

TRANSPAK™ T287 MODEL CE



Programmable, Isolating, Universal Input 2-Wire Transmitter

Provides an Isolated, Linearized Current Loop in Proportion to a Thermocouple, RTD, Millivolt, Potentiometer or Resistance Input in a Miniature Package

DESCRIPTION

The Model T287 is a programmable two-wire transmitter that is configured to provide an isolated 4-20mA signal in proportion to the desired input signal. The T287 accepts thermocouple, 2-, 3-, or 4-wire RTD, potentiometer, resistance and millivolt inputs. The T287 is capable of supporting either single or dual inputs. In the dual input mode, either input can be selected to control the output or math functions can be applied where both inputs have an effect on the output. The functions available are Sum, Difference, Average, Higher of the two or Lower of the two inputs. Typical applications include providing accurate, stable signals to distributed control systems (DCS), supervisory control and data acquisition systems (SCADA), environmental monitoring and control systems (EMCS), data acquisition and control systems (DACS) and custody transfer/pipeline systems.

Configuration is performed by connecting the transmitter to a standard PC serial port, (9-pin RS-232) using an isolated interface adapter, and running a user-friendly, Windows-based program. Unique technology in the T287 allows all configuration information to be defined and modified with only a PC, the interface adapter, and the transmitter. No loop supply, input simulation or meter on the output is required. The fully isolated adapter reduces the risk of expensive damage to the PC which can be caused by spikes and surges on field wiring entering the computer via its unprotected serial port.

The T287 utilizes state of the art microprocessor technology that yields higher accuracy and long-term stability with lower



*Protecting the
Integrity of
Industrial
Process Signals*

Benefits

- Universal Input Capabilities Reduces the Required Inventory Levels
- Eliminates Ground Loops with 2000VDC Input to Output Isolation
- Supports Single or Dual Inputs
- User-Friendly Configuration via Windows Based Software Provides Full Programmability for Sensor Type and Input Range
- Custom Linearization Capabilities for Special T/C Types
- DIN Rail Mounting Adapter Included



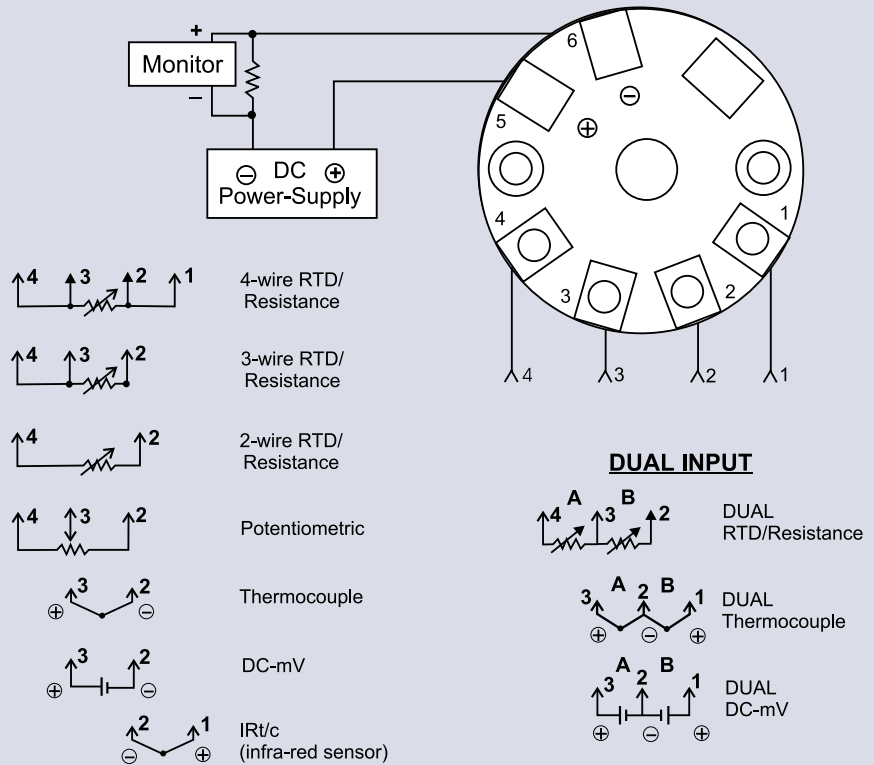
power consumption than prior generation transmitters. The T287 automatically performs frequent self-tests and auto-calibration while in service, resulting in very stable, long-term performance. The stability of the T287 is better than $\pm 0.1\%$ of span over 12 months.

