



Input: 0-20 mA
Output: 0-20 mA

- Factory Set Custom I/O Range
- Easy-to-Install Plug-In Design
- Hot Swappable
- Full 2000 V Input/Output/Power Isolation
- Input and Output LoopTracker® LEDs
- Output Test Button

Application

- Turblex, Howden Siemens Equipment

DC Input Range

Current: 0-20 mA, sinking

Input Voltage Burden (Current)

1.25 VDC maximum

Common Mode Rejection

120 dB minimum

LoopTracker

Variable brightness LEDs indicate I/O loop level and status

DC Output Range

Current: 0-20 mA, sinking

Output Calibration

Multi-turn zero & span potentiometers, ±15% span adj. typ.

Output Test

Sets output to test level when pressed
 Test level factory set to approx. 50% of span

Output Ripple and Noise

Less than 10 mVRMS

Linearity

Better than ±0.1% of span

Ambient Temperature Range and Stability

-10°C to +60°C operating ambient
 Better than ±0.04% of span per °C stability, calculated, not tested. To avoid permanent damage, do not operate outside of specified ambient temperature range.

Response Time

70 milliseconds typical

Isolation

2000 VRMS minimum

Full isolation: power to input, power to output, input to output

Installation Environment

IP 40, requires installation in panel or enclosure
 Use with API 008 or API 008 FS 8-pin socket
 UL 508C pollution degree 2 environments or better

This is a replacement for an existing custom isolator. Make sure model numbers are the same. Do not modify wiring.

DO NOT substitute an API 4300 series or another manufacturer's 4300 module.

Power

9-30 VDC, 2.5 W typical

API maintains a constant effort to upgrade and improve its products. Specifications are subject to change without notice. See api-usa.com for latest product information. Consult factory for your specific requirements.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Precautions

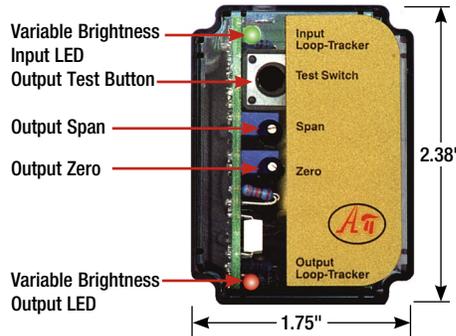
WARNING! All work must be performed by a qualified electrician or instrumentation engineer.

WARNING! Avoid shock hazards! Turn all power off before removing or installing module.

Précautions

ATTENTION! Tous les travaux doivent être effectués par un électricien qualifié ou un ingénieur en instrumentation.

ATTENTION! Évitez les risques d'électrocution! Coupez l'alimentation avant de retirer ou d'installer le module.



Model	Input	Output	Power
TX-4300	0-20 mA	0-20 mA	9-30 VDC

Description

The TX-4300 is factory configured to accept a DC current input and provide an optically isolated DC current output that is linearly related to the input.

Full 3-way isolation (input, output, power) makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction.

The milliamp input and output are both current sinking. Connected devices provide power to respective input loop and output loop.

LoopTracker

API exclusive features include LoopTracker LEDs (green for input, red for output) that vary in intensity with changes in the process input and output signals.

Output Test

An output test button provides a fixed output (independent of the input) when held depressed. The output test greatly aids in saving time during initial startup and/or troubleshooting. The test output level is factory set at 50% of output span.

Mounting

The TX-4300 plugs into a standard 8-pin octal socket.

Calibration TX-4300

Units are factory calibrated but top-mounted, Zero and Span potentiometers can be used should fine-tuning be necessary.

1. Apply power to the module and allow a minimum 20 minute warm up time.
2. Using an accurate calibration source, provide an input to the module equal to 5% the minimum input (i.e. 20mA x 0.05 = 1 mA) required for the application.
3. Using an accurate measurement device for the output, adjust the Zero potentiometer for the exact minimum output desired (5% point is 1 mA which is used for calibration).

Due to the fact that the unit is ranged for 0-20 mA use 5% of the input (1 mA) for the minimum input as there is no way to distinguish between 0 mA and an open circuit.

The Zero control should only be adjusted when the input signal is at its minimum calibration point (1 mA).

This will produce the corresponding minimum calibration point for the output signal (1 mA).

4. Set the input at maximum (20 mA), and then adjust the Span pot for the exact maximum output desired (20mA).

The Span control should only be adjusted when the input signal is at its maximum.

This will produce the corresponding maximum output signal.

5. Repeat adjustments as necessary for maximum accuracy.

Test Button and Output Test

The Test Switch pushbutton, when depressed, will provide the output side of the loop with a known good signal that can be used as a diagnostic aid during initial start-up or during troubleshooting.

It can be adjusted from 0 to 100% of the calibrated output range. When released, the output will return to normal.

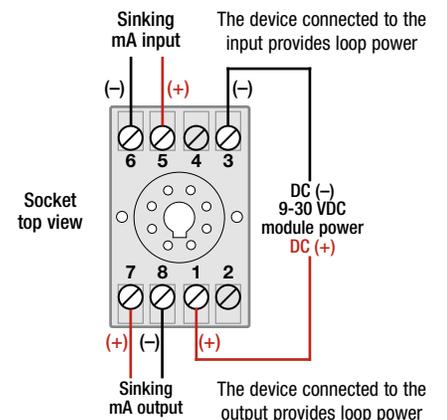
Turn the Test Range potentiometer while pressing the Test Switch until the desired output test level is reached.

Operation

The TX-4300 is factory configured to the required input and output for the application. The input is filtered, either amplified or attenuated as required, then passed through to the output stage.

GREEN Input LED – Provides a visual indication that a signal is being sensed by the input circuitry of the module. It also indicates the input signal strength by changing in intensity as the process changes from minimum to maximum. If the LED fails to illuminate, or fails to change in intensity as the process changes, this may indicate a problem with module power or signal input wiring.

THE RED Output LED – Provides a visual indication that the output signal is functioning. It becomes brighter as the input and the corresponding output change from minimum to maximum. The RED LED will only light if the output loop current path is complete. Failure to illuminate or a failure to change in intensity as the process changes may indicate a problem with the module power or signal output wiring.



Do not make connections to unused terminals!