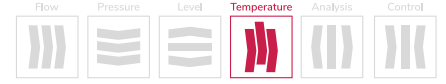


MTT2100

Smart Temperature Transmitter



OVERVIEW

Operation

MTT2100 smart temperature transmitter is a microprocessorbased high performance transmitter which has flexible sensor input and output automatic compensation of ambient temperature and process parameters configuration of various parameters communication with HART protocol.

Application

- Creating consumption profiles to save energy
- Petroluem
- Food industry
- Mechanical engineering
- Pharmaceutical industry

Features

- Excellent accuracy
- Long-term stability
- Selection of various T/C, RTD, mV, Ohm
- Data configuration with HART configurator
- Automatic compensation, linearization of sensor input ambient temperature compensation
- Continous self diagnostic
- I/O isolation grounded thermocouple
- CE EMC Conformity Standarts (EN50081-2,EN50082-2)
- Setting various parameters: Zero/span, unit, fail mode, trim etc.
- Self diagnostic function: Sensor, A/D converter, memory, power etc.



OPERATING DATA

Ambient Temperature

-40...85°C

Storage Temperature

-40...85°C

Stability

±0.12% of Reading or 0.150°C, whichever is greater for 24 months for RTDs. ±0.12% of Reading or 0.150°C whichever is greater for 12 months for thermocouples.

Repeatability

±0.05% of span

Digital Accuracy

±0.003°C for RTDs
±0.046°C for Thermocouple-B
±0.005°C+0.00054% of reading for Thermocouple-E/J/K/N
0.015°C If reading ≥ 200°C
0.021°C-0.0032% of reading if not for thermocouple-R/S/T

Enclosure

IP67/IP68 on request

Units

Engineering Units

Humidity Limit

5%~100% (relative humidity)

Input Type

RTD(PT-100 ohm):2W,3W, 4 wire
Thermocouple B, E, J, K, N, R, S, T
mV: -10~75 mV
Ohm: 0~340 Ω

Display

LCD display, Tag: 8 alphanumeric character,
Description: 16 character, Date: day/month/year

Update Time

0.5 seconds

Turn-on

5 seconds

MEASURING RANGES

Sensor Type	Input Range	Minimum Span
RTD		
Pt-100	-200 ~ 650 °C	15°C
Pt-100	-200 ~ 650 °C	
Thermocouple		
-Type B	100 ~ 1,820 °C	25°C
-Type E	-200 ~ 1,000 °C	
-Type J	-200 ~ 1,200 °C	
-Type K	-200 ~ 1,350 °C	
-Type N	-200 ~ 1,300 °C	
-Type R	0 ~ 1,760 °C	
-Type S	0 ~ 1,740 °C	
-Type T	-200 ~ 400 °C	
Millivolt Input	-10 ~ 75 mV	2 mV
Ohm Input	0 ~ 340 Ω	20 Ω



MATERIALS

Wetted Parts

AISI 304

Housing

Aluminum

ELECTRICAL DATA

Output

2 wires, 4-20 mA HART

Voltage Range

12-45 VDC

Voltage Rating

24 VDC $\pm 30\%$

Power Supply

250 ohm load-17,5 VDC, up to a 550 ohm load-24 VDC

Maximum Loop Resistance

$(E-12)/0.022$ (E= Power Supply Voltage)

Communication

HART

Power Supply Effect

Less than $\pm 0.005\%$ of Span per Volt

Loop Load

0 to 1500 Ω for operat on
250 to 550 Ω for HART commun cat ons

Isolation

Input / output solated to 500 Vrms (707 VDC)

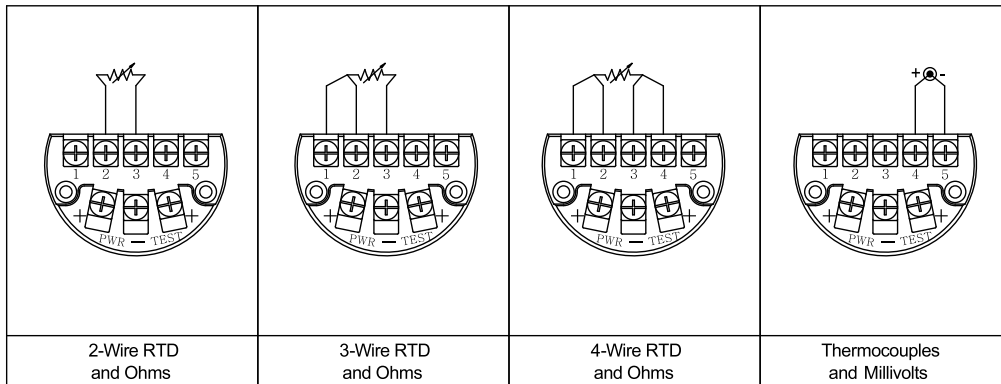
Failure Mood

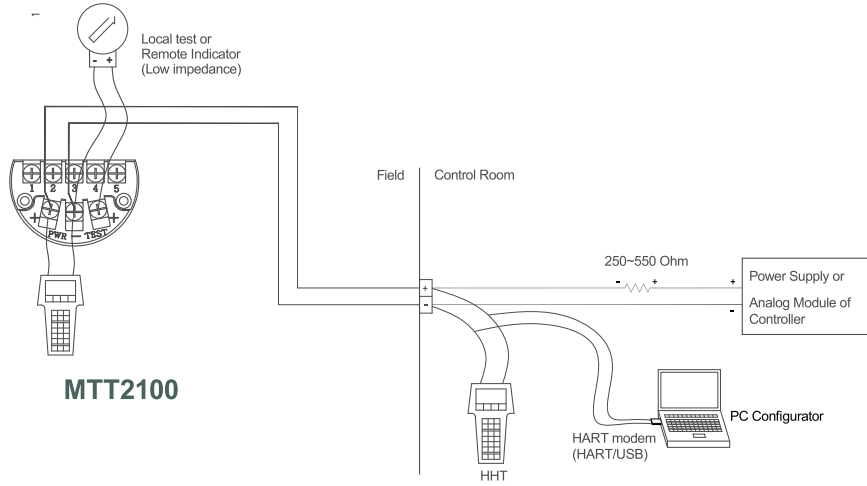
Fa l h gh current ≥ 21.75 mA
Fa l low current ≤ 3.75 mA

Electrical Coonection

1/2" NPT

WIRING





- 1.HHT(HART Communicator) or PC Configurator may connected at any termination point in the signal loop.
2. HART Communication requires a loop resistance between 250 and 550 ohm @ 24 Vdc
3. Power Supply
 - Voltage Range : 12 to 45 Vdc
 - Voltage Rating : 24 Vdc $\pm$ 30%

ORDERING

Model	
MTT2100	Smart Temperature Transmitter

Process Connection	
1	1/2" NPT
2	G 1/2"
X	Special

Sensor Position	
H	Horizontal type
V	Vertical type

Sensor Type	
AX	RTD (PT100 Ω) / with wires (example A3: 3 wires)
TX	Thermocouple / with type (example: TB: B type thermocouple)
R	Resistor
M	Milli-volt

Enclosure	
67	IP67
68	IP68

Hazardous Area	
N	None
Xd	Ex d IIC T6

