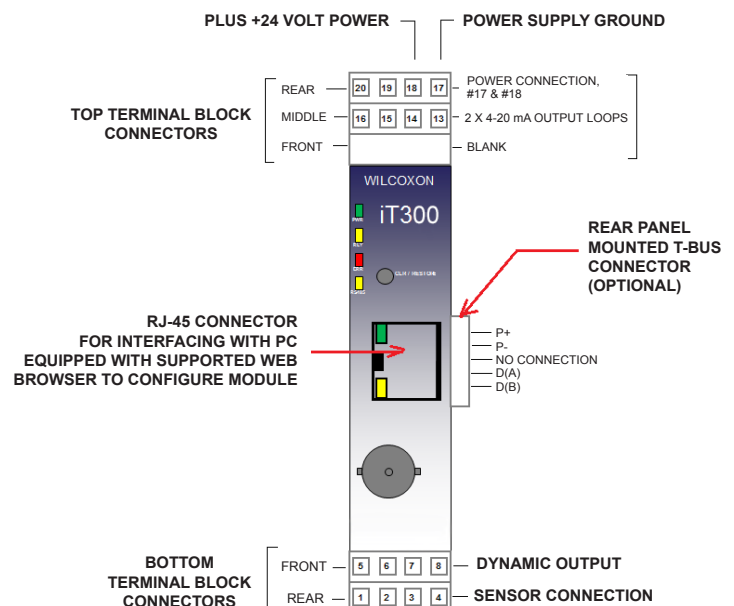
SPECIFICATIONS

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) 6 - Temperature out (T)
Sensor dynamic output	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 ID

Machine Name

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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