

EXTERNAL SHUNT MODULE

for DPM-3221 Digital DC Power Meter
DPA-3015, 3016, 3018

Introduction

This series of precision external shunt modules are especially designed and made for easy installation and use with our DPM (Digital Power Meters). Only 3 hard wire connections (including 2 at the terminal block) are required to complete the installation.

The shunt module comes with a 5M water proof Kelvin-4 sensing cable ,a connector- set at the shunt end and a RJ-11 jack configured for use with our Digital Power Meters.

We select 50mV Manganin shunts because they have half the resistance thus generate less heat than the common 100mV shunts. Power (Heat) = $I^2 \times R$. Hence for the same operating condition and ambient temperature a 50mV shunt has better stability and accuracy than 100mV shunts.

But 50mV shunts require meters with higher sensitivity for the same full scale deflection.



Description

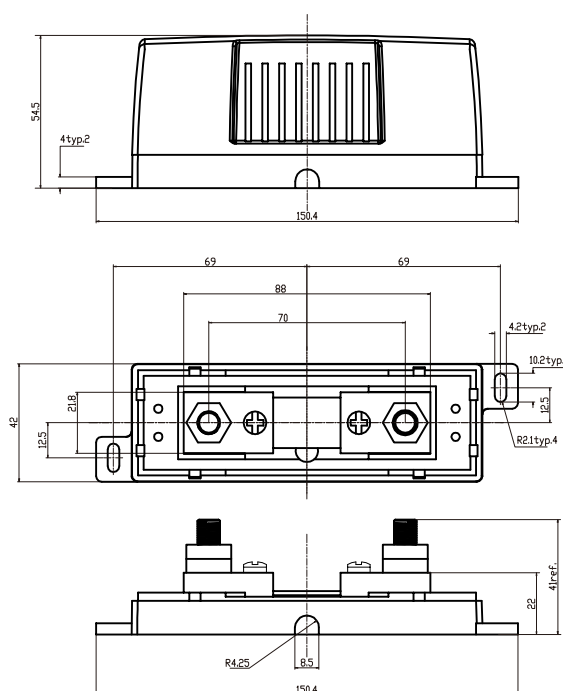
The Shunt Module consists of a Manganin shunt strip which is housed in a removable Polycarbonate casing with finned grills, the terminal block is equipped with solid brass & nut with spring washer assembly.

All our current are calibrated at 0.5% accuracy at standard ambient temperature of 25°C. The typical temperature drift is 0.004% per °C change.

Note: For continuous operation at ambient temperature of 25°C with good circulation of air around the uncased shunt strip, 60% rated current value is recommended.

That is in continuous operation; 200A shunt is good for 120A, 100A is good for 60A and 50A is good for 30A. All the shunts can take the rated current value for short instance of time depending from seconds to minutes depending on the operating temperature and the temperature of working shunt.

The maximum operating temperature of the shunt strip is 90°C to ensure within specification performance. The shunt strip will be damaged permanently at operation temperature over 120°C.



Specifications

Models	DPA-3015	DPA-3016	DPA-3018
Rated Voltage	60VDC		
Rated Current	50A	100A	200A
Voltage Drop at Rated Current	50mV		
Resistance	0.001 ohm	0.0005 ohm	0.00025 ohm
Calibrated Accuracy @ 25°C	0.5%		
Temperature drift coefficient	0.004% per °C change		
Continuous Loading Current	30A	60A	120A
Continuous Loading Current from ten seconds to minutes	50A	100A	200A
Maximum Operating Temperature of Shunt Strip	90°C		
Operating Temperature that damages Shunt Strip	120°C		
Casing in polycarbonate and terminal block in solid brass bolt & nut with spring washer	Yes		
Overall Dimensions of Shunt Module	154(L)x42(W)x54.5(H) mm 5.9(L)x1.7(W)x2.2(H) inch		
Net Weight of Shunt Module	266 g 0.6 lbs		
Gross Weight of Shunt Module & 5M Kelvin 4 cable w/ Connector	379 g 0.9 lbs		
Supplied Accessories	5M Kelvin 4 water proof cable with screw lock connector & RJ-11 jack at other end ready to use with our (DPM-3221 Digital Power Meter)		

* All values are based on the Standard ambient Temperature 25°C and Pressure 0.1Mpa.

* SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE