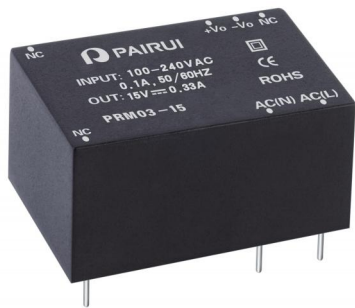


Miniaturized AC-DC Module Power Supply

3W



- Wide Voltage Input (85-305VAC, 100-430VDC)
- Compact Size: 37.0×24.5×15.5mm
- No-LoadPowerConsumption< 0.05W
- Natural Air Cooling, Operating Temperature Range: -40°C to +85°C
- IsolationVoltage:4kV
- 100% high-temperature aging and testing
- 3-year warranty



Models

Model	Input Voltage	Rated Power	Output Voltage	Rated Current	Ripple Current	Efficiency
PRM03-3	85-305VAC	3W	3.3V	1000mA	100 mV P-P	68%
PRM03-5	85-305VAC	3W	5V	1000mA	100 mV P-P	75%
PRM03-9	85-305VAC	3W	9V	560mA	100 mV P-P	77%
PRM03-12	85-305VAC	3W	12V	420mA	100 mV P-P	79%
PRM03-15	85-305VAC	3W	15V	330mA	100 mV P-P	79%
PRM03-24	85-305VAC	3W	24V	210mA	100 mV P-P	81%

Products with the suffix "-A" in their model number adopt a terminal block package.

Products with the suffix "-D" in their model number adopt a DIN rail mount package.

Product Datasheet

Input Specifications

Parameter	Min.	Typ.	Max.	Note
Input Voltage Range(AC)	85Vac	-	305Vac	
Input Voltage Range(DC)	100Vdc	-	430Vdc	
Nominal Input Voltage	100Vac	-	277Vac	
Input Current	-	100mA	-	115Vac Full load
	-	60mA	-	230Vac Full load
Inrush Current	-	20A	-	115Vac Full load
	-	30A	-	230Vac Full load
Leakage Current	-	0.1mA	-	265VAC/50Hz

Output Specifications

Parameter	Min.	Typ.	Max.	Note
Output Voltage Accuracy	-	-	±5.0%	Full load
Line Regulation	-	-	±1.0%	Full load
Load Regulation	-	-	±1.0%	10-100% Load
Start-Up Time	-	-	1000mS	230Vac Full load
	-	-	2000mS	115Vac Full load
Rise Time	-	-	50mS	230Vac Full load
	-	-	50mS	115Vac Full load
Hold-Up Time	-	-	40mS	230Vac Full load
	-	-	15mS	115Vac Full load

General Specifications

Parameter	Min.	Typ.	Max.	Note
Operating Temperature	-40°C	-	+85°C	
Operating Humidity	10% RH	-	85% RH	
Storage Temperature	-40°C	-	+85°C	
Storage Humidity	10% RH	-	95% RH	
Temperature Drift Coefficient	-	0.03%/(0°C-50°C)	-	
Vibration Coefficient	10-500Hz, 2G, 10 minutes per cycle, 60 minutes each for X, Y, Z axes			
MTBF	300K hrs min. MIL-HDBK-217F(25°C)			
Product Dimensions	37.0*24.5*15.5mm			
Product Weight	20g			

Product Datasheet

Safety&EMC Compliance

Parameter	Standard	Note
Safety Standard	EN62368, IEC62368, UL62368	
Insulation Voltage	I/P-O/P:4000Vac	
Insulation Resistance	>100M Ohms/500VDC 25°C 70% RH	
Conduction and Radiation	EN55011, EN55032 (CISPR32) CLASS B	Refer to the "Typical Application Diagram"
Electrostatic Discharge	IEC/EN 61000-4-2 level 4 Contact $\pm 8\text{kV}$ /Air $\pm 15\text{kV}$	Refer to the "Typical Application Diagram"
Radio Frequency Radiation Immunity	IEC/EN 61000-4-3	Refer to the "Typical Application Diagram"
Electrical Fast Transient/Burst	IEC/EN 61000-4-4 level 4 4kV	Refer to the "Typical Application Diagram"
Surge	IEC/EN 61000-4-5 level 3 Line-to-Line 1kV	

Unless otherwise specified, the above data are measured under the conditions of TA=25°C, humidity <75%, nominal input voltage of 230VAC and rated output load.

Ripple and Noise Measurement Method

Use the parallel line test method. Meanwhile, a 0.1 μF high-frequency ceramic capacitor and a 47 μF electrolytic capacitor should be connected in parallel at the terminal, and the measurement should be carried out under a 20MHz bandwidth.

