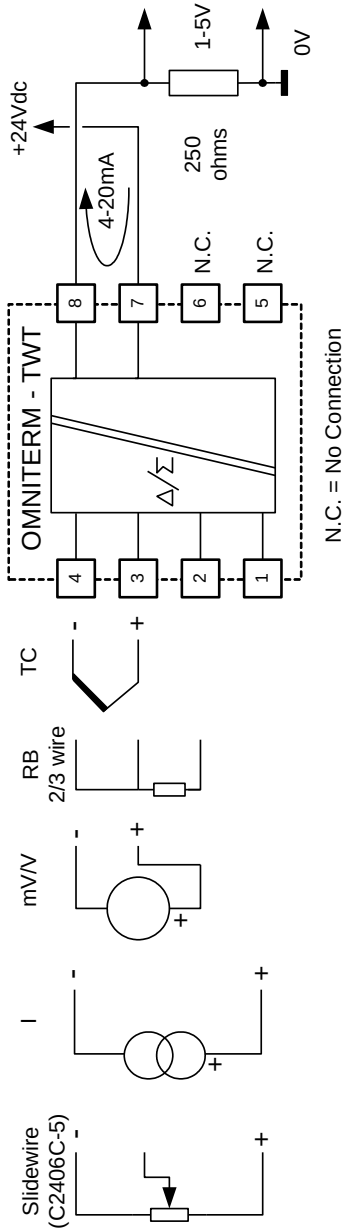
CONNECTION DIAGRAM



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INSTALLATION GUIDE

OMNITERM TWT Model C2406C
Two wire Universal Signal Transmitter

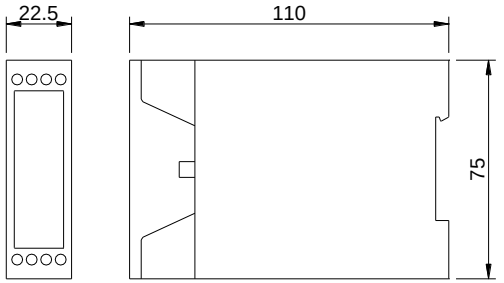
The OMNITERM TWT Two wire Universal signal transmitter is designed for the widest range of signal conditioning applications in a single off-the-shelf product, using advanced state-of-the-art digital measurement techniques, combined with extremely user friendly software configurability.

The input will accommodate most thermocouple and resistance bulb types, as well as voltages and currents from 1mV to 10Vdc input span. (see special models for extended ranges.)
The Omniterm TWT will operate over a wide supply voltage range of 9 to 33Vdc.

FEATURES

- **Universal Input to take all signal types**
- **Easy User software configuration**
- **Input to Output isolation to 2500Vac**
- **Linearised temperature measurement**
- **9-33 Volt dc powered**
- **Wide operating temperature range**
- **Narrow 22.5mm housing width**
- **DIN Rail (35x7mm) or surface mounting**

MECHANICAL DETAILS



CONFIGURATION

Configuration is performed using the OMNISET Software Configuration Utility running on a Windows PC, using the programming socket in the front of the module.

The Configuration is downloaded to the TWT product using a Model C1168 Programming Cable available from OMNIFLEX.

Product Specifications

Unless otherwise stated, all specifications refer to Model C2406C-0

Power Supply

Supply Voltage	9-30Vdc (Loop powered from the output loop)

Selectable Input Ranges

Thermocouple

Thermocouple Types	B, E, J, K, N, R, S, T, W, W3, W5
Internal Cold Junction Compensation	Error< 0.5 °C over 0 to +40 °C; <1 °C over –10 to +60 °C
Burnout Detection	Configurable (according to NAMUR NE43)
Linearisation Error: Types B, E, J, K, N, T Types R, S, W3, W5 Type W	greater of <0.25°C or 0.1% of reading; <0.5°C below0 °C <2.0°C <2.5°C

