

Transmitters

2-Wire Microprocessor Head Mount Transmitters

Basically, a transmitter is a signal conditioner. It accepts a low level input signal from a sensor, a millivolt signal from a thermocouple or a resistance signal from a RTD (Pt100), and provides an output signal that is directly proportional to the input-signal. Most transmitters provide a current output signal (generally 4-20 mA or 0-20 mA signal) rather than a voltage output.

Conversion to a current signal virtually eliminates any interference from line noise and allows accurate transmission over relatively long distances using ordinary uncompensated copper wire.

2-Wire Transmitters

2-wire transmitters allow the same two wires to carry both the transmitter power and the transmitter signal. The transmitter electronics is designed to use less than 4 mA for internal consumption. As the input signal (from the

sensor) changes, the current drawn from the power supply will vary from 4 to 20 mA in direct proportion to the sensor change. This current change is referred to as the "loop current". This 2-wire technique allows significant savings by reducing the size of the transmitter installation as well as a reduction of installation time and materials required while still providing accurate signal transmission.

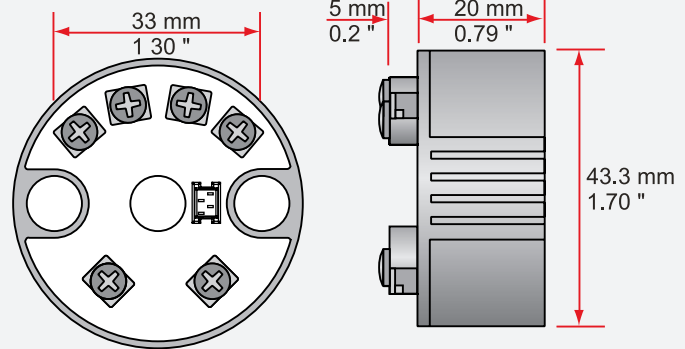
Ideally, the 2-Wire Transmitter should be placed in the sensor connection head to provide the best signal. A wide range of 2-Wire head-mount transmitters (in both isolated and non-isolated versions) to fit almost any standard connection head is offered. When a 2-Wire Head-Mount Transmitter cannot be used (because of extreme temperature or vibration) a complete line of 2-Wire Rail Mount Transmitters are available.

Universal Transmitter

The MP82700 is one of the smallest and most advanced 2-wire head mounting microprocessor transmitter in the industry. With its small size it is able to fit in standard connection heads yet still provide the most advanced microprocessor technology available. Easily programmed in less than one minute the Mp82700 can be used for all your different sensor and range requirements.

Standard Features:

- Universal Input -
12 T/C's : J, K, E, T, R, S, B, C, D, N, L, U
8 RTD's : PT100, PT500, PT1000, NI100,
NI500, NI1000, CU10, CU100
- Millivolt (V),
Resistance (Ohms)
- Fully Isolated
- ATEX Approval
- Fully Linearized
- High Accuracy (0.1%)
- Small Size
- 5-year warranty
- RFI/EMI Immunity (DC to 1GHz)



MP82700 - 1

1 Options:

- D = Plug-in Loop Powered Readout
- IF = Interface and Software
- CW = Connection Head with Window
- EX = Intrinsically Safe Approval
- FM = Intrinsically Safe Approval
- H = Hart Protocol

*Note: If you require a Rail-mount Version of this assembly, order as part number MP88700

If you do not require all the features of the MP82700 there are other models to consider:

Multi-Input Transmitter

T/C (J,K,E,T,N) RTD (PT100 RTD)

- Fully Linearized
- RFI Protected
- ATEX Approval
- High Accuracy
- Small Size
- 5-Year Warranty

MP82800 - []

1 Options:

D = Plug-in Loop Powered Readout
 IF = Interface and Software
 CW = Connection Head with Window
 EX = Intrinsically Safe Approval
 FM = Intrinsically Safe Approval

RTD Transmitter

PT100 RTD (only)

- Fully Linearized
- RFI Protected
- ATEX Approval
- High Accuracy
- Small Size
- 5-Year Warranty

MP82800-R - []

1 Options:

D = Plug-in Loop Powered Readout
 IF = Interface and Software
 CW = Connection Head with Window
 EX = Intrinsically Safe Approval

Economy RTD Transmitter

PT100 RTD (only)

- Fully Linearized
- High Accuracy
- Push Button Programmable**
- 5-Year Warranty

MP82850-R - []

1 Options:

D = Plug-in Loop Powered Readout
 CW = Connection Head with Window

TRANSMITTER OPTIONS

Plug-in Loop Powered Readout (D)
 The "display" is a loop powered plug-in LCD Readout for local display of the measured temperature. Easy to connect on top of the transmitter with the interface connector.

Connection Head with Window (CW)
 This specially designed DAN connection head is suitable for microprocessor head mount transmitters with display (D). The display will be attached by a connection cable with plugs - the same method as the Interface (IF) connection.

Interface and Software (IF)
 The interface and "Point 'n Click" software program is suitable for all micro-processor based transmitters (Mp series). Using your PC and the "point 'n click" software transmitters are easily programmed in less than one minute.

Intrinsically Safe Approval (EX)

Intrinsically Safe Approval (FM)

GIC offers a large variety of transmitters for every need. For the latest transmitter options and indepth specifications see our website

www.GICThermodynamics.com

Specifications

Input RTD	Pt100, Pt500, Pt1000 Ni100, Ni500, Ni1000 Cu10, Cu100
Input T/C	K, J, L, T, U, E, R, S, B, C, D, N
Input V	
Input Ohm	
Minimum Span	See Table below
Output	4..20 mA or 20..4 mA
Linearization	On / Off
Supply *	10..40 VDC, Polarity Protected
Supply Effect	0.001%/V
Max. Ripple	10 V PP, Min Vbat=10 Vdc
Zero Drift	±0.01%/°C or ±0.02 °C/°C
Span Drift	±0.005%/°C or ±0.01 °C/°C
Long Term Drift	±0.05%/Year
Cold Junction Drift	±0.01 °C/°C
Excitation Current, RTD	0.1 mA
Sensor Lead Resistance, RTD	500 Ohm max.
Sensor Lead Resistance Effect	0.001 °C/Ohm
Sensor Lead Resistance, T/C	10,000 Ohm max.
Open Circuit Detection	Upscale / Downscale
Load Capacity	Vbat-10V / 20 mA
Response Time	≤ 3 sec.
Startup Time	20 sec.
Warm-up Time	5 min.
Isolation	500 VCD
Ambient Operating Temp.	-40...+85°C
Storage Temperature	-40...+100°C
Ingress Protection	IP30
Housing Material	Zinc Alloy (ZAMAK 5) epoxy coated
Housing Dimension	43mm Dia. x 27mm H.