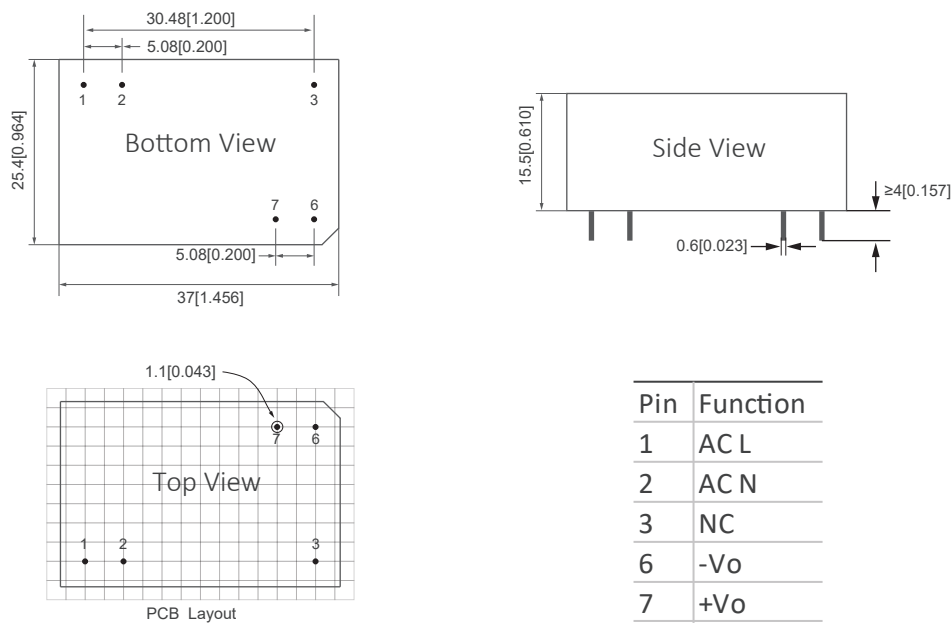
The power supply is regarded as a component within the system, and its electromagnetic compatibility (EMC) verification must be conducted in conjunction with the end equipment.

The overvoltage protection of this series protects the subsequent-stage circuit when the module is abnormal by means of the TVS tube added in the peripheral circuit.

Protection Characteristics

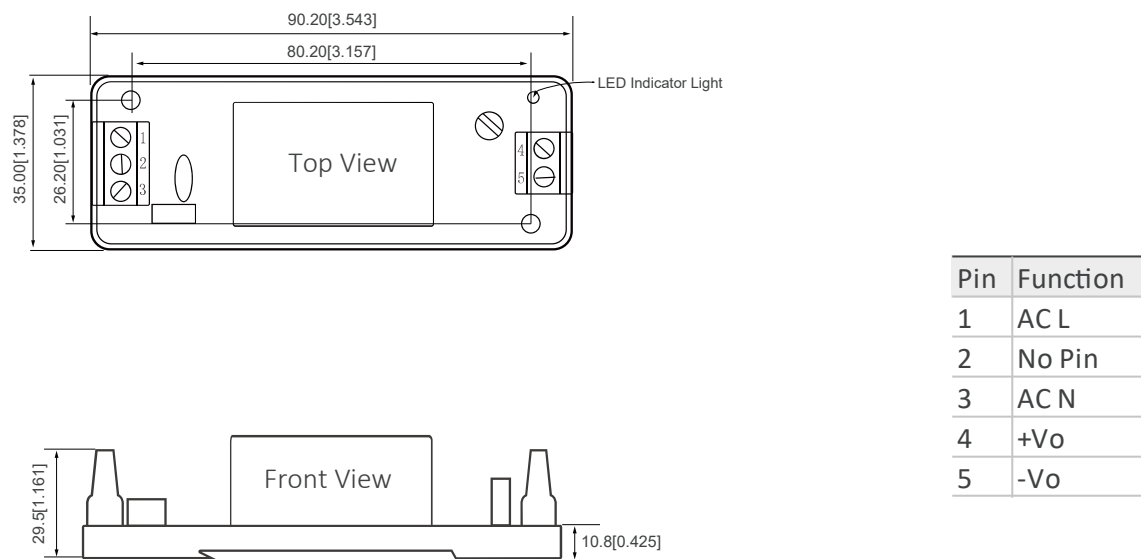
Parameter	Standard	Note
Short-Circuit Protection	Hiccup Mode, self-recoverable after fault elimination	
Overload Protection	$\geq 110\%$ load, self-recoverable after fault elimination	
Overvoltage Protection	Protection Coverage $\leq 7.5\text{V}$	PRM03-3
	Protection Coverage $\leq 15\text{V}$	PRM03-9
	Protection Coverage $\leq 16\text{V}$	PRM03-12
	Protection Coverage $\leq 20\text{V}$	PRM03-15
	Protection Coverage $\leq 30\text{V}$	PRM03-24
	Output Voltage Clamping or Hiccup Mode	

