DIN RAIL SWITCHING POWER SUPPLY 60W

PSR – 06005 / 06012 / 06015 / 06024 / 06048

USER'S MANUAL

INTRUDUCTION

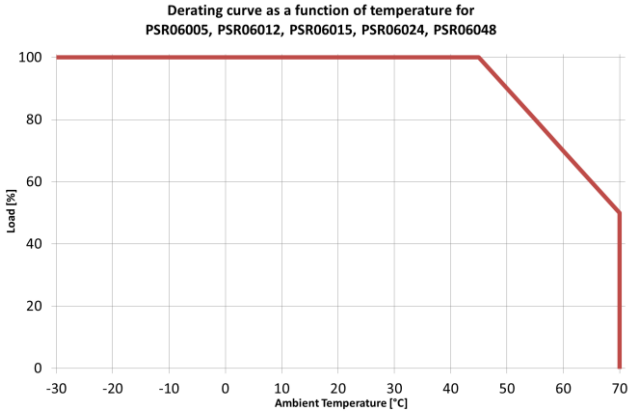
This series of slim PSR switching power supplies, mounted on a DIN rail, has been designed for a wide range of applications, including building automation, industrial control systems, and mechatronic devices. These power supplies feature high quality, low power consumption in no-load mode (<0.3W) and excellent EMC immunity (electromagnetic compatibility).

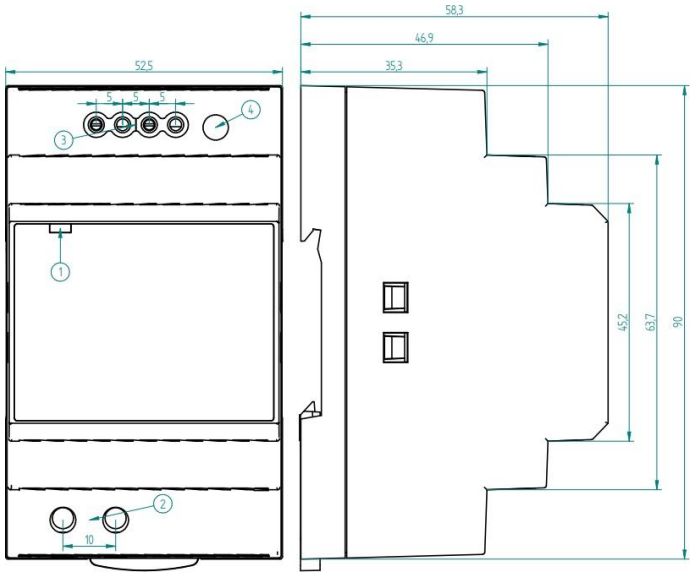
FEATURES

1. Overload Protection: The constant current circuitry is adopted to protect the device from overload. When the unit is overloaded, the DC output LED (ON) indicator will turn off, and the system will automatically cut off the DC output. (1)
2. Over Temperature Protection: The over temperature circuitry is activated when the unit exceeds a certain high temperature to prevent damage caused by overheating. When this protection is triggered, both the output voltage and current will decrease, and the DC output LED (ON) indicator will turn off. (1)
3. Over Voltage Protection: The over voltage circuitry protects both the unit and the connected equipment from damage caused by abnormal high input voltage. Immediate action is taken to bring the voltage to safe levels.
4. Fine-Tuning Adjustment: The device includes a concealed trimmer (fine-tune access port) that allows precise adjustment of the output voltage to meet specific system requirements. (4)

PANEL DESCRIPTION

1. DC OK output (ON) indicator.
2. AC input terminal block.
3. DC output terminal block.
4. Fine-tune access port.





INSTALLATION

1. The PSR060XX series power supplies are built-in units designed for mounting on a standard DIN rail TS35 (35 x 15 / 7.5).
2. Ensure that the mounting position allows for optimal cooling performance; the recommended operating position is vertical.
3. To install the unit on the DIN rail, hook the top part of the clip onto the rail, then push down and inwards until you hear a click indicating that the clip is securely fastened.
4. To remove the unit from the rail, insert an insulated flat-head screwdriver into the recess of the clip, as close to the bottom of the unit as possible. Press down to release the clip and lift the unit off the DIN rail.
   Note: For indoor use only.

