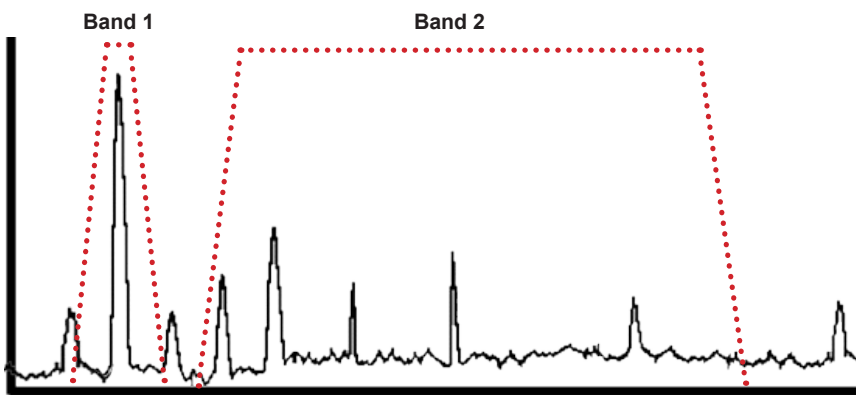


# User-configurable intelligent vibration transmitter

## iT301

Wilcoxon's new intelligent vibration transmitters measure and process dynamic vibration signals. The iT301 is optimized for process control and monitoring, with a variety of options for input signals, a wide frequency response, selectable band filters and detector types, and flexible output mapping options. The transmitter is MODBUS/RS485 enabled and features a built-in web server interface for efficient user configuration in the field.



2 user-configurable independent processing bands

See page 3 for system architecture and page 4 for more details on the iT301's built-in web server.

### Certifications



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

### Key features

- Accepts input from accelerometers (single and dual output), piezovelocity sensors
- Input signal split into 2 independent processing bands
- Measures real-time sensor bands, BOV, signal true peak and temperature
- Built-in web browser allows custom configuration of bandwidth and detection type
- High/low alarms mappable to a single NC/NO relay
- Configurations can be stored for easy recall
- Selectable speed range
- Communicates using Modbus-TCP or RS485 protocol
- Manufactured in an approved ISO 9001 facility

# User-configurable intelligent vibration transmitter



## iT301

### SPECIFICATIONS

#### INPUT

<b>Sensor type</b>	IEPE accelerometers (single and dual output), piezovelocity transducers
<b>IEPE power source</b>	+24 VDC, 4.5 mA, enable/disable
<b>Sensitivity range:</b>	
<b>Acceleration</b>	9 - 11,000 mV/g
<b>Velocity</b>	9 - 11,000 mV/in/sec
<b>Temperature</b>	10 mV/°C (optional 10 mV/°K)
<b>Maximum dynamic signal</b>	± 10 VAC
<b>Frequency response</b>	0.2 Hz to 20 kHz (-3 dB, 0.1 dB)
<b>Units</b>	English or metric

#### ANALYSIS

<b>Fmax</b>	200 to 20,000 Hz in 1, 2, 5 sequence
<b>FFT resolution</b>	Fixed, 1600 lines, bandwidth changes with Fmax
<b>Windowing</b>	Hanning
<b>Dynamic range</b>	>90 dB

#### BAND PROCESSING

<b>Vibration bands 1 and 2, independently configurable</b>	Sensor units or single integration Low frequency* $\geq$ Fmin, based on user-selected Fmax High frequency* $\leq$ Fmax RMS, peak or peak-to-peak	(*Fmax $\geq$ Fmin)
--	---	---------------------

#### MEASUREMENTS

<b>Bands 1 and 2</b>	configured vibration results
<b>True peak band</b>	True peak detector, 10 Hz to 25 kHz
<b>Bias output voltage (BOV)</b>	Measures sensor BOV (VDC)
<b>Temperature</b>	10 mV/°C, 2° to 120°C, sensor dependent

#### ALARMS

<b>High / Low / Relay</b>	All measurement parameters, user-configurable
---------------------------	---

#### OUTPUTS

<b>Buffered dynamic:</b>	
<b>Vibration</b>	DC coupled, BNC or terminal block; Raw sensor signal
<b>Temperature</b>	DC coupled, terminal block
<b>Loop outputs:</b>	
<b>4-20 mA (two) (sourced)</b>	Configurable from measurement results Full scale, user-configurable
<b>Max loop resistance</b>	500 $\Omega$
<b>RS485</b>	Two-wire, half-duplex; 256 kbps max band rate; 120 $\Omega$ termination network, switchable via DIP switch
<b>Alarm relay</b>	1 x NC/NO

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

# User-configurable intelligent vibration transmitter

## iT301

### SPECIFICATIONS

#### ACCESSIBILITY / NETWORK

<b>Built-in web server</b>	Password-protected configuration and firmware upgrades
<b>Browser support</b>	IE, Mozilla, Chrome
<b>IP address</b>	Default: 192.168.0.100
<b>Subnet mask</b>	Default: 255.255.255.0
<b>Default gateway</b>	Default: 192.168.0.1

