

PowerLogic®

PM1000 series power meter and

DM6000 series digital panel meter

Technical data sheet



PM1000 series power meter

Functions and characteristics



PowerLogic™ PM1000 power meter front display (above), and rear (below).



The PowerLogic PM1000 series power meters are easy-to-use, cost-effective meters that offer the basic measurement capabilities required to monitor an electrical installation.

Characterized by their rugged construction, compact size and low installation costs, these state-of-the-art multi-function meters are ideal for control panels, motor control centers and genset panels.

Applications

- Power monitoring operations
- Load studies and circuit optimization
- Equipment monitoring
- Meter's outputs can be used by control devices
- Preventative maintenance

Main characteristics

Accurate metering

The meter conforms to accuracy class 1.0 as per IEC 62052-11 and IEC 62053-21.

Easy-to-read display

The bright, alphanumeric, 15mm-high LED display provides three lines for measurement values with four digits per line. The display auto-scales for Kilo, Mega and Giga values. Auto scrolling mode allows for easy reading.

Analog load bar

The color-coded analog load bar indicates the percentage of load through 12 LED segments.

Turbo Key access to information

The Turbo Key button lets you access the most commonly viewed parameters or enter setup mode with a single push of the button.

Quick and easy installation

Setup is done through the front panel keys. Quick entry to setup during power up by TURBO key. Direct connection for metering voltage inputs up to 480 Vac L-L.

Color-coded terminal board labeling

The color-coded label on the terminal board helps ensure accurate wiring.

Secure settings

Safeguard access to setup parameters with unique password protection. A keypad lock lets you display a user selected page by default.

Part number

Description	Part #
PM1200 power meter with basic readings, energy and demand parameters, and summary screens with an RS485 communication port	METSEPM1200

DM6000 series digital panel meter

Functions and characteristics



DM6000 series digital panel meter front display (above), and rear (below)



The PowerLogic DM6000 series digital panel meters offer the basic measurement capabilities required to monitor an electrical installation.

Characterized by their rugged construction, compact size and low installation costs, these state-of-the-art meters are ideal for control panels, motor control centers and genset panels.

Applications

- Power monitoring operations
- Equipment monitoring
- Preventive maintenance

Main characteristics

Easy-to-read display

The bright, alphanumeric 15mm-high LED display provides three lines for measurement values with four digits per line. This display auto-scales for Kilo, Mega and Giga values. Auto scrolling mode allows for easy reading.

Analog load bar

The color-coded analog load bar indicates the percentage of load through 12 LED segments.

Turbo Key access to information

The Turbo Key gives access to the most commonly viewed parameters or enter setup mode with a single push of the button.

Quick and easy installation

Setup is done through the front panel keys. Quick entry to setup during power up by TURBO key. Direct connection for metering voltage inputs up to 480 Vac L-L.

Color-coded terminal board labeling

The color-coded label on the terminal board helps ensure accurate wiring.

Secure settings

Safeguard access to setup parameters with unique password protection. A keypad lock lets you display a user-selected page by default.

Part number

Description	Part#
DM6200 digital meter with basic readings plus an RS485 communication port	METSEDM6200

PM1000 series and DM6000 series

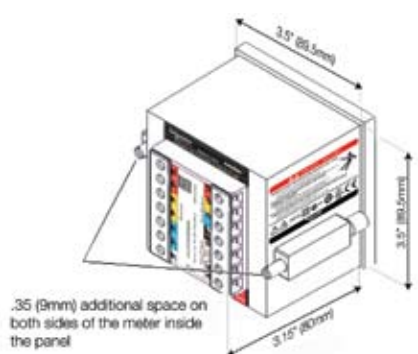
Functions and characteristics (cont.)

Electrical characteristics				PM1200	DM6200
Type of measurement			True RMS up to the 15th harmonic 20 samples per cycle at 50 Hz	•	•
Measurement accuracy*	Current and voltage		1.0 % of reading	•	•
	Power	Active	1.0 % of reading	•	
		Reactive	2.0 % of reading	•	
		Apparent	1.0 % of reading	•	
	Frequency		0.1 % of reading	•	•
	Power factor		1.0 % of reading		•
	Energy	Active	IEC 62053-21 Class 1	•	
		Reactive	IEC 62053-23 Class 2	•	
		Apparent	1.0 % of reading	•	
* Additional error of 0.05% of full scale, for meter input current below 100 mA			•	•	
Data update rate		1 sec	•	•	
Input-voltage characteristics	Inputs		V1, V2, V3, Vn	•	•
	Measured voltage		80 - 480 V AC L-L without PTs Up to 999 kV with external PTs	•	•
	Permissible overload		1.10 Un (480 V L-L)	•	•
	Burden		0.2 VA per phase max.	•	•
	Impedance		VLL - 4 Mohms, VLN - 2 Mohms	•	
	Frequency range		45 - 65 Hz	•	•
Input-current characteristics	CT ratings	Primary	1 A - 99.0 kA	•	•
		Secondary	1 A - 5 A	•	•
	Measurement range		50 mA - 6 A (5 mA is the starting)	•	•
	Permissible overload		10 A continuous	•	•
	Burden		0.2 VA per phase max.	•	•
	Impedance		< 0.1 ohm	•	•
	Power supply	AC		44 - 277 V AC at 50 Hz/60 Hz	•
DC		44 - 277 V DC	•	•	
Ride-through time		100 ms at 50V	•	•	
Burden		3 VA max.	•	•	
Mechanical characteristics					
Weight		18 oz (shipping), 1 oz (unpacked)			
IP degree of protection		Front: IP 51; Back: IP 40			
Dimensions		Bezel: 96 x 96 mm; Depth: 80 mm behind bezel; Panel cutout: 92 x 92 mm			
Environmental conditions					
Operating temperature		14°F to 140°F			
Storage temperature		-13°F to 158°F			
Humidity rating		5 to 95 % RH non-condensing			
Altitude		6500 ft			
Measurement CAT		III			
Pollution degree		2			
Protection class		2			
Electromagnetic compatibility					
Electrostatic discharge		IEC 61000-4-2			
Immunity to electromagnetic RF fields		IEC 61000-4-3			
Immunity to electrical fast transients		IEC 61000-4-4			
Immunity to surge waves		IEC 61000-4-5			
Conducted disturbance immunity		IEC 61000-4-6			
Damped oscillatory waves immunity		IEC 61000-4-12			
Impulse voltage withstand		6kV for 1.2/50 µS per IEC 60060-1			
Conducted and radiated emissions		CISPR11 Class A			
Safety and standards					
Safety construction		Self extinguishable V0 plastic; UL 508			
CE certification IEC 61010		Yes			
Complies with Regulation (EC) n° 1907/2006 of Dec 18 2006 named REACH (related to the Registration, Evaluation, Authorization and restrictions applicable to Chemical substances)					
Communication					
RS-485 port		2 terminals only; Baud rate up to 19,200 bps; Protocols: Modbus RTU			
Display characteristics					
Integrated LED display		View 3 parameters together on 3-line, 4-digit-per-line display. Auto-scaling capability for Kilo, Mega and Giga values. User-selectable default display page. Password protection for setup parameters			
Analog load bar		Color-coded analog indicator provides an option to select the full scale of the load bar based on the sanctioned power limit			

PM1000 series and DM6000 series

Functions and characteristics (cont.)

Selection guide		PM1200	DM6200
General			
Use on LV and HV systems		•	•
Current and voltage accuracy		1.0 %	1.0 %
Power accuracy		1.0 %	
Energy accuracy		1.0 %	
Number of samples per cycle		20 at 50 Hz	20 at 50 Hz
Instantaneous rms values			
Current	Per phase & Neutral	•	•
Voltage	Average, Phase to Neutral & Phase to Phase	•	•
Frequency		•	•
Active, apparent power	Total & per phase	•	
Power factor	Average & per phase	•	•
Unbalance	Current, voltage	•	•
Phase angle	Between V & I, Ph1, Ph2, Ph3	•	•
RPM	For generator only, speed calculated on generator voltage output and number of machine poles	•	•
Energy values			
Active, reactive, apparent energy		•	
Demand values			
Current	Present & max.	•	
Active apparent power	Present & max.	•	
Active apparent power settable by user*		•	
* Client can select one parameter only: A, KW or KVA			
Power quality measurements			
Total harmonic distortion	Current, voltage, per phase	•	
Other measurements			
Run hours	Operating time for load in hours	•	
ON hours	Operating time for meter in hours	•	•
INTR	Number of interruptions	•	•
Display			
LED display		•	•
Communication			
RS-485 port		1	1
Modbus protocol		•	•

