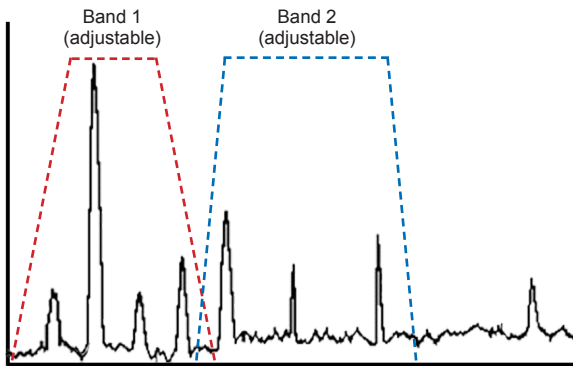


# 4-20 mA configurable vibration transmitter module

## iT300

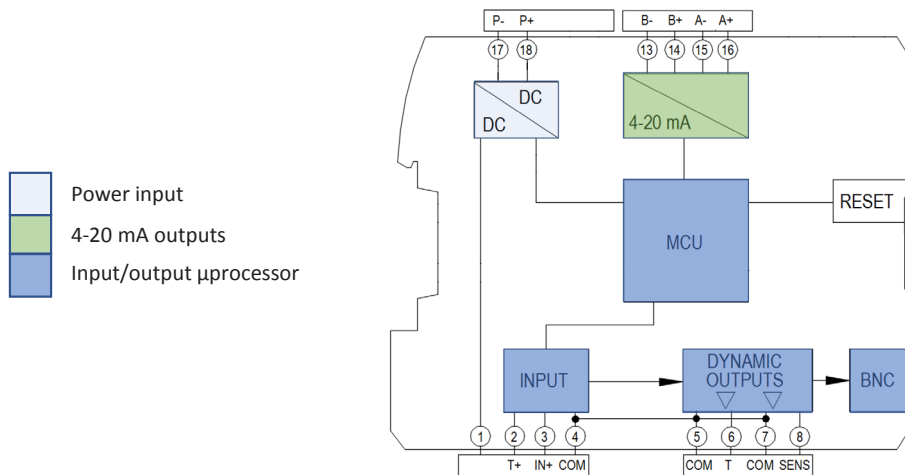
The iT300 transmitter provides an easy means to connect a standard IEPE vibration sensor to a PLC, DCS or SCADA system. The transmitter's input provides power to and measures the signal from either an accelerometer, piezovelocity sensor or dual output sensor. The input circuitry has a wide frequency 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.



### System architecture – input/output



### 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

### 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

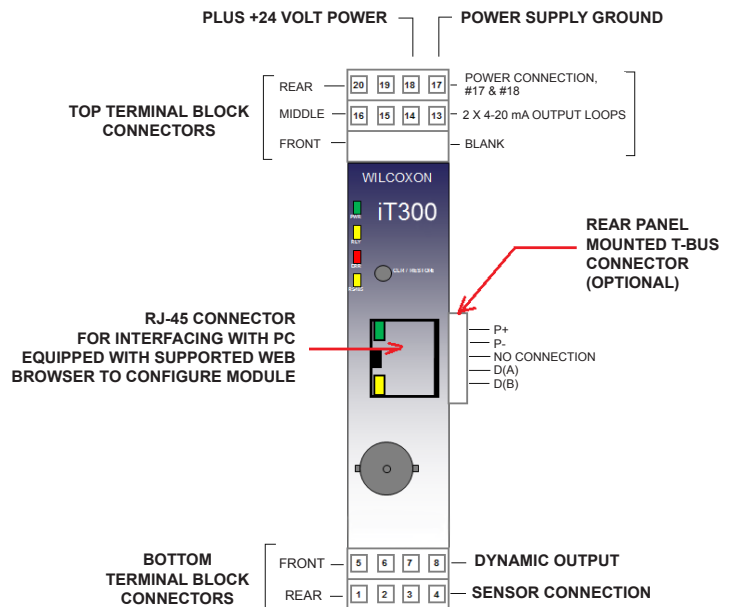
### SPECIFICATIONS

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

Notes: <sup>1</sup> Based on IEPE sensor type (accelerometer or piezovelocity).  
<sup>2</sup> Acceleration signal to velocity, velocity signal to displacement.  
<sup>3</sup> The available selections are affected by the Fmax setting.  
<sup>4</sup> 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

User entry of machine identity

## SENSOR INPUT

User entry of sensor parameters

## FREQUENCY RANGE

User selection of frequency analysis range

## SENSOR BAND CONFIGURATION

Analysis band type and frequency limits

## MEASUREMENT RESULTS

Results from each band in selectable units

## CURRENT LOOPS

4-20 mA mapping

## NETWORK CONFIGURATION

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

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

**Machine Information**

Location:  Machine ID:

Machine Name:  Measurement Point:

**Sensor Input**

Sensor Type:  IEPE Power:

Sensitivity (mV/g):  Serial Number:

Averaging Time:

**Frequency Range**

F max:  F min:

**Sensor Band Configuration**

	Output Type	F start (Hz)	F stop (Hz)	Detector Type
Band 1	<input type="text" value="Velocity"/>	<input type="text" value="5"/>	<input type="text" value="5000"/>	<input type="text" value="RMS"/>
Band 2	<input type="text" value="Acceleration"/>	<input type="text" value="5"/>	<input type="text" value="5000"/>	<input type="text" value="RMS"/>

**Measurement Results**

	Result Unit	Present Level
Band 1	<input type="text" value="in/sec"/>	1.000 in/sec
Band 2	<input type="text" value="g"/>	1.000 g
True Peak	<input type="text" value="g"/>	1.417 g
Temperature	<input type="text" value="Fahrenheit"/>	32.0 °F
BOV	Volts	12.1 Volts

**Current Loops**

	Loop Source	Full Scale	Level	Destination	Force Loop	Force Value (mA)
Loop A	<input type="text" value="Band 1"/>	<input type="text" value="5"/>	in/sec 7.20 mA	<input type="text" value="Loop A Dest"/>	<input type="checkbox"/>	<input type="text" value="10"/>
Loop B	<input type="text" value="Disabled"/>	<input type="text" value="5"/>	0.00 mA	<input type="text" value="Loop B Dest"/>	<input type="checkbox"/>	<input type="text" value="10"/>

**Network Configuration**

IP Address:  Subnet Mask:

Default Gateway:  MAC Address:

**Module Information**

Model: iT300 Hardware Revision: D8

Serial Number: ENG2 Firmware Revision: 1.01

- Change Password
- Load Configuration from File
- Save Configuration to File
- Restore Factory Defaults
- Update Firmware

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