



OMNITERM TWA AC Voltage/Current Transmitter

Model C2405B ACrms Voltage/Current Two-Wire Transmitter.

DATASHEET

- Measure True AC rms Voltage or Current
- Powered from 4-20mA Loop
- Isolation to 2500Vac
- Wide operating voltage (9 – 33Volts)
- Software configurable by the user



Features

- DIN Rail or surface mountable
- Narrow 22.5mm module width
- 4-20mA Loop powered.
- 2500Vac Isolation Input/Output
- User friendly configuration software
- Wide operating temperature range
- True rms signal measurement
- Designed to meet IEC 61508 SIL1 criteria.

OVERVIEW

The OMNITERM TWA two-wire ac rms Voltage/Current Transmitter accepts an ac input signal from 0-300Vac or 0-5Amps ac. This module uses advanced state-of-the-art digital measurement techniques, combined with extremely user friendly software configurability for best ease of use without factory required setup when ordering.

The TWA module draws its power from the 4-20mA output loop.

Full isolation (input/output) to 2500Vac ensures trouble-free accurate measurement.

Mount the TWA close to the point of measurement for most accurate operation.

MINIMISE STOCK HOLDING

The OMNITERM TWA provides extremely low life-cycle costs by reducing spares stock-holding requirements, and reducing specialist technical expertise required for field support, module replacement and field configuration. This new holistic approach to instrumentation asset

management ensures reliable performance and minimal down-time.

Using advanced analogue measurement combined with digital filtering techniques, the TWA offers accurate rms measurement up to 20th harmonic of the 50/60Hz signal.

FULLY USER CONFIGURABLE

The powerful but intuitive configuration software ensures the maximum instrument flexibility with reliable configuration management to ensure all instruments on the plant are always correctly configured to the design requirements specification without need for costly calibration facilities.

HIGH RELIABILITY

This product has been designed with high reliability applications in mind and also to meet the criteria of IEC61508 for SIL1 applications.

Use this instrument to easily and accurately measure load currents and voltages in power management applications.

