DTM30 Temperature Module

The DTM30 temperature module is a single channel temperature signal conditioner and processing unit. DTM30 accepts resistance temperature detector (RTD) and thermocouple signal input and has a choice of output options including an isolated (0 or 4 to 20) mA re-transmission signal, change over trip relay, twin normally open relays or various combinations. DTM30 has a high degree of functionality and configurability. For systems that require more local input, DTM30 with an in-built keypad and digital display are available where functions can be accessed via the front panel keys.

DTM30 Features

- ✓ **Input/output/power isolation**
- ✓ **Powerful standard functions which the user can easily configure via front panel keys**
- ✓ **Digital display measurement value**
- ✓ **Isolated (0 or 4 to 20) mA output**
- ✓ **Dual relay output**
- ✓ **35mm DIN rail mounting**

Specifications

Electrical

Power Supply:

24VDC ±10% @200 mA

Inputs:

DTM30 units can accept the following input types.

RTD:	Pt100, Ni120
Thermocouple:	K, J, T, R, S, E, F, N, B

RTD:

Sensor range:	-200 to 850°C
Linearization:	Pt100 (BS EN 60751/JISC 1604)/Ni120/Custom
Basic accuracy:	0.1°C ± 0.05% of reading
Thermal drift (zero):	±0.004Ω/°C
Thermal drift (span):	100ppm/°C
Excitation current:	1mA
Lead resistance effect:	0.002 °C/Ω
Max lead resistance:	50Ω/leg

Thermocouple:

Sensor range:

Type	Range(°C)
K	-200 to 1370
J	-200 to 1200
T	-210 to 400
R	-10 to 1760
S	-10 to 1760
E	-200 to 1000
F	-100 to 600
N	-180 to 1300
B	-10 to 1650
Custom	user defined

Basic accuracy:
± 0.04% FS or ± 0.04% reading or ±0.5°C, whichever is greater(For type R & S, stated accuracy only applies between 800 &1760°C)(For type B, stated accuracy only applies between 400 & 1650°C)

Linearization: BS4937 / IEC 584-3 / Custom
Cold junction error: ±0.5°C
Cold junction tracking: 0.05°C/°C
Cold junction range: -20 to 70°C
Thermal drift (zero): ± 4μV/°C
Thermal drift (span): ± 200ppm /°C

Outputs:

Relays

Alarm Action: Off, High, Low, Deviation, Test
Max switching voltage: 48V RMS (AC)/ 48V (DC)
Max current: 1A @48V(AC)/ 1A @ 30V(DC)
Max power: 60VA(AC)/ 30W(DC)
Hysteresis: Programmable 0 to 100%
Delay Time: Programmable (Alarm must be continuously present for this period in order to be recognized)
Start-up Delay: Programmable
Operate time: <5ms
Electrical life @ full load: 100,000 operations
Mechanical life: 10,000,000 operations

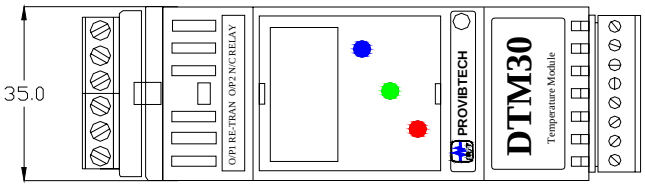
Current Retransmission:

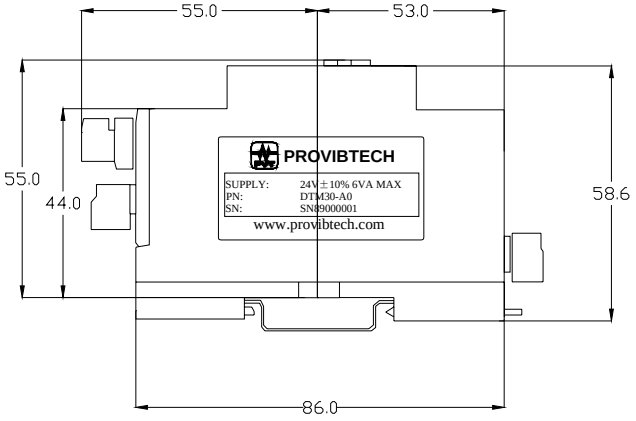
Output Range: 0-10, 0-20, 4-20 mA source or sink
Maximum current output: <23mA
Accuracy: 0.07%
Max power supply: 30V (In sink mode)

General:

EMC Approval: EN61326: 1997
Immunity: Annex A Industrial
Response Time: 300mSec typical
Isolation: 500V AC I/P-O/P-PSU
EMC emissions: BS EN50081-1
EMC immunity: BS EN50082-2
Display Range: -1999 to 9999

