

APM SHUNT METER

* Non-Isolated,
for Low Side
DC Applications
Only *



CAUTION: Risk of Danger

Read complete instructions prior to installation and operation of the unit



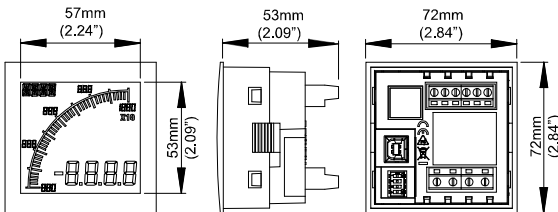
CAUTION: Risk of electric shock

Before installation, read the Safety Warnings overleaf.

Operating Specification

Use the DIP switches to set the Shunt Meter bar graph range and annunciators to standard values. Use the software application to configure custom settings.	
The switch positions are shown in the table where:	
0 = OFF and 1 = ON.	
	VALUE UNIT
INPUT	Voltage
Range	0 – 1VDC
Impedance	1Meg
Accuracy	0-200mV: 0.1% of full scale or 0.5mV, whichever is greater 201-1000mV: 0.2% of full scale
Max Working Voltage (Input to COM)	1.5V
Max Continuous Voltage Withstand (Input to COM)	30VDC

Size



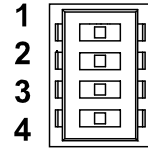
68 x 68mm (2.68in) +0.7 -0mm
Size of the cutout in the panel:

!! Note: This meter is designed for low side DC applications only, and must only be connected to current shunts that have been

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.

DIP Switches

Sw Pos	Bar Graph		
Item	1234	Input	Range
1	0000	Custom (defined in software application)	
2	1000	60mV	10A
3	0100	50mV	20A
4	1100	75mV	30A
5	0010	60mV	40A
6	1010	50mV	50A
7	0110	60mV	60A
8	1110	50mV	100A
9	0001	60mV	100A
10	1001	50mV	200A
11	0101	60mV	300A
12	1101	60mV	400A
13	0011	50mV	500A
14	1011	75mV	500A
15	0111	60mV	600A
16	1111	75mV	1000A



ON

The DIP switches are on the back of the unit.

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.

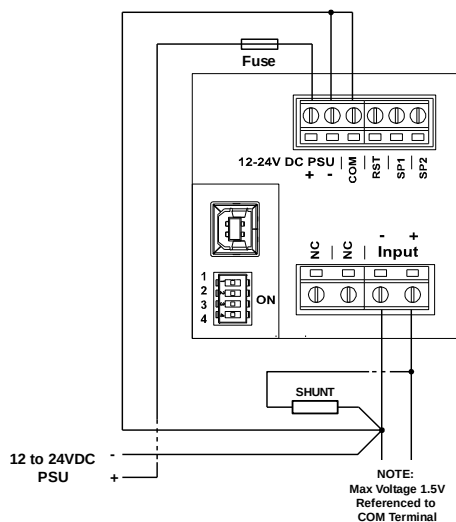


MAINTENANCE

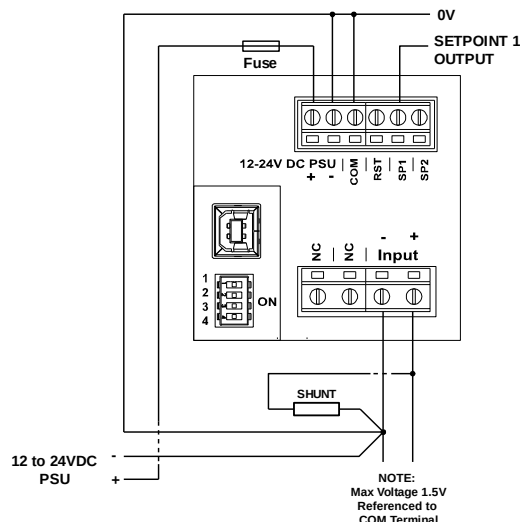
- Before cleaning, inspection or maintenance, isolate all power sources to the unit.
- There are no user-serviceable parts inside this unit. Never open the case.
- Inspect all external wiring connections at regular intervals. Replace any damaged wiring and tighten any loose connections.
- To clean the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

Wiring Diagrams

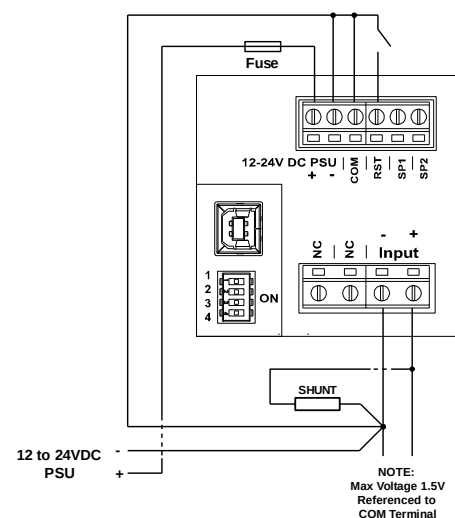
CURRENT INPUT
Ground referenced
DC POWERED (12 to 24V)



CURRENT INPUT
Ground Referenced
DC POWERED (12 to 24V)
WITH SETPOINT OUTPUT



CURRENT INPUT
Ground Referenced
DC POWERED (12 to 24V)
WITH EXTERNAL RESET



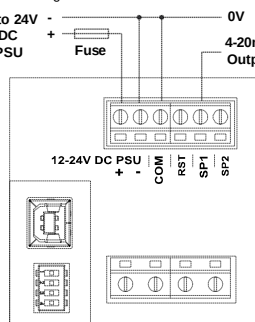
Specification

	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 DC +/-10%
Max Power	1.6W
Supply Frequency	DC
Isolation	None
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
	cULus
	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.	

Outputs

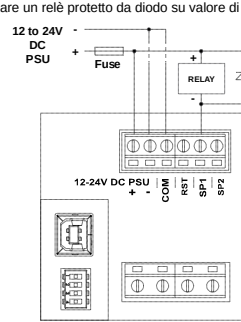
EN: 4-20 mA analogue output using setpoint 1.
Note: **DC PSU ONLY**

DE: 4-20 mA Analogausgang mit Sollwert 1.
FR: Sortie analogique 4 à 20 mA via le point de consigne 1.
ES: 4-20 mA salida analógica utilizando punto de ajuste 1.
IT: Uscita analogica 4-20 mA con valore di riferimento 1.



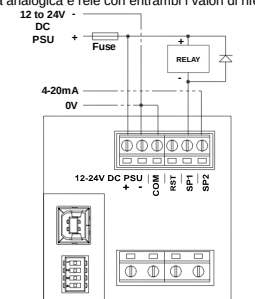
EN: Using a diode-protected relay on setpoint 1.
Note: **DC PSU ONLY**

DE: Mit einem diodengeschützten Relais auf Sollwert 1.
FR: Utilisation d'un relais avec diode de protection contre l'inversion de polarité au point de consigne 1.
ES: Usando un relé de diodo protegido en punto de ajuste 1.
IT: Utilizzare un relé protetto da diodo su valore di riferimento 1.



EN: Analogue Output and relay using both setpoints.
Note: **DC PSU ONLY**

DE: Analogausgang und Relais mit beiden Sollwerten.
FR: Sortie analogique et relais utilisant les deux points de consigne.
ES: Salida analógica y el relé usando ambos puntos de ajuste.
IT: Uscita analogica e relé con entrambi i valori di riferimento.



EN: Use the Reset input with the peak hold function
Note: **DC PSU ONLY**

DE: Verwenden Sie den Reset-Eingang mit der Peak-Hold-Funktion.
FR: Effectuer l'entrée de réinitialisation via la fonction de maintien de la valeur de crête.
ES: Utilice la entrada Reset con la función de mantenimiento de pico.
IT: Utilizzare l'ingresso di reset con la funzione Mantiene.

