



INFORMATION & SPECIFICATIONS DATA SHEET

TEMPERATURE & PROCESS INSTRUMENTS - INC

Mp82800 Series Thermocouple and RTD Linearized 2-wire 4 to 20mA Temperature Transmitter

Mp82800 Microprocessor Head Mount Temperature Transmitter

The Mp82800 is the smallest, most advanced 2-wire 4 to 20 mA head mounting microprocessor based transmitter available. Able to fit in a small, standard connection head, it is easily and quickly programmed to your exact requirements in the field via a personal computer or hand-held terminal and the optional IF700 interface and software.

The Mp82800 incorporates highly advanced 13th order polynomials to provide the highest accuracy in the industry, 0.1% of set span. It is scalable from -200°C to the upper limit of Pt100 RTDs and Type J, Type K, Type T, Type E and 0°C for Type N Thermocouples. Features include: 25°C minimum span, complete linearization for all sensors; wide power supply capability (10-36 Vdc); selectable upscale/downscale; total RFI-immunity (DC to 1 GHz.); high loop drive capability (600 ohms @ 24 Vdc); and a five (5) year warranty against failure. It even has a 2-Line, 10-character alphanumeric tagging capability. An optional plug-in loop-powered LCD readout and small connection head with a glass window are also available.

There is no longer any reason to stock several different transmitters when a single, low-cost, high accuracy unit can meet all of your requirements. The Mp82800 can easily be programmed in the field with the optional field programming module and PC based "Point 'n Click" software program in less than one minute, the Mp82800 can be used for all your different sensor and range requirements.

Specifications

- RTD Input Types:** Pt100
- Thermocouple Input Types:** K, J, T, E, N
- Temperature Ranges:** See Table below
- Minimum Temperature Span:** See Table below
- Minimum Span:** See Table Below
- Output:** 4 to 20mA or 20 to 4mA
- Linearization:** On/Off
- Power Supply **:** 12 to 36 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

Temperature & Process Instruments Inc.
1767 Central Avenue * Suite 112 * Yonkers * NY * USA * 10710



Features

- ▶ **New MP82800 FM or ATEX IS Approvals Standard**
- ▶ Programmable for Types J/K/T/E and N Thermocouples and Pt100 RTD Input
- ▶ Fully-Linearized
- ▶ RFI/EMI-Protected
- ▶ High Accuracy
- ▶ Mounts in Standard Small Protection Head
- ▶ Optional Plug-In Display & Protection Head
- ▶ Small Size (1.7" dia. x 1.1"H)



IF700 Programming interface and PC based Software

- 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 Capability:** Vbat-10V/20 mA
- Response Time:** < 3 sec.
- Startup Time:** 20 sec.
- Warmup Time:** 5 Min.
- Isolation:** 500 VDC
- Ambient Operating Temp.:** -40 to + 85°C
- Storage Temperature:** -40.to +100°C
- Ingress Protection:** IP30
- Housing Material:** Zinc Alloy (ZAMAK 5) epoxy coated
- Housing Dimension:** 43mm Dia. x 27mm H.
- Housing Dimension with Read-Out:** 43mm Dia. x 36mm H.

Visit us on the web at www.tnp-instruments.com
1767 Central Avenue * Suite 112 * Yonkers * NY * USA * 10710 * Phone: (914) 673-0333 Fax: (866) 292-1456



INFORMATION & SPECIFICATIONS DATA SHEET

TEMPERATURE & PROCESS INSTRUMENTS - INC

Mp82800 Series Thermocouple and RTD Linearized 2-wire 4 to 20 mA Temperature Transmitter

Sensor Type	Temp. Min. °C	Temp. Max. °C	Span Min. °C	Temp. Min. °F	Temp. Max. °F	Span Min. °F
Thermocouple Type						
J (Fe-CuNi)	-150	1200	50	-238	2192	90
K (NiCr-NiAl)	-200	1370	50	-328	2498	90
T (Cu-CuNi)	-200	400	50	-328	752	90
E (NiCr-CuNi)	-270	1000	50	-454	1832	90
N (Microsil-NiSil)	0	1300	50	32	2372	90
RTD Type						
Pt100 IEC751	-200	850	25	-328	1562	45

ATEX parameters KEMA 03ATEX 1419 X			
Mp82800	CE 0344 Ex II 1 G EEx ia IIC T4...T6		
Maximum Ambient Temperature	Temperature Class		
+ 60 °C	T6		
+ 75 °C	T5		
+ 85 °C	T4		
* Supply circuit	KL5 and KL6	Input circuit	KL1...KL4
Ui =	30 V	Uo =	7.2 V
Ii =	100 mA	Io =	58 mA
Pi =	750 mW	Po =	103 mW
Li =	0 mH	Lo =	10 mH
Ci =	0 nF	Co =	13.5 µF

Mp82800 with optional BI connection head and display.



Order Information		List Price
Part Number	Description	
MP82810	Microprocessor Based Thermocouple and RTD transmitter Un-calibrated.	\$100.00
MP82800	Intrinsically Safe Microprocessor Based Thermocouple and RTD transmitter Un-calibrated.	\$150.00
Accessories		Description
	Factory Configuration provide Sensor Type, Min.Max Temperature and Temperature Scale	\$15.00 ea
IF700	PC Based Interface and Software for field programming	\$80.00
BI	Explosion-Proof Head w/ Large LCD Readout	\$290.00
D	Plug-In Loop-Powered LCD Readout)	\$80.00
DANW	Dome Connection Head with Glass Window	\$40.00

For factory configuration of the MP82800 FM Intrinsically Safe please provide Sensor Type, Min.Max Temperature and Temperature Scale. Example MP82700-FM-0-100C, \$165.00.

* Price Subject to change without notice, please visit our web site for the latest pricing and specifications. All prices Shown in US Dollars.



Companion Temperature and Process Panel Meters and Indicators

Requiring no power supply, the models PM5600 and PM5625 takes its power directly from the 4 to 20 mA loop, it accepts 4 to 20 mA process signal. Easy to scale from -1999 to +1999 counts for actual current or indication in engineering units. The model PM5625 features a NEMA-4X(IP 65) weatherproof rugged glass filled polycarbonate enclosure.



PM5600 High Accuracy, LCD Display 1/8 DIN Panel Meter

Ordering is easy fast and secure just go to our web site at:

<http://www.tnp-instruments.com>

and Click on the Online Store Link, for your convenience we accept the following credit cards



Temperature & Process Instruments Inc.

Visit us on the web at www.tnp-instruments.com

1767 Central Avenue * Suite 112 * Yonkers * NY * USA * 10710 * Phone: (914) 673-0333 Fax: (866) 292-1456