VAF & kWh Meters

Quick and easy installation

Meter for all electrical panels

Power energy monitoring

Schneider Electric™

VAF & kWh Meters

Functions and characteristics

DM 6XXX / EM 1XXX Series

Backlit LCD display

Smart line indicators

Rear view

The Conzerv™ DM6XXX & EM1XXX series meter offers all the basic measurement capabilities required to monitor an electrical installation in 96 x 96 mm units

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

The DM6XXX & EM1XXX series are available in four different versions, each to best fit specific applications

DM6100	VAF, PF meter with 1.0% accuracy
DM6100	VAF, PF meter with 0.5% accuracy
DM6300	VAF, PF meter with port & 1.0% accuracy
DM6300	VAF, PF meter with port & 0.5% accuracy
EM1000	Energy meter with pulse output & 1.0% accuracy
EM1000	Energy meter with pulse output & 0.5% accuracy
EM1200	Energy meter with RS485 port & 1.0% accuracy
EM1200	Energy meter with RS485 port & 0.5% accurcay

Applications

Energy billing
Load balancing and optimization
Electrical load monitoring
Gensets, test benches, and laboratories

Main characteristics

Fast in line view:

Elegant single row, backlit LCD display
Three parameters, name and value at one glance
Direct reading of primary values - no multiplication factor
Kilo, mega and giga indications with autoscaling capability
User selectable default display page and lock

High Resolution

RMS values: Three digit
Integrated values: Energy values, nine digit (2 digits after decimal)

Intuitive function keys

Four smart keys for easy navigation, display pages expand vertically, much like the directory or explorer tree displayed on any computer

Auto-scrolling

Allows you to monitor a group of parameters sequentially without any manual key operation.

Secure settings

Unique password protection for the set-up parameters.

Smart line indicators

Helps to check the presence of input voltage (healthy phase)

Universal aux supply

Wide aux range 44-277V ac/dc

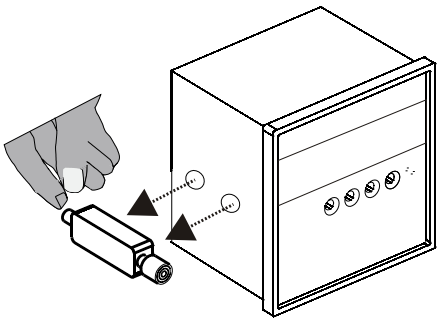
Communicaton

Optional RS 485 communication port with Modbus RTU. Can be integrated with various Schneider SCADA softwares (ION™ Enterprise, Power Logic™ SCADA, Vijeo™ Citect and Vista) and also third party SCADA / BMS for Energy & Building management studies

VAF & kWh Meters

Functions and characteristics

1



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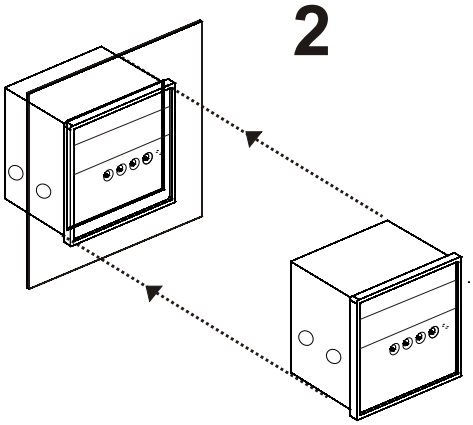

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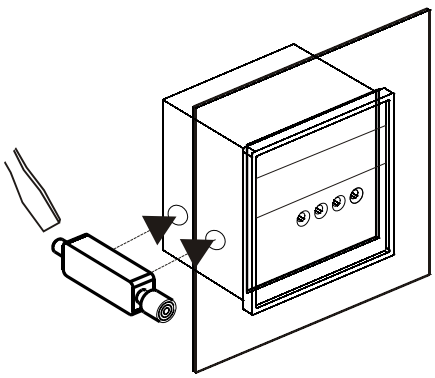


1. Remove mounting clamps from the digital meter.
2. Gently slide the digital meter through the cut-out.
3. Put the mounting clamps back in the digital meter and tighten the mounting clamp screws.

