

## MODBUS®

### DESCRIPTION

The DMT-1000 is a programmable transducer with an RS-485 bus interface (MODBUS®). It supervises several variables of a polyphase electrical power system simultaneously. The RS-485 interface enables the user to determine the number of variables to be supervised (up to the maximum available). The levels of all internal counters that have been configured (max. 4) can also be viewed. Provision is made for programming the DMT-1000 via the bus. A standard EIA 485 interface can be used, but requires a load resistor for the bus.

The transducers are equipped with an RS-232 serial interface to which a PC with the DMT-Config software can be connected for programming or accessing and executing useful ancillary functions. This interface is needed for bus operation to configure the device address, the baud rate, and change the telegram waiting time as defined in the MODBUS® protocol.

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The DMT-1000 can be programmed for all common types of electrical systems, the measured variable, rate values for input variables, output variable response characteristics, etc.

Ancillary functions include a power system check, provision for displaying the measured variable on a PC, the simulation of the outputs for test purposes, and a facility for printing nameplates. The transducer fulfills all the essential requirements and regulations concerning electromagnetic compatibility (EMC) and safety (IEC 1010 and EN 61 010). It was developed and is manufactured and tested in strict accordance with the quality assurance standard ISO 9001 and carries CE and CSA certifications.



The universal basic version DMT-1000 in housing T24, clipped onto a top-hat rail.

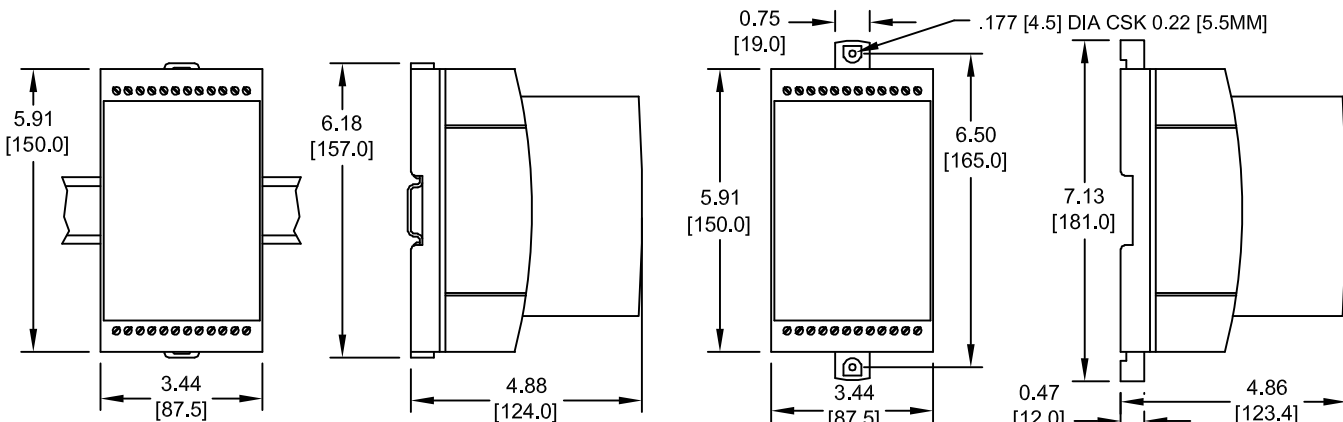
### FEATURES

- Simultaneous measurement of several variables of a heavy-current power system, rated current 1 to 6A, rated voltage 57 to 400V (phase-to-neutral) or 100 to 693V (phase-to-phase)
- For All Heavy-Power System Variables
- High Accuracy  
Voltage and Current ..... 0.2% F.S.  
Watts ..... 0.25% F.S. (under reference conditions)
- Up to 4 Integrated Power Meters
- Windows software with password protection for programming, data analysis, power system status simulation, acquisition of meter data and making settings
- Universal AC/DC Power Supply
- Provision for either snapping the transducer onto top-hat rails or securing it with screws to a wall or panel
- Best applied to sinusoidal waveforms

### MEASURED QUANTITIES (per-phase and polyphase)

- Current and Voltage (RMS)
- Active, Reactive and Apparent Power
- Active, Reactive & Apparent Energy (consumption)
- Cos  $\Phi$ , Sin  $\Phi$ , Power Factor, Frequency

# OSI AC MULTIFUNCTION PROGRAMMABLE TRANSDUCERS MODEL DMT-1000

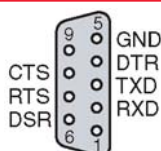


DMT IN HOUSING T24 CLIPPED ONTO A TOP-HAT RAIL (STANDARD OR HIGH-HAT) (1.38 35MM) X 0.59 [15MM] OR 1.38 [35MM] X 0.30 [7.5MM]). DIMENSIONS ARE IN INCHES [MM].

DMT IN HOUSING T24, SCREW-HOLE MOUNTING BRACKETS PULLED OUT. DIMENSIONS ARE IN INCHES [MM].

0902-00865-B

DMT DSUB 9-Pin Socket



## SPECIFICATIONS

### INPUTS

- Input Voltage ..... 57-400V (Phase to Neutral)  
100-693V (Phase to Phase)
- Input Current ..... 1-6A
- Frequency ..... 50-60Hz
- Power Consumption
  - Current ..... (0.3VA) (1/5A)
  - Voltage .....  $\leq V^2/400k\Omega$
- Continuous Overload
  - Current ..... 10A
  - Voltage ..... 120% Maximum Input

### POWER SUPPLY

- Voltage ..... 85-230V DC/AC (dc or 50/60 Hz)
- Power Consumption ..... Approx. 10VA

### DIELECTRIC TEST

- (50Hz, 1 Min. according to DIN EN 61 010-1)
- 5550V, inputs versus all other circuits as well as outer surface.
- 3250V, input circuits versus each other.
- 3700V, powersupplyversusoutputsaswellasoutersurface.
- 490V, outputs versus outer surface.

### MODBUS® OUTPUTS

- Bus Interface ..... RS-485
- Terminals ..... Screw Terminals
- Cable ..... Shielded Twisted Pair
- Max. Distance ..... 1200m (4000ft.)
- Baud Rate ..... 1200-9600 (Programmable)
- Number of Nodes ..... 32 (Including Master)

### ACCURACY

- Voltage & Current ..... 0.2% F.S.
- Power ..... 0.25% F.S.
- Reactive & Apparent ..... 0.5% F.S.
- Measurement Cycle ..... 0.25 - 0.5 second @ 60Hz
- Response Time ..... 1 - 2 X Measurement Cycle

### AMBIENT CONDITIONS

- Nominal Range of use for Temperature: 0-15-30-45°C
- Temperature Effect .....  $\pm 0.1\%/10^\circ\text{C}$
- Storage Temperature ..... -40°C to 85°C
- Relative Humidity .....  $\leq 75\%$

### SAFETY

- Protection Class ..... II
- Enclosure Protection ..... IP 40, Housing  
IP 20, Terminals
- Overvoltage Category ..... III

### PHYSICAL

- Net Weight ..... 1.9 lb
- Termination ..... 12 AWG max.

### PROGRAMMING CONNECTOR ON TRANSDUCER

- Interface ..... RS-232 C
- DSUB Socket ..... 9-Pin

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