Resistance Bulb

Resistance Bulb Types	2 or 3 wire Connection Pt100, Pt500 Ni100, Ni120 on standard model Pt1000 (Model C2406C-3) Cu10 (Model C2406C-4)

Voltage and Current

Voltage Input Range (max)	-1 to +10Vdc (minimum span 0.1Vdc)
Extended Range (Model C2401A-2)	-10 to +60Vdc (minimum span 5Vdc)
milliVolt Range (max)	-10mV to +100mVdc (minimum span 1mVdc)
Current Range (max)	-2mA to +23mAdc (minimum span 0.4mAdc)
Input Impedance	>1Mohm (30 ohms for current input range)

Output

Standard Range	4-20mA
Current maximum range	3.5 to +23mAdc
Response Time	<90ms to within 0.5% for 10-90% step input.

Accuracy

Initial Error	<0.1%
Non-Linearity	<0.1%
Temperature Drift	< 150ppm/°C of reading[1]

Environmental Conditions

Operating/Storage Temperature	-10°C to 60 °C / -25°C to 85 °C

Compliance with Standards

Safety	EN60950:1995
Emissions	EN 55011;EN50081-2:1994 Grp I, Cl A; EN50082-2
Immunity – ESD & RF Fields	IEC 61000-4-2:1995, Lvl 3; IEC 61000-4-3:1995, Lvl 3
Immunity – Fast Transients	IEC 61000-4-4:1995: 2 kV - DC power; 1 kV - I/O lines
Insulation	Basic Insulation between isolated circuits per IEC950
Insulation Test Voltage	Input/Output/Supply 100% tested to 2500Vac

Mechanical

Dimensions (W x H x D)	22.5 x 75 x 110mm
Mounting	DIN Rail EN5022-35 or screws to vertical surface

IGC2406CR03.pdf
(Document Part No 8.0101.044)

Specifications continued…

Housing	Shock Resistant ABS
Flammability	UL94-HB (housing) UL94-V0 (terminals)
Weight	Unpacked 130g approx.; Packed 160g approx.

Note:1 This parameter not 100% production tested

Ordering Information

C2406C-0	Omniterm TWT Universal Two-Wire Transmitter – Standard model
C2406C-2	Omniterm TWT Two-Wire Transmitter with Hi Voltage Input Range (-10 to 60Vdc)
C2406C-3	Omniterm TWT Two-Wire Transmitter with low current excitation for Pt1000 etc.
C2406C-4	Omniterm TWT Two-Wire Transmitter with high current excitation for Cu10 etc.
C2406C-5	Omniterm TWT Two-Wire Transmitter with 3 wire potentiometer/slide-wire input

CONFIGURATION INSTRUCTIONS

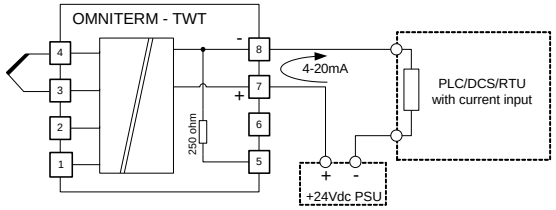
The unit can be configured before or after installation.

To download configuration to the Omniterm TWT, ensure that the Omniterm TWT is powered. In the workshop, apply 24Vdc to terminals 7(+) and 8(-).

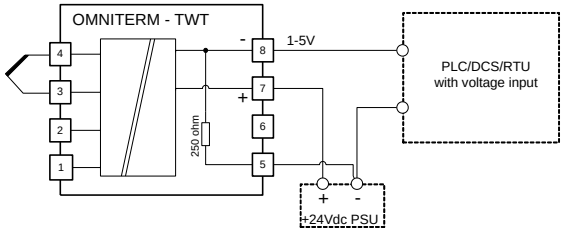
Use PC based OMNISET Configuration Software with TWT Template, and Model C1168 Programming Cable to set the all configuration parameters in the Omniterm TWT.

See Help in TWT Template for more detailed procedure.

APPLICATION EXAMPLES



4-20mA output



1-5V output