trumeter
innovation by design

APM
CT Meter

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.

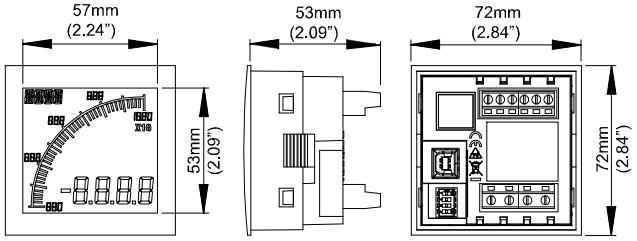
CE c UL us LISTED
MEASURING AND TESTING EQUIPMENT
E469787

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.

Size



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

Operating Specification

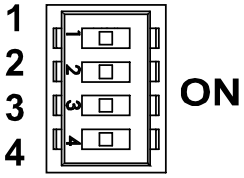
Use the DIP switch to set the CT Meter bar graph range, and the current transformer (CT) ratio if used. The CT ratio is shown as the target value. Use the software to set other value CTs.

Operating specification		
	VALUE	UNIT
INPUT		
Input Range (CT Output Current)	0-5 A	I AC
Min CT Power (Burden)	1	VA
Input range (via external current transformer)	0-10,000 A	I AC
Input Current Frequency	45-65	Hz
Input Impedance	10	mΩ
Accuracy	0.5	%
Resolution	1	mA
Sample rate	8	KHz
Display modes	RMS	

The APM CT meter has been designed to be used with an external current transformer. Never connect the meter directly to a live circuit.

DIP Switches

	Sw Pos	Measured	Bar Graph		Display Value	
Item	1234	Value	Min	Max	Format	Max
1	0000	Custom (Defined in Software Application)				
2	1000	Auto Ranging				
3	0100	5 A	0	4	#.###	5.000
4	1100	5 A	0	5	#.###	5.000
5	0010	10 A	0	10	##.##	10.00
6	1010	20 A	0	20	##.##	20.00
7	0110	40 A	0	40	##.##	40.00
8	1110	50 A	0	50	##.##	50.00
9	0001	60 A	0	60	###.#	60.0
10	1001	80 A	0	80	###.#	80.0
11	0101	100 A	0	100	###.#	100.0
12	1101	200 A	0	200	###.#	200.0
13	0011	400 A	0	400	####	400
14	1011	600 A	0	600	####	600
15	0111	800 A	0	800	####	800
16	1111	1000 A	0	1000	####	1000

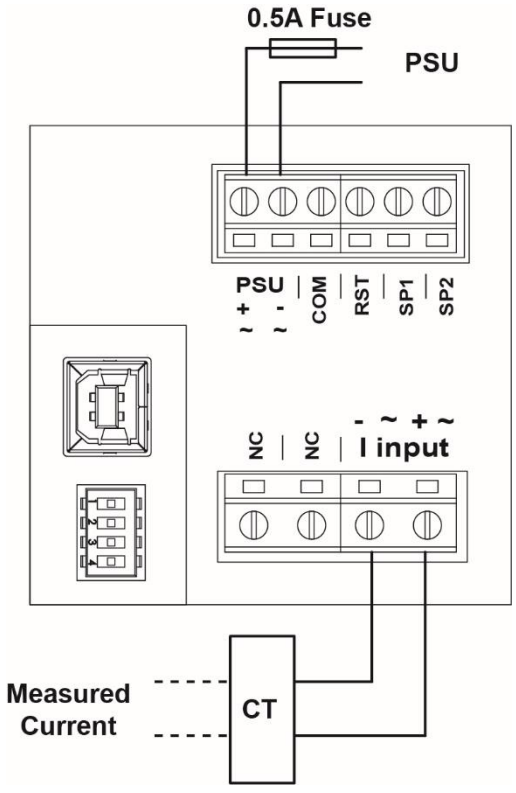


The DIP switches are on the back of the unit.

=Using external 5A secondary current transformer

Wiring Diagram

CT METER
Using Current Transformer



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.
- All fuses must be 0.5A / 250V Type F with a breaking capacity of 35A or greater.
- All conductors carrying hazardous voltage must have external switching or disconnect mechanisms fitted that provide at least 3 mm 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.
- Power supply, current 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

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

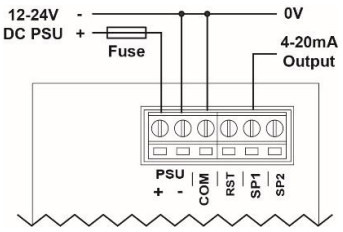
Voltage measurements: An external UL recognized or listed overcurrent protection device (fuse or circuit breaker) must be fitted in-line with the voltage lead. Recommended fuse: 0.5A Type F with a breaking capacity of 35A or greater. Fuse voltage rating must be greater than the maximum voltage that will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

MAINTENANCE

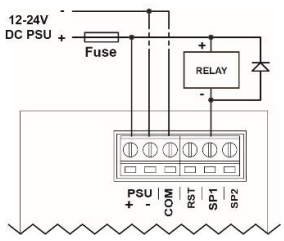
- Before cleaning, inspection or maintenance, isolate all power sources to the unit.
- There are no user-serviceable parts inside this unit. Never open the case.
- Inspect all external wiring connections at regular intervals. Replace any damaged wiring and tighten any loose connections.
- To clean the 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 When Powering APM from DC Supply

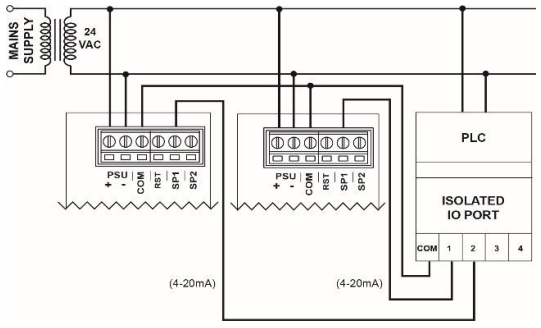
4-20 mA analogue output using setpoint 1.



Using a diode-protected relay on setpoint 1.



Outputs when powering APM from AC supply

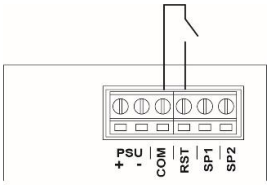


When powering from an AC supply only connect isolated devices or other APMs to the COM terminal

(in this application SP1 was configured as an analogue output using the APM Configurator)

Reset

Use the Reset input with the peak hold function D



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%
Pollution Degree (IEC664)	2
IP rating (from the front)	IP65
NEMA Rating (from the front)	Type 4 & Type 12
Vibration	
Shock	
Power supply	
Input	12-24V AC/DC +/-10%
Max Power	1.6W
Isolation	None
Supply Frequency	DC & 50-400 Hz
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 Outputs	
Max voltage (open collector outputs)	34 V
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	65 deg C (149F)
Wire strip length	6.5mm to 7mm (0.26" to 0.28")
Wire gauge	0.8mm² - 3.3mm² (18AWG to 12AWG)
Torque	0.5-0.6Nm (4.42-5.31 lbf-in)
Certification	
CE	
IEC 61010-1	
In the Box	
APM	
Getting started & safety guide	
Gasket	
Retaining clip	
Panel Cut-out: 68 x 68 mm (2.68 in) +0.7 -0 mm (0.02 in). **Max. panel thickness:** 10 mm.	
Dimensions: Depth behind panel inside front: 55mm (2.17in) incl. external connections. **Weight**: 180 grams.	