Physical





Environmental

Temperature:
Operation: -30℃ to +60℃
Storage: -50℃ to +85℃
Humidity:
10 to 90% RH

Ordering Information

DTM30-AX

A0：Basic module

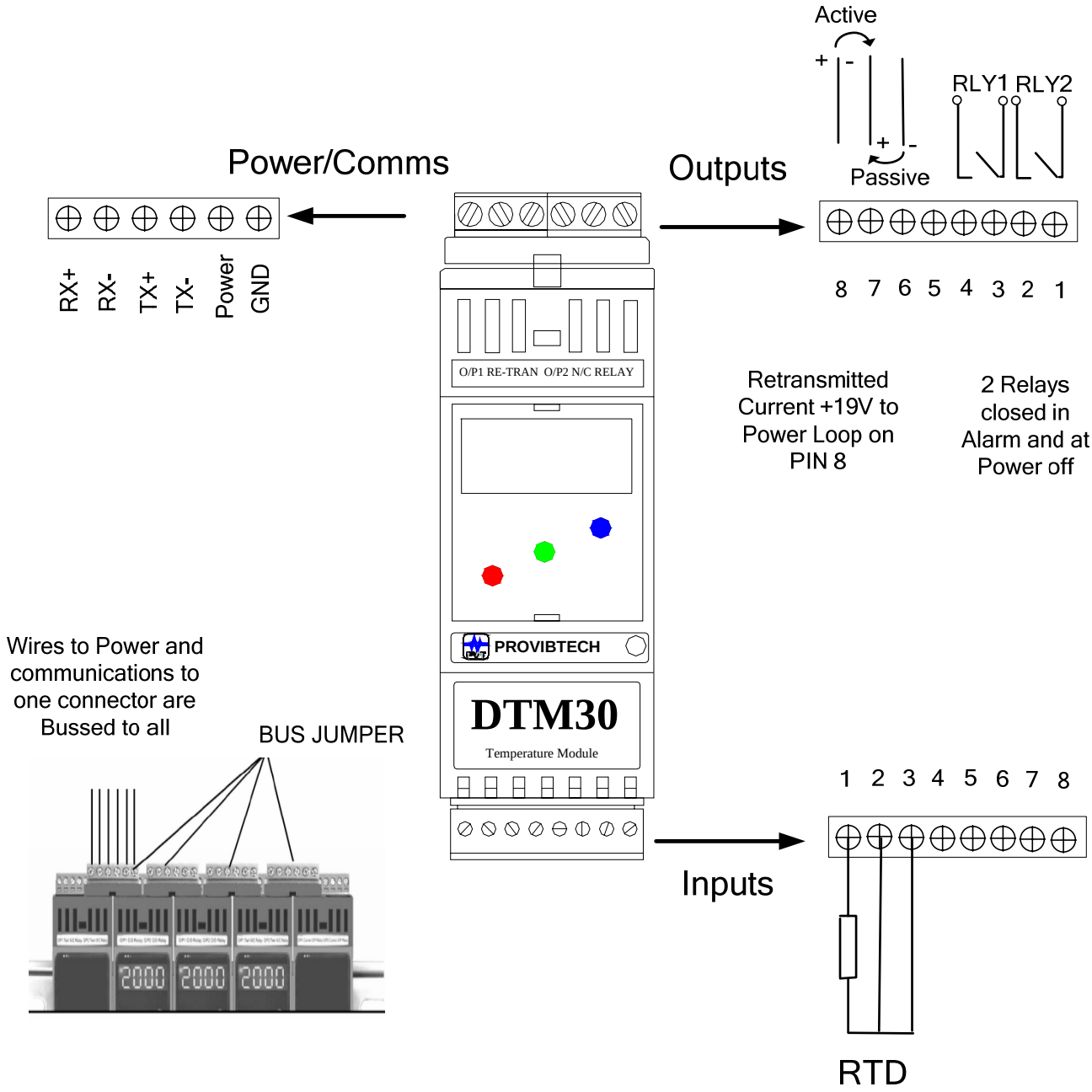
Optional Accessories

TM900

Power converter with isolation. It converts 95-250 VAC into 24VDC and is capable of powering up to five DTM modules.

DTM30 System Installation

DTM30 Field-Wiring Diagram for RTD



Note:

✓ DTM30 is provided with a unique 'BUS JUMPER' system for quick wiring of communications and power connections. To use the Bus Jumper, disconnect all power supply/communications connectors and place them so that they connect between the two units. Wiring to one connector then connects to all units.