#### ENVIRONMENTAL

<b>Power</b>	11 - 32 VDC, 350 mA max
<b>Temperature:</b>	
<b>Operating</b>	-40° to +70°C
<b>Storage</b>	-40° to +85°C

<b>Isolation</b>	500 VAC, input to output
------------------	--------------------------

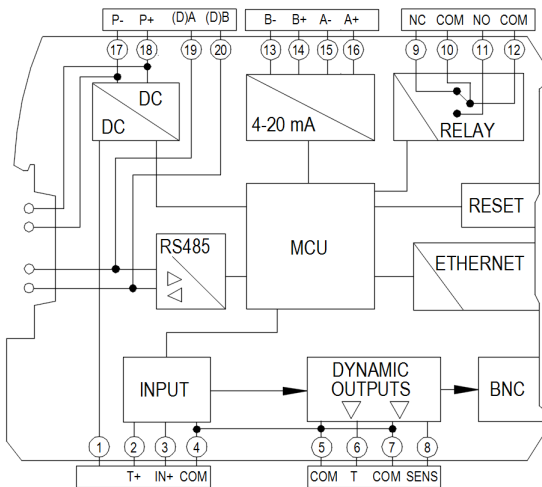
<b>T-bus, rear backplane</b>	Power and RS485 daisy chain
------------------------------	-----------------------------

#### PHYSICAL

<b>Mounting</b>	35 mm DIN rail
<b>Dimensions, case</b>	22 mm width x 114 mm depth x 100 mm height (0.89 x 4.473 x 3.9 in.) BNC connector adds 10 mm to overall depth
<b>Connections</b>	Screw terminal

#### Indicators:

<b>Green LED</b>	<b>Solid</b> – normal, <b>flashing</b> – test, <b>off</b> – no power
<b>Red LED</b>	<b>Solid</b> – sensor fault, <b>flashing</b> – 4-20 mA fault, <b>off</b> – normal
<b>Yellow LED (relay)</b>	<b>On</b> – relay energized, <b>off</b> – relay de-energized
<b>Yellow LED (RS485)</b>	<b>Flashing</b> – RS485 active, <b>off</b> – RS485 idle/non-matching address



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)
Signal relay	9 – Normally closed (NC)
	10 – Relay common (COM)
	11 – Normally open (NO)
	12 – Relay common (COM)
4-20 mA loop B (Secondary loop)	13 – B-
	14 – B+
4-20 mA loop A (Primary loop)	15 – A-
	16 – A+
Power input	17 – P-
	18 – P+
RS485*	19 – (D)A
	20 – (D)B

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

# Built-in web server



**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

Easily select frequency range

**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"/>

## SENSOR BAND CONFIGURATION

User-configurable analysis band type and frequency limits

**Measurement Results and Alarms**

	Result Unit	Present Level	Low Limit Enable	Low Limit Value	High Limit Enable	High Limit Value	Result Status	Alarm Status	Map to Relay
Band 1	<input type="text" value="in/sec"/>	<input type="text" value="1,000 in/sec"/>	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="text" value="500"/>	Disabled	OK	<input type="checkbox"/>
Band 2	<input type="text" value="g"/>	<input type="text" value="1,000 g"/>	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="text" value="500"/>	Disabled	OK	<input type="checkbox"/>
True Peak	<input type="text" value="g"/>	<input type="text" value="1,417 g"/>	<input type="checkbox"/>	<input type="text" value="0"/>	<input type="checkbox"/>	<input type="text" value="500"/>	Disabled	OK	<input type="checkbox"/>
Temperature	<input type="text" value="Fahrenheit"/>	<input type="text" value="32.0 °F"/>	<input type="checkbox"/>	<input type="text" value="32"/>	<input type="checkbox"/>	<input type="text" value="248"/>	Disabled	OK	<input type="checkbox"/>
BOV	<input type="text" value="Volts"/>	<input type="text" value="12.0 Volts"/>	<input checked="" type="checkbox"/>	<input type="text" value="5"/>	<input checked="" type="checkbox"/>	<input type="text" value="16"/>	OK	OK	<input type="checkbox"/>

Alarm Delay Time (sec):  Relay Status:

Alarm Hold Time (sec):  Clear Alarms:  Force Relay:

## MEASUREMENT RESULTS AND ALARMS

Measurement results from all bands, selectable alarm levels, and continuous monitoring of alarms

**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"/>	<input type="text" value="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"/>	<input type="text" value="0.00 mA"/>	<input type="text" value="Loop B Dest"/>	<input type="checkbox"/>	<input type="text" value="10"/>

## CURRENT LOOPS

4-20 mA mapping

**Network Configuration**

IP Address:  Subnet Mask:

Default Gateway:  MAC Address:

## NETWORK CONFIGURATION

**Modbus/RS485**

Slave Address:  Format:

Baud Rate:  Parity:

## MODBUS/RS485

Multiple communication methods: Modbus TCP, Modbus Serial, RS485

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



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.