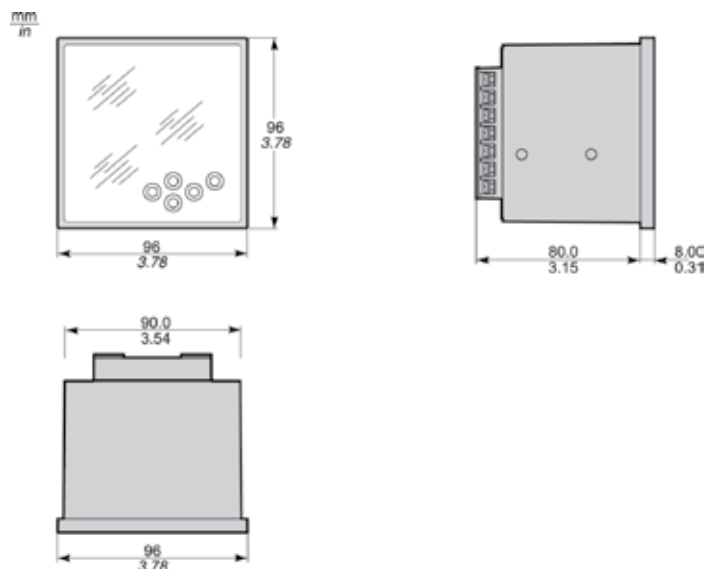


PowerLogic™ PM1000 series power meter dimensions and DM6000 series digital panel meter dimensions

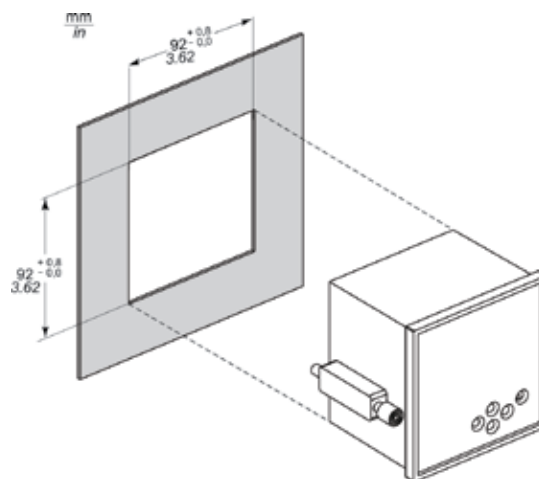
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Installation and connections

