

DC Voltage Redundancy Transducer



OVERVIEW

The TX series of Signal Conditioners, Isolators, Transducers and Transmitters comprise a wide range of high quality and reliable instruments for the conversion, amplification, computation and isolation of analog and digital signals.

The TX-301 DC Voltage Redundancy Isolating Transducers measure and process two DC Voltage inputs of 0-10 VDC from PLC Output Cards and compare the two signals. The 4-20 mA DC output signal is proportional to the higher of the two input signals, thereby ensuring that the output signal is always available and continuous, irrespective of variations in the input signals. The Output signal is linear with respect to the Input signal and is galvanically and optically isolated to a potential level of 1.5 kV rms for one minute.

Inputs of 0 to 10 VDC from both PLC cards are processed simultaneously by the TX-301 as primary input and secondary input. When the primary input fails, the TX-301 processes the input from the secondary card without any disturbance in the current output. This operates vice-versa also. At healthy condition TX-301 transforms the higher of the two input signals to the output current, by default factory set function of 0.1 VDC is fixed to differentiate higher of the two inputs.

The instrument operates on 24 VDC power supply. Optional features include Signal repeating [multiple isolated outputs], higher load driving capability of 650 Ohm, digital indication facility, control relay outputs, two-wire operation with auxiliary power output, data communication, etc.

The instruments are available in compact industrial grade enclosures in DIN Rail / Wall-mounting execution, or optionally in IP66 protected field mount weather-proof enclosures, or in CIMFR certified explosion-proof enclosures. Absence of any moving parts provides these instruments inherent advantages like immunity to mechanical shocks, dust, ambient temperature, humidity and corrosive atmosphere.

SPECIFICATIONS

Model	ASHE TX-301.
Type	Microcontroller based DC Voltage Redundancy Transducer.
Principle	Optical Isolation and Signal Conditioning.
Input Signals	Two inputs of 0 to 10 VDC.
Output Signal	4 to 20 mA DC proportional to the higher of the two input signals.
Load Driving Capacity	650 Ohms
Response Time	100 mSec.
Differential Voltage	0.1 VDC for high signal.
Power Consumption	Approximately 0.8 Watts.
Linearity	± 0.1%.
Isolation	Between Inputs // Output // Power Supply.
Isolation Type	Optical and Galvanic.
Isolation Level	1.5 kV rms for one minute.
Output Protection	Short / Open Circuit protection. Calibration Facility Zero and Span settings [external].
Output Signal Accuracy	± 0.1 mA
Indication	Red LED for Power On.
Power Supply	20 to 70 VDC.
Dimensions	75 x 22 x 107 mm. [H x W x D].
Execution	DIN-Rail / Wall mounting.
Enclosure	Industrial grade ABS.
Terminal Screw Size	Suitable for 2.5 sq mm wire.
Weight	Approximately 0.4 Kgs.
Operating Temperature	0 to 55°C.

FEATURES

- Optical & Galvanic Isolation between Inputs, Output and Power Supply
- High accuracy and linearity to input signals
- Very low power consumption and heat dissipation
- Options of multiple [upto four] isolated outputs
- High load driving capacity of retransmitted signal
- Configurable output option of current / voltage
- Short-circuit / Open-circuit protection of outputs
- Front accessible Zero and Span calibration for output signal
- Digital Indication option with/without control relay outputs
- 24 VDC Power Supply
- Rugged, industrial grade ABS enclosure
- Panel / Field / Hazardous area installation in IP66 execution
- Current limiting for I/O protection
- Customized outputs offered
- Proven record of several thousand installations of the TX-Series