

**APM
M2
AC Mains Meter**

- Voltmeter
- Ammeter
- Frequency Meter

Selectable via APM configurator software

CAUTION: Risk of Danger
Read complete instructions prior to installation and operation of the unit

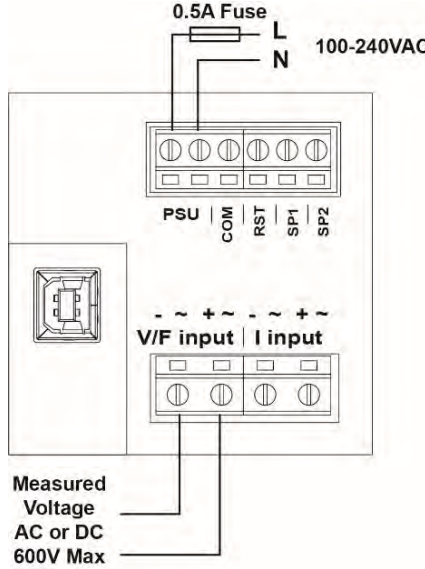
CAUTION: Risk of electric shock

Before installation, read the Safety Warnings overleaf.



Intended Use: The APM has been specifically designed for engineers requiring an effective way to monitor and display data. The APM accepts a range of electrical inputs (depending on the model) and displays the data on its integrated multi-format display. The APM has been designed for installation into electrical cabinets or display panels. Output models include two independent outputs that can be configured by the user to be either digital set-point outputs or 4-20mA monitor outputs.

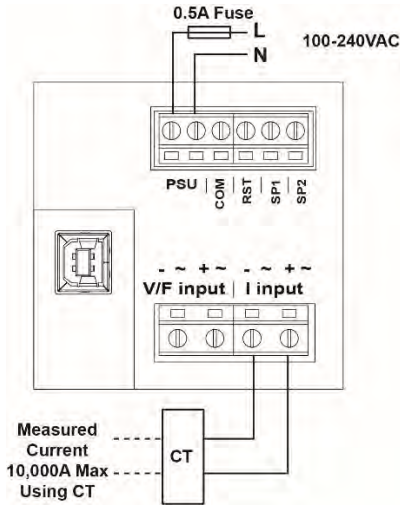
Voltmeter configuration



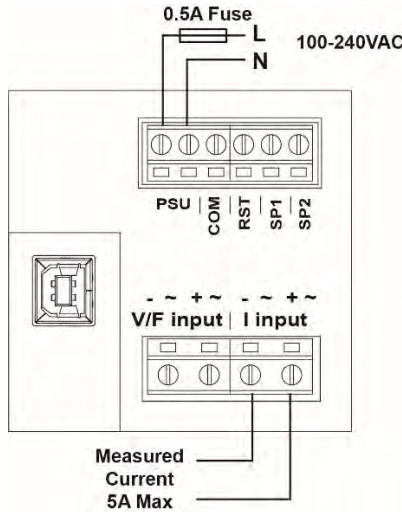
Operating specification		
	VALUE	UNIT
INPUT		
Input Voltage Range (DC)	0-600	V DC
Input Voltage Range (AC)	0-600	V AC RMS
Input Voltage Frequency	DC and 30-400	Hz
Isolation	None	-
Measurement Category	CATII	-
Max overvoltage rating	800	V
Impedance	1.5	MΩ
Accuracy	1%	%
Sample rate	62	KHz
Display modes	Average DC or RMS	-

Ammeter Configuration

AMMETER USING CURRENT TRANSFORMER



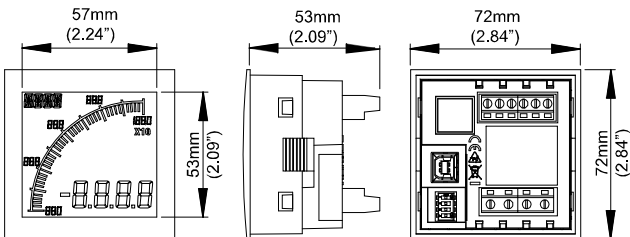
AMMETER DIRECT



The CT ratio is shown as the target value. Use the software to set other value

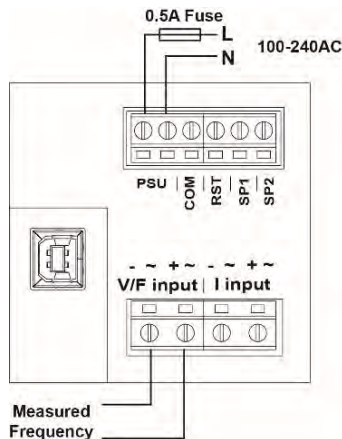
Operating specification		
	VALUE	UNIT
INPUT		
Input range (direct connection)	0-5 A	I AC/DC
Input range (via current transformer)	0-10,000 A	I AC
Min CT Power Rating (Burden)	1	VA
Input Current Frequency	DC and 30-400	Hz
Max Continuous Working Voltage (Current input to ground)	60 / 30	VDC / VAC
Isolation	2.1KVAC for 1 min	
Input Impedance	2	mΩ
Accuracy	1	%
Resolution	2.4	mA
Sample rate	62	KHz
Display modes	Avg DC or RMS	

