DPMS Transducer
Digital Power Measurement System

FOR CONTROL, MONITORING, AND DATA ACQUISITION

ROCHESTER SCIENTIFIC COLUMBUS

DPMS TRANSDUCER

AMETEK's Digital Power Measurement System (DPMS) transducer can make multiple measurements simultaneously with its direct communication capability. The advance technology of the DPMS replaces traditional transducers that require one transducer for each measurement.

The DPMS can be configured to the exact measurement you need. Configuration is done easily with DPMSTalk configuration software. The DPMS makes an excellent back up strategy. Rather than stocking numerous types and quantities of backup transducers, you can now stock far fewer DPMS units, which can be quickly and easily configured to your replacement needs. With MODBUS and DNP as standard protocols, connections have never been simpler. The RS-485 port allows the transducer to communicate directly to your equipment through a multi-drop configuration, saving you valuable input ports and the need for multiplexors. Also included is a separate port to use with the DPMS-D optional external digital display. Not only is it easier for engineering, the DPMS will also save on wiring and valuable panel space.

DPMS Ordering Information

TYPICAL MODEL NUMBER (coded by color)

DPMS	-P1	-C5	-A1	-D0	-R0

Code Description

DPMS Digital Power Measurement System

Nominal Voltage

P1 = 120V
P2 = 277V
P3 = 480V
P4 = 69V

Nominal Current

C5 = 5A

Analog Output

A0 = No Analog
A1 = 0 ± 1 mA
A2 = 4-20 mA

Digital Output

D0 = No Contacts
D1 = Contact Outputs/KYZ

Programming Kit

R0 = No Kit
R1 = Kit with DPMS Talk Software and Cable

FEATURES AND BENEFITS

- Programmable as 2, 2.5 or 3 elements
- Configurable analog and digital contact and alarm outputs
- Programmable built-in communications of MODBUS and DNP 3.0
- Remote display option available
- Transformer Loss Compensation (TLC)

DPMS-D (Optional Digital Display)

- Communicates with 15 DPMS units via RS-485 without loss of serial communications
- 3 key switches allow selection of data or unit to be viewed
- Maximum distance is 4000 feet
- 12 standard and 4 custom display screens
- Displays in primary units (CT and PT) ratios configured in DPMS

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SPECIFICATIONS

PROGRAMMABLE CONFIGURATION

2 element for 3-phase 3-wire delta

2-1/2 element for 3-phase 4-wire wye

3 element for 3-phase 4-wire wye

MEASURED AND/OR CALCULATED QUANTITIES

Watts/Vars/VA
- Per phase and total

Voltage
- Phase to neutral, phase to phase

Current
- Phase and neutral (calculated)

Power Factor
- Per phase and system

Frequency

Total harmonic distortion of each voltage and current

Watthours/Varhours
- Delivered and received

INPUTS

Current Nominal
- 5 amps

Operating Range
- 0 to 10 amps

Burden per Element
- 0.25 VA

Voltage
- 120 volts Nominal
- Range: 85 to 150 V

Optional Voltages
- 69 VAC Nominal, Range 50-85 VAC
- 277 VAC Nominal, Range 180-320 VAC
- 480 VAC Nominal, Range 310-550 VAC

Burden per Element
- 0.05 VA

Frequency
- 45 to 65 Hertz

Sample Rate
- 128 Samples/Cycle

Power Supply
- 95 to 265 VAC @ 50/60 Hz or DC
- 6 VA Maximum @ 120 V

OPTIONAL OUTPUTS

3 Channel Analog
- Independently Configured and scaled with DPMSTalk

Option A1
- 0 to ± 1 mA, maximum 10 V compliance

Option A2
- 4 to 20 mA, maximum 12 V compliance

Response Time
- </= 200 mS

6 Channel Digital (KYZ) Option D1
- Independently configured and scaled with DPMSTalk for energy measurements or as high/low threshold alarms. Solid-state rated 50 mA @135 VAC/VDC with less than 5 V drop 54,000 CPH maximum.

MEASUREMENT/ CALCULATION ACCURACY

Volts, Amps, Watts, Vars
- 0.2%

Watthours, Varhours
- 0.2%

Neutral Current
- 0.75%

Volt Amps
- 0.5%

Power Factor
- ±0.008 (rated VA/input VA)

Analog output
- ±0.1%

MECHANICAL

Size
- 3.75 in. x 5.375 in. x 6.5 in. (95.25 mm x 136.525 mm x 165.1 mm)

Weight
- 2.6 lbs (1.2 kg)

Communications Hardware
- RS-232 (full duplex) or RS-485 (half duplex)

Programmable Protocols
- Modbus: RTU or ASCII Mode
- DNP 3.0

ENVIRONMENT

Operating Temperature Range:
- -4° to 158°F (-20° to 70°C)

Surge Withstand
- ANSI/IEEE C37.90, IEC 801-4 Class 4

Isolation
- 2500 VAC RMS from input/output/ power/case
- 500 VAC RMS between digital outputs

DPMS-D OPTIONAL DIGITAL DISPLAY

4 line x 20 character vacuum fluorescent display allows Unit ID and 3 simultaneous measurements to be viewed

Character height 0.19 inch

Displays in primary units (CT and PT ratios configured in DPMS)

All Measured Quantities available for display Communications
- Multi-addressing allows communication to up to 15 DPMS units per DPMS-D display module
- Half duplex RS-485
- Recommended maximum distance between DPMS and DPMS-D is 4000 feet

Power Requirements
- 95 to 265 VAC @ 50/60 Hz or DC

Mechanical Panel Cutout
- 4.38 in. x 3.75 in. (111.25 mm x 95.25 mm)

Weight
- 1.4 lbs (0.64 kg)

Operating Temperature Range
- -4° to 158°F (-20° to 70°C)

Surge Withstand
- ANSI/IEEE C37.90, IEC 801-4 Class 4

Isolation
- 2500 VAC RMS from power to case or communications port1

A portion of the DPMS product was funded by the New York State Energy Research and Development Authority (NYSERDA).

AMETEK®

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