OPERATION

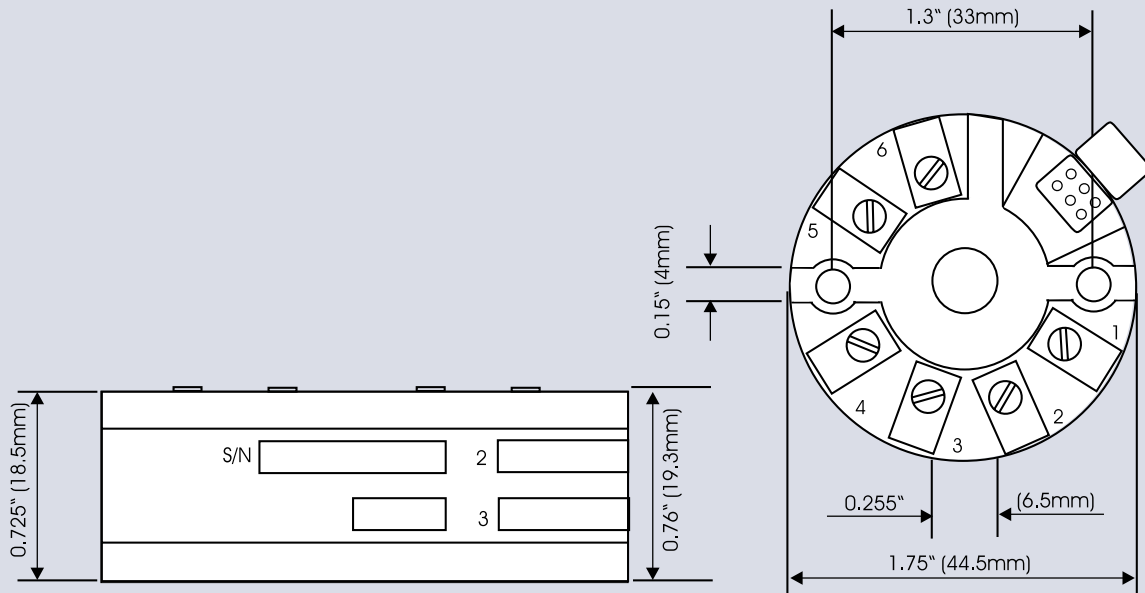
Every model T287 is factory calibrated and may be simply configured to perform the desired function using the Device Configuration screen and the Sensor Selection Screen. Just fasten the DB-9 connector to the computer's serial port and the keyed 6-pin connector to the port under the access cover on the top of the transmitter. There is no need to provide an external power supply and load to the T287's output to configure the transmitter.

Units placed in service may have their configuration "up-loaded" to the PC. Their operating parameters may be reviewed and if necessary revised and downloaded again. All configuration parameters may be stored in a configuration file on the PC for future use. The Configuration & Calibration Software, Isolated RS-232/T287 Communications Adapter and User's Guide are included in the model C680-0001.

TERMINAL ASSIGNMENT



DIMENSIONS



SPECIFICATIONS

Input Types	Thermocouples: Most standard types and all special types using customer defined tables and polynomials. RTD: 2-, 3- and 4-wire, Pt-100, Ni-110 and other RTDs. Includes Callandar-Van-Dusen adaptation and custom sensors linearization with user defined tables and polynomials. DC mV: -10 to 100mV Potentiometers: 0 to 20k Ω Resistance: 0 to 400 Ω
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General Specifications

Minimum Range	2mV
Output	4-20mA
Supply Voltage	9-40VDC (@ no load), reverse polarity protected
Maximum Load	$R_{max} = (V_{supply} - 9V) / 20mA$
Operating Temperature	-40 to 85°C
Storage Temperature	-55 to +125°C
Humidity:	0 to 95% RHNC
Response Time	0.3 seconds, to 90% of input (>3 updates per second)

Damping Factors	Programmable 0 to 64 seconds, to 0 to 120% of input range, using configuration software
Stability	Better than $\pm 0.1\%$ of span for 12 months
Isolation	2000VDC, input to output
RFI Protection	<1% effect of span at 20-1000MHz and at field strength of 20V/m

Performance Specifications

Output Resolution	0.015% of span (2.5 μ A)
Output Linearity (D/A)	Better than 0.02% of output span
Sensor Linearization	Better than 0.1°C for RTDs Better than 0.2°C for Thermocouple
Cold Junction Compensation	Automatic to within $\pm 0.7^\circ$ C for all thermocouples
Temperature Stability	0.015%/°C combined Zero and Span
Supply Voltage Effect	< $\pm 0.003\%$ per volt
Calibration	Automatic, unit includes all the calibration parameters. The unit performs periodic zero & span self-test, and auto calibration.
Input Linearity	Better than 0.01% of span (mV input)

MODELS & ACCESSORIES

Ordering Information

Specify:

1. Model: **T287-0000**
2. Model: **C680-0001** Isolated Communications Adapter, Configuration and Calibration Software, and User's Guide.

Accessories

9046	Action Pak 24/40VDC, 65mA Loop Power Supply
T609	24V, 600mA Loop Power Supply
V560/565	3½ digit remote loop powered indicator with wide ranging display.
T25H-0000	Head Mount Enclosure - ½ NPT for Thermowell and Conduit

HEADMOUNT ENCLOSURE



FACTORY ASSISTANCE:

For additional information on calibration, operation and installation please contact Action's Technical Services Group. Call toll free:

800-767-5726

Eurotherm Action, Inc.

Action Instruments

8601 Aero Drive San Diego, CA 92123

858-279-5726 Service and support: 800-767-5726 FAX: 858-279-6290

sales@actionio.com literature@actionio.com support@actionio.com

www.eurothermaction.com

www.actionio.com

