

# Model *iT401* 4-20mA Alarm Module



The *iT401* is the first alarm module designed to work with any 4-20mA Loop-Powered device and/or the *iT*-series sensor signal-conditioning modules, providing easily-programmable relay activation for use in condition-based monitoring or process control.

Digital technology, along with simple face-panel push-buttons and a bright digital display means never having to open the unit to alter setpoints. Memory allows user to decide to keep changes permanently, or restore manufacturer defaults.

### FEATURES:

- 35 mm DIN rail mount
- Front-panel tactile membrane switches
- Front-panel 7-segment LED displays
- TBUS connection to *iT*-Series modules
- Digital Processing
- Relays have over 2,000 VAC isolation
- Mounts adjacent to *iT*-Series transmitter modules
- External alarm contacts for signal or BOV faults
- Alternate direct 4-20mA signal input

### BENEFITS:

- No need to make external wiring connections to *iT*-Series modules
- Front-panel switches give access to all settings
- No need to open case to change alarm settings
- Alarm relays can directly control AC or DC loads
- Relay high voltage isolation protects module circuits
- Front panel digital display of input loop level during running conditions
- Front panel digital display of alarm setpoints during programming setup
- Can be used with any 4-20mA loop signal or sensor
- Has capability to activate/reset any relay based on errors (such as loss of 4-20mA signal or *iT*-Series communication)
- LED displays operate faster than LCD(liquid-crystal) displays, are brighter, and operate over entire industrial temperature range

### INPUT

Front Panel Pushbuttons:	
Mode/Reset .....	Controls mode for programming or reset of latched relays
Increase/Decrease .....	Changes programming parameters
Reset Input, terminal connection .....	Contact closure for reset of latched relays
Input signal:	
TBUS connector .....	Direct connect to vibration transmitter
4-20mA input .....	Uses signal from any 4-20mA source
Loop Load .....	247.5 ± 5%Ω

### OUTPUT

Alarm Relay Contacts, 1Form-C .....	(3) Alarm Relays
Alarm Relay Function .....	Latching or Non-Latching
Relay Contact Load:	
@70°C (resistive) .....	8 Amp, 250VAC/30VDC
@85°C (resistive) .....	5 Amp, 250VAC/30VDC
Inductive .....	1/3 HP, 125VAC
Alarm Trip (each alarm) .....	High or low setpoint <sup>1</sup>
Alarm Action Delay (each alarm) .....	0 to 99 seconds
Alarm Setpoint (each alarm):	
Vibration Signal .....	0 to 99% of full scale, in 1% increments
Bias Voltage .....	0 to 18V in 1V Steps <sup>4</sup>
Redundant 4-20mA output .....	2mA to 22mA <sup>4</sup>

### PHYSICAL

Mounting .....	35 mm DIN "T" rail
Width .....	22.5 mm
Depth, front of panel to back of DIN rail .....	127 mm
Height .....	100 mm
Front Panel Switches .....	Tactile Membrane
Front Panel Digital Display .....	Dual 7-segment yellow LED, 0.3"
Front Panel Alarm LED Display .....	High (red), Low (yellow) <sup>1</sup> , BOV(Orange) <sup>4</sup>
Connectors .....	4-position removable screw terminal plugs

### ENVIRONMENTAL

Operating Temperature .....	-40°C to 85°C
Humidity, maximum .....	95% RH, Non-condensing
Altitude, above seal level, maximum .....	3,000 Meters (10,000 feet)
Power Requirements:	
Voltage .....	24 VDC Nominal <sup>2</sup>
Current, maximum .....	150 mA <sup>3</sup>

### Accessories:

- iT* 031 TBUS Connector For *iT* 100/200/300-series module, *IT* 501
- iT* 032 TBUS Connector For *iT401* module
- iT* 033, *iT034*, *iT035* TBUS(power) wiring connectors for use with non-*iT* 100/200/300 Series transmitter modules
- iT* 042 4-position spare wire connector for *iT401* module

### Notes:

- <sup>1</sup> The three front panel alarm status LED displays are tri-color, red, yellow and orange; are illuminated when that alarm is "On" with color indicating whether it was set as a "high" alarm, "low" alarm, or BOV alarm.
- <sup>2</sup> Power for the *iT401* is supplied via TBUS connector inside DIN-Mount from either *iT*-Series Transmitter (using *iT031* and *iT032*) or external power supply (using *iT032* and *iT033/034/035* connectors).
- <sup>3</sup> Current draw is determined at 24 Volts DC power.
- <sup>4</sup> When used with an *iT-series* transmitter module.



Due to continued research and development, Wilcoxon Research reserves the right to amend this specification without notice.



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