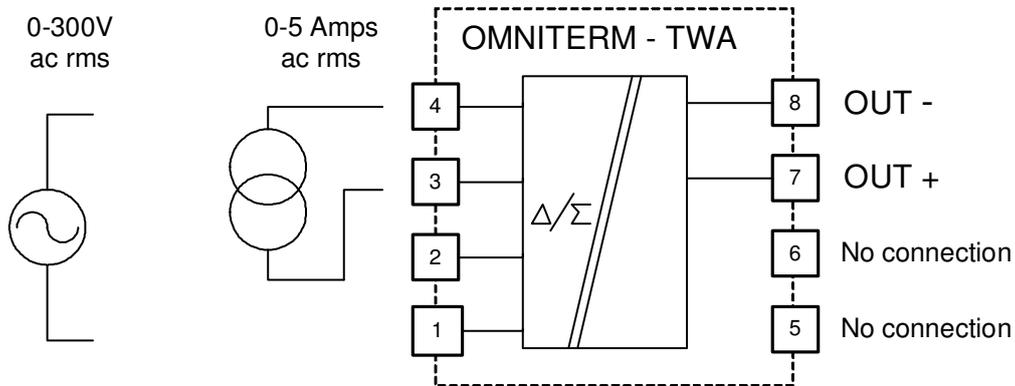




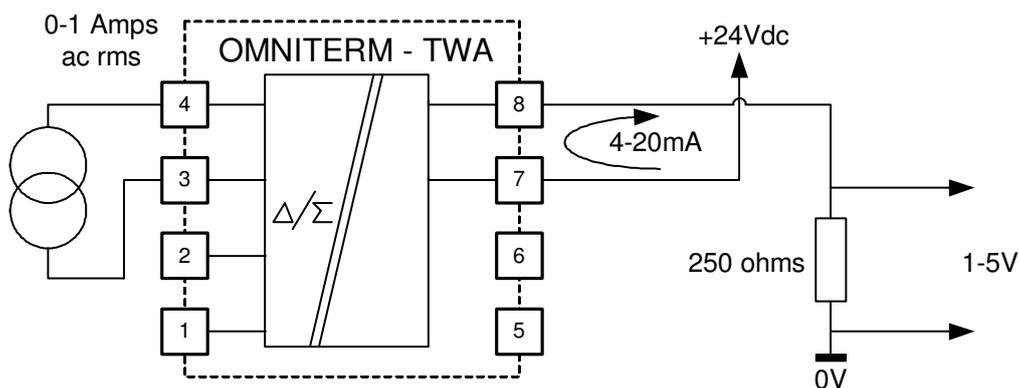
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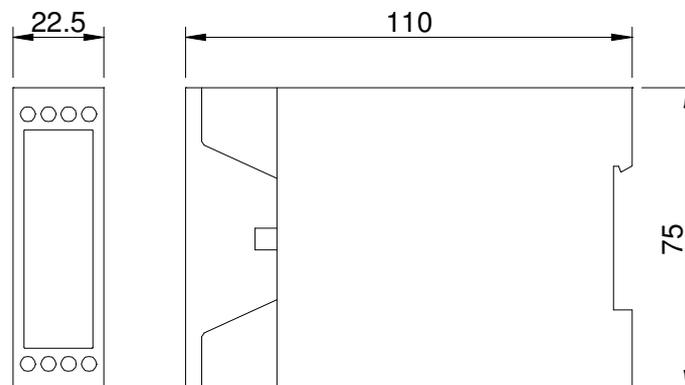
Electrical Connections



Typical Application Circuit



Mechanical Details





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Specifications

Input

Number of Inputs	1
Type (select by connection)	0-5A ac rms or 0-300Vac rms

AC Current Input

Input Impedance	50 milliohms maximum
Minimum Signal Span	0 – 0.5A rms
Maximum Signal Span	0 – 5A rms (continuous current)
Maximum Overload Current	50 Amps for 3 seconds

AC Voltage Input

Input Impedance	200k minimum
Minimum Signal Span	0 – 30V rms
Maximum Signal Span	0 – 300V rms
Maximum Overload Voltage	500Vac for 1 second

Output

Output Current Range	4-20mA
Minimum Supply Voltage	9Vdc
Maximum Supply Voltage	33Vdc
Maximum Load Resistance	100 ohms with 12Vdc supply min. 250 ohms with 15Vdc supply min. 500 ohms with 20Vdc supply min. 700 ohms with 24Vdc supply min. 1000 ohms with 30Vdc supply min.

Accuracy

Initial Error	<0.25%
Non-linearity	<0.1%
Distortion Error	< 1% for Crest Factor of 6
Temperature Drift	< 200ppm/°C

Configuration

Input Type & Range	Field selectable via programming port on front of unit with the aid of a PC and configuration software package.
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Environmental Conditions

Operating Temperature	-10°C – 60 °C (+14°F – 140°F)
Storage Temperature	-25°C – 85 °C (-13°F – 185°F)

Compliance with Standards

Safety	EN 60950:1995 Note: When used with ac Voltage Inputs greater than 60V, additional safety precautions in installation and marking are required to comply with safety standards.
Emissions	EN 55011:1997 , Group I, Class A
Immunity – ESD	IEC 61000-4-2:2001, level 3
Immunity – RF Fields	IEC 61000-4-3:2003, level 3
Immunity – Fast Transients	IEC 61000-4-4:2004 2 kV – DC power port 1 kV – input/output lines
Insulation	Basic Insulation between isolated circuits per IEC950
Insulation Test Voltage	Input/Output/Supply 100% tested to 2500Vac
Functional Safety to (IEC 61508)	Suitable for use in SIL1 Applications. See separate Reliability Datasheet RDC2405

Mechanical

Width	22.5mm
Height	75mm
Depth	110mm
Mounting	Snaps on to DIN rail EN50022-35 Or screws to vertical surface
Housing	Shock resistant ABS
Flammability	UL94-HB (Housing) UL94-V0 (Terminals)
Terminal/wire size	0.14 – 2.5mm ² stranded

Weight

Unpacked	130gm approx.
Packed	160gm approx.

Ordering Information

ORDER CODE	DESCRIPTION
C2405B	Omniterm TWA AC rms Current/Voltage Two-Wire Transmitter
ACCESSORIES	
C1168	Omniflex Miniature Jack Programming Cable.