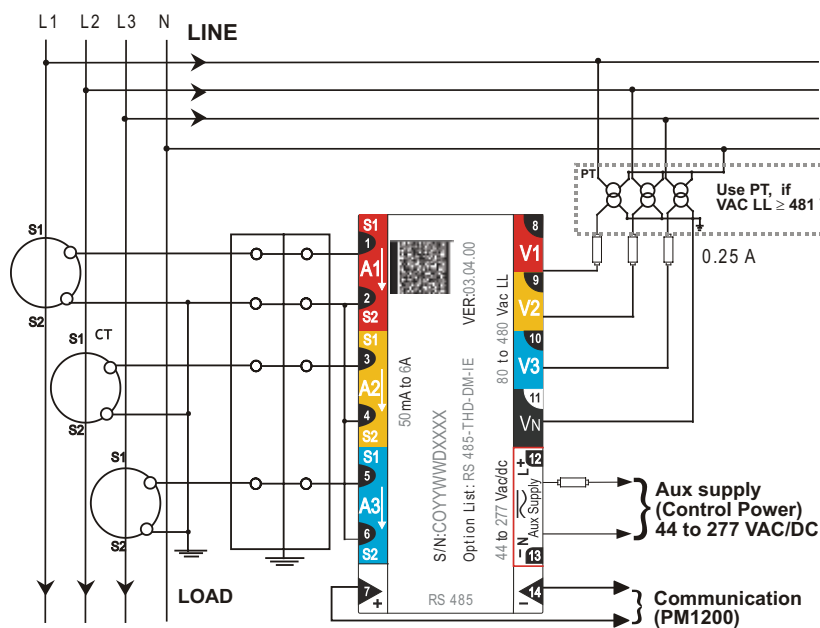
Dimensions



Front-panel mounting



Three phase 4 wire WYE connection with 3 CTs and 3 PTs

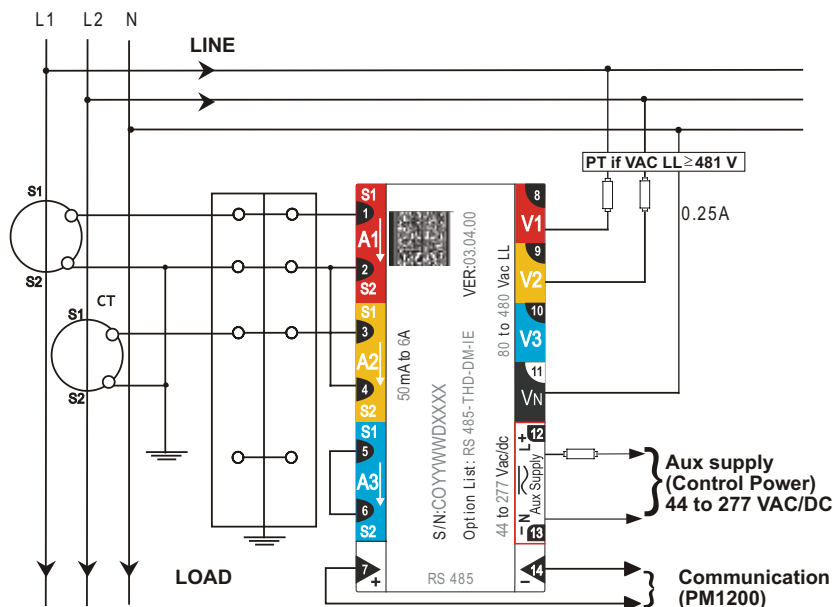


Connection representation only. Other types of connection are possible.
Refer to the PM1000 series Quick Start Guide for details.

PM1000 series and DM6000 series

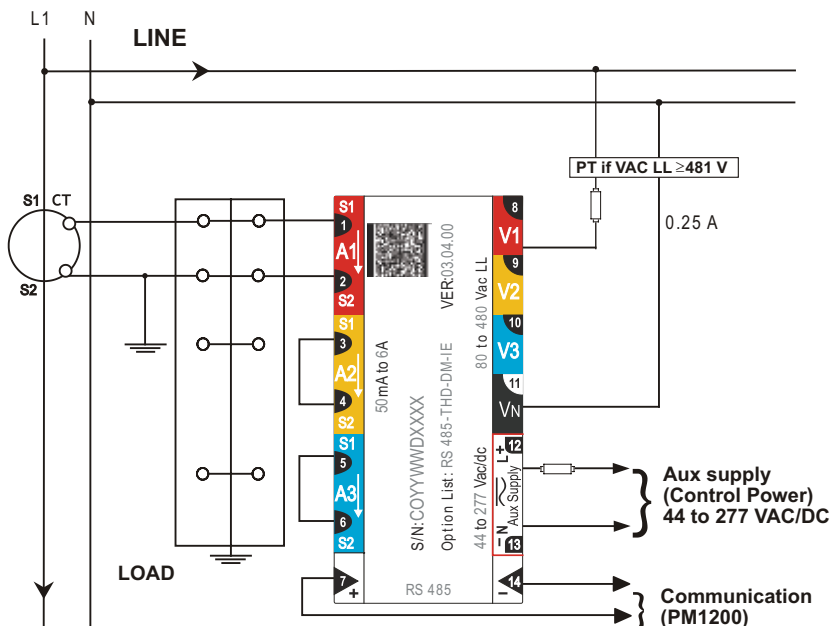
Installation and connections (cont.)

Two phase 3 wire connection with 2 CTs



Connection representation only. Other types of connection are possible.
Refer to the PM1000 series Quick Start Guide for details.

Single phase connection




Connection representation only. Other types of connection are possible.
Refer to the PM1000 series Quick Start Guide for details.

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