Dimensions & Interface Definition

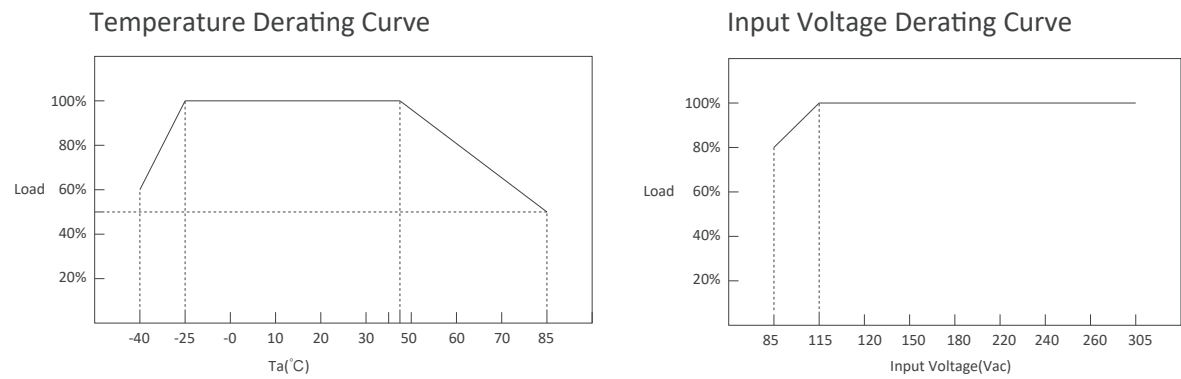


Note: Grid Spacing: 2.54x2.54mm

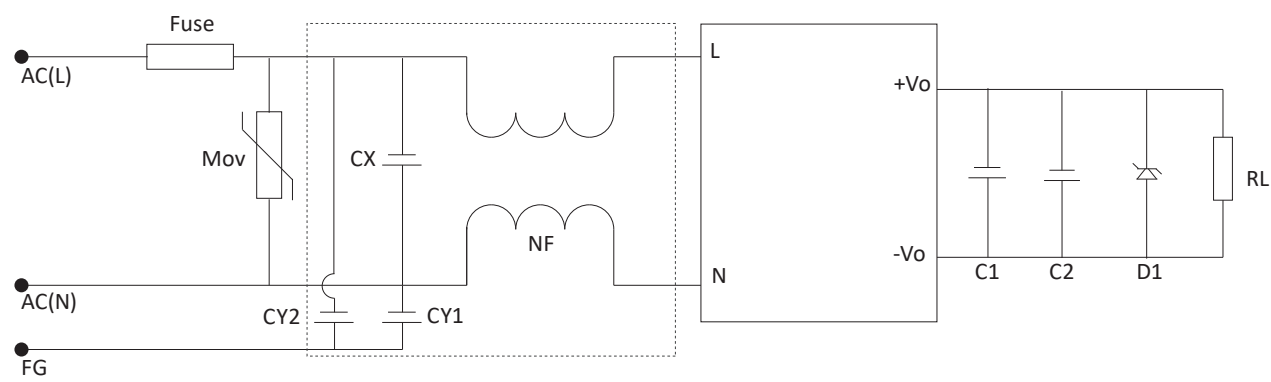
Dimension Drawing of DIN Rail Mount (-D) & Terminal Block Mount (-A)



Electrical Curve



Typical Application Diagram



Recommended Device Selection

Model	R	MOV	FP01	C1	C2	D1
PRM03-3	10Ω/1W	14D561	Filter, Model: FP01. The dashed box contains the internal schematic diagram of FP01.	104K50V Ceramic Chip Capacitor	220uF-1000uF/16V	P6KE7.5A
PRM03-5	10Ω/1W				220uF-680uF/16V	P6KE7.5A
PRM03-9	10Ω/1W				150uF-470uF/16V	P6KE15A
PRM03-12	10Ω/1W				100uF-330uF/16V	P6KE16A
PRM03-15	10Ω/1W				100uF-220uF/35V	P6KE20A
PRM03-24	10Ω/1W				100uF-220uF/35V	P6KE30A