Size



68 x 68mm (2.68in) +0.7 -0mm
Size of the cutout in the panel:

Frequency Meter Configuration



Operating specification		
	VALUE	UNIT
INPUT		
Input range	2-400	Hz
Impedance	1.5	MΩ
Accuracy at 25°C	0.5	%
Resolution	0.1	Hz
Sample rate	62	KHz
Measurement mode	frequency	
Measurement Category	CATII	
Signal Level – Min	10	V
– Max	600	V

Specification

	VALUE
Environment	
Temperature - operating	-10 to +60 deg C
Temperature - storage	-40 to +70 deg C
Altitude	2000 metres
Relative Humidity (non-condensing) - Continuous	0 - 85 %
Relative Humidity (non-condensing) - Intermittent	0 - 95 %
Overvoltage category (IEC664)	II
Pollution Degree (IEC664)	2
IP rating (from the front)	IP65
NEMA Rating (from the front)	Type 4 & Type 12
Vibration	
Shock	
Power supply	
Input	100 - 240VAC (+/-10%)
Max Power	1.6W
Supply Frequency	47-63Hz
Isolation	3.6KV / 1 min
Display	
Number of digits	4
Digit height	12 mm
Number of bar-graph segments	40
Number of starburst message characters	4
Backlight colours	Red, Green, White
LCD	Positive or negative
Digit update frequency	0.08 - 21 sec
Bar-graph update frequency	0.08 - 21 sec
Viewing angle	+/-70° Horizontal +/-70° Vertical
Open Collector Sinking Outputs	
Max voltage (open collector outputs)	34 VDC
Max current (open collector outputs)	500 mA
Analogue Output	
Output	4-20 mA
Accuracy	0.50 %
Resolution	0.02 mA
Connections	
Type	Screw Terminals
Wire type	Solid or Stranded
Min. cable temperature rating	70°C (158°F)
Wire strip length	6.5mm to 7mm (0.26" to 0.28")
Wire gauge	0.8mm ² - 3.3mm ² (18AWG to 12AWG)
Torque	0.5-0.6Nm (4.42-5.31 lbf-in)
In the Box	
APM	
Getting started & safety guide	
Gasket	
Retaining clip	
Dimensions & Weight	
Panel Cut-out: 68 x 68 mm (2.68 in) +0.7 -0 mm (0.02 in). Max. panel thickness: 11.0 mm.	
Dimensions: Depth behind panel inside front: 55mm (2.17in) incl. external connections. Weight: 180 grams.	

Safety Warnings

WARNING: INSTALLATION AND MAINTENANCE MUST BE CARRIED OUT BY SUITABLY QUALIFIED AND COMPETENT PERSONEL ONLY. HAZARDOUS VOLTAGES MAY BE PRESENT ON THE CONNECTION TERMINALS.

INSTALLATION

- Install this product in accordance with local regulations, codes and instructions.
- An external fuse must be fitted in-line with the PSU. Recommended fuse: 0.5A Type F with a breaking capacity of 35A or greater. Fuse voltage rating must be greater than the maximum supply voltage.
- All conductors carrying hazardous voltage must have external switching or disconnect mechanisms fitted that provide at least 3mm of contact separation in all poles.
- Signal cables connected to this device must not exceed 30 metres long.
- If signal cables are routed outside the building, install extra surge-protection devices.
- Current measurement input, USB and all outputs: Observe maximum allowable voltages. All circuits connected to these connectors must be limited-energy and insulated by double/reinforced insulation from mains voltages according to IEC 61010-1:2010
- All conductors carrying hazardous voltage must have external switching or disconnect mechanisms fitted that provide at least 3mm of contact separation in all poles. The switch must be suitably located; easily reached and marked as the disconnecting device.

Failure to install or operate the unit in accordance with the above requirements may impair the electrical safety of the unit.

Voltage measurements: An external UL recognized or listed overcurrent protection device (fuse or circuit breaker) must be fitted in-line with the voltage lead. Recommended fuse: 0.5A Type F with a breaking capacity of 35A or greater. Fuse voltage rating must be greater than the maximum voltage that will be applied to the meter.

MAINTENANCE

- Before cleaning, inspection or maintenance, isolate all power sources to the unit.
- There are no user-serviceable parts inside this unit. Never open the case.
- Inspect all external wiring connections at regular intervals. Replace any damaged wiring and tighten any loose connections.
- To clean the unit, use a dry cloth to wipe the casing.
- Take great care connecting the supply. If you connect power to the wrong terminals, it may destroy the unit.

Outputs and Reset