Selection guide

Selection Guide		DM6100 / DM6300	EM1000 / EM1200
General			
Use on LV and HV systems		•	•
Accurancy		Class 1.0/ 0.5	Class 1.0/ 0.5
Instantaneous RMS values			
Voltage - LL & LN	VLL V12 V23 V31 VLN V1 V2 V3	•	
Line current	A A1 A2 A3	•	
Frequency	F	•	
Power factor	PF PF1 PF2 PF3	•	•
Active power (per phase and total)*	W W1 W2 W3		•
Integrated values			
Active energy*	Wh		•
Run hours	Run.h		•
On hours	On.h		•
Interupts count	INTR		•
Old integ values			
Active energy	Wh		•
Run hours	Run.h		•
On hours	On.h		•
Interupts count	INTR		•
Communication			
Pulse output			• (EM1000)
RS 485 (Modbus protocol)		• (DM 6300)	• (EM1200)

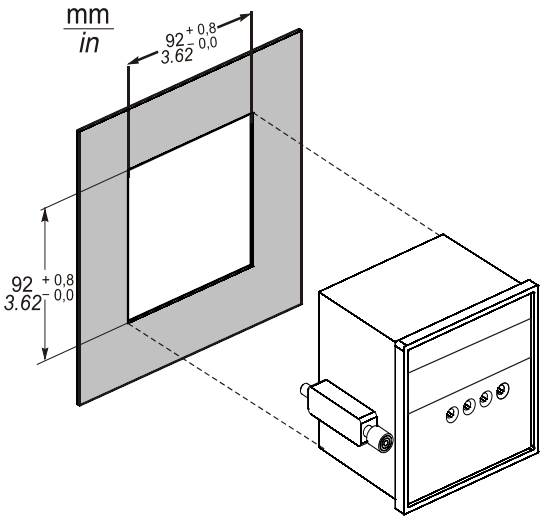
*Apparent / Reactive power & energy parameters are optional

Part Numbers

VAF meter	Part number
DM6100 Class 1.0 accuracy	30002567
DM6100 Class 0.5 accuracy	30002569
DM6300 Class 1.0 accuracy with RS485	30002566
DM6300 Class 0.5 accuracy with RS485	30002570
kWh meter	
EM1000 Class 1.0 accuracy with POP	30002568
EM1000 Class 0.5 accuracy with POP	30002571
EM1200 Class 1.0 accuracy with RS 485	30002565
EM1200 Class 0.5 accuracy with RS 485	30002572

VAF & kWh Meters

Functions and characteristics



DM 6XXX / EM 1XXX series meter panel cut-out

Electrical characteristics

Type of measurement			True rms
Measurement accuracy *		Voltage	± 1.0% of reading for DM6XXX Cl 1.0 meter ± 0.5% of reading for DM6XXX Cl 0.5 meter
		Current	± 1.0% of reading for DM6XXX Cl 1.0 meter ± 0.5% of reading for DM6XXX Cl 0.5 meter
		Power factor	+1.0% of reading for DM6XXX & EM1XXX Cl 1.0 meter +0.5% of reading for DM6XXX & EM1XXX Cl 0.5 meter
	Power	Active	±1.0% of reading for EM1XXX Cl 1.0 meter ±0.5% of reading for EM1XXX Cl 0.5 meter
	Energy	Active	Class 1.0 as per IEC 62052-11 and 62053-21 for EM1XXX Cl 1.0 meter Class 0.5S as per IEC 62052-11 and 62053-22 for EM1XXX Cl 0.5 meter
Data update rate			One second
Input-voltage characteristics	Inputs		V1, V2, V3, VN
	Measured voltage		80 to 480 VAC LL without PTs Up to 999 kV with external PTs
	Permisible overload		480VLL with full accuracy, 750VLL max
	Burden		0.2 VA per phase max
	Frequency		45 to 65 Hz
Input-current	CT ratings	Primary	1 A to 99.0 kA
		Secondary	1A / 5A
	Measurement range		50 mA to 6A
	Permissible overload		5A: 6A continuous 1A: 1.2 A continuous
	Impedance		< 0.1 ohm
	Burden		0.2 VA per phase max
Auxiliary supply (control power)			44 to 277 Vac/dc
	Burden		3 VA max
Comm.	Pulse output (EM 1000)		24Vdc, Pulse width programmable from 50 to 500ms
	RS 485		2 terminals, Modubus RTU, baudrate up to 19200 bps

Mechanical characteristics

Weight	0.500 kg (shipping), 0.400 kg (unpacked)
IP degree of protection	Front: IP 51; Rear: IP 40
Dimensions	Bezel: 96 x 96 mm Depth: 80 mm behind bezel Panel cutout: 92 x 92 mm

Environmental characteristics

Operating temperature	-10 to +60° C (14 to 140° F)
Storage temperature	-25 to +70° C (-13 to 158° F)
Humidity	5 to 95 % RH non-condensing
Altitude	2000 m
Measurement category	III
Pollution degree	2
Protection class	2

Electromagnetic compatibility

Electrostatic discharge	15 kV Air discharge, 8 kV contact discharge IEC 61000-4-2
Fast transient	4 kV IEC 61000-4-4
Immunity to surge waves	4 kV IEC 61000-4-5
Impulse voltage	6 kV, 1.2/50 µsecond IEC 60060
Conducted and radiated emissions	CISPR22

Safety and standards

Construction	Self extinguishable V0 plastics; Double insulation at user accessible area

** Refer user manual for more detials on accuracy*

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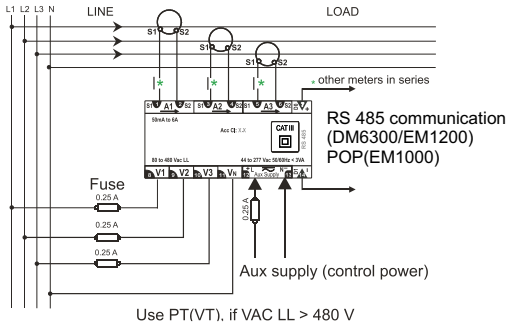
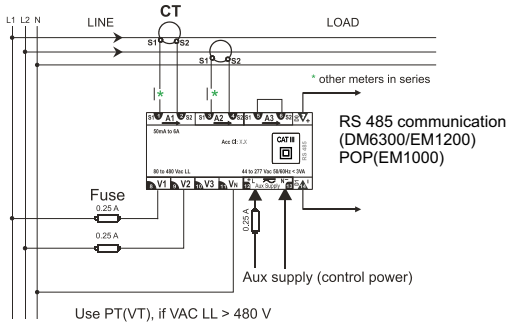
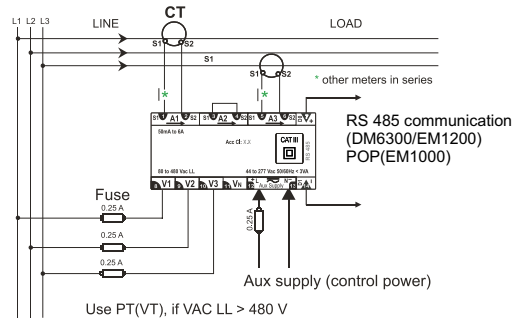
3-phase 4-wire star/wye connection



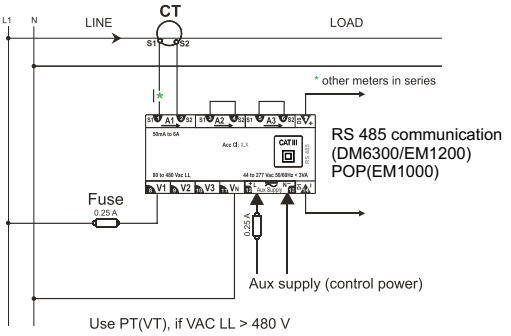
2-phase 3-wire connection



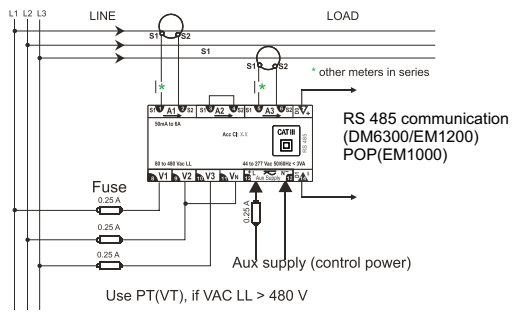
3-phase 3-wire delta connection



Single phase connection



3-phase 3-wire open delta connection



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