SAFETY PRECUATIONS

1. **NEVER** remove the metal cover of the power supply while AC power is connected.
2. **NEVER** touch the unit with wet hands.
3. **NEVER** touch the enclosure while the unit is under full load, as this may cause burns due to high temperatures.
4. This series consists of built-in power supplies and should be installed inside a main frame with a ventilation capacity of at least 200 CFM (cubic feet per minute).
5. **NEVER** operate the unit if any foreign materials, such as metallic objects, water, or other debris, have entered inside. Contact your dealer for inspection and repair.
6. **NEVER** operate a unit that has been damaged, as this may indicate a failure in the voltage regulation circuitry. The resulting high voltage could damage connected equipment.
7. **NEVER** allow foreign objects to touch the DC power output terminals.
8. If you need to inspect the interior of the unit, allow it to cool down completely, as certain components may pose a burn hazard in the event of failure.
9. **NEVER** block the air intake vent.

CONNECTION AND OPERATION

1. A protective device (such as a fuse or miniature circuit breaker) and an easily accessible isolating device for disconnecting the power supply must be provided.
2. Ensure that the main switch is in the OFF position and is secured to prevent accidental reactivation. Failure to adhere to this precaution may result in contact with live components, which can lead to death or severe injury.
3. Connect the equipment to the unit. If using flexible wires, they must be properly terminated (e.g., using ferrules). The cross-sectional area of the flexible power cable should be between 0.5 mm² and 0.75 mm².

SPECYFICATIONS

Model	**PSR-06005**	**PSR-06012**	**PSR-06015**	**PSR-06024**	**PSR-06048**
Voltage Range (Auto Select)	100-240VAC 140-340VDC				
Frequency	47-63 Hz ~				
Full Load AC Current	1.2A/100VAC; 0.8A/230VAC				
No Load AC Current	15mA/100VAC; 30mA/230VAC				
Inrush Current, cold start 25°C*	25A/100VAC; 45A/230VAC				
Efficiency	85%	88%	89%	90%	91%
OUTPUT					
Normal DC Voltage	5V	12V	15V	24V	48V
Voltage Adjust Range	5,0 – 5,5V	10,8 – 13,8V	13,5 – 18V	21,6 – 29V	43,2 – 55,2V
Rated Current	6,5A	4,5A	4A	2,5A	1,25A
Rated Power	32,5W	54W	60W	60W	60W
Ripple & Noise (peak to peak)**	≤ 80mV	≤120mV	≤120mV	≤150mV	≤240mV
Max. Capacitive Load	6800uF	4700uF	3300uF	2200uF	2000uF
Voltage tolerance	±2,0%	±1,0%	±1,0%	±1,0%	±1,0%
Line Regulation	±1,0%				
Load Regulation (10% - 100%)	±1,0%				
Holdup time (full load)	12ms/115VAC; 30ms/230VAC				
Parallel operation	Not possible				
PROTECTION					
Over load	105%-160% of rated output power, constant current limiting, automatic restart after fault removal				
Over voltage	5,75 – 6,75V	14,2 – 16,2V	18,8 – 22,5V	30 – 36V	56,5 – 64,8V
	Restart required				
SAFETY & EMC					
Safety standards	EN62368-1				
Withstand Voltage	I/P - O/P: 4kVAC				
Isolation resistance	I/P-O/P: 100M Ohm/500VDC/25°C/70%RH				
EMC Emission	Compliance to EN55032(CISPR32)				
Voltage Flicker & Harmonic Current	Compliance to EN61000-3-2, -3				
EMC Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11				
ENVIRONMENT					
Operating Temp.	-30°C ~ +70°C				
De-rating of rated values at temperatures above 50°C	See: Derating curve as a function of temperature				
Operating Humidity	20 - 90 RH, non-condensing				
Storage Temp. & Humidity	od -40°C od +85°C , 10 - 95 RH, non-condensing				
Vibration	Component: 10-500Hz, 2G 10min/1 cycle, 60min each along the X, Y, Z. Installation in accordance with IEC60068-2-6				
OTHERS					
MTBF	≥927,6k hours according to MIL-HDBK-217F (25°C)				
Weight	190g				
Dimension	52,5 × 90 × 58,3mm (S x W x G)				
Mounting options	Mounting option on DIN rails 35mm/7.5 or 15mm, vertical position.				
Connection	Screw terminals				
NOTE	* Ta = 25°C , cold start				

* All values are based on the Standard ambient Temperature 25°C and Pressure 0,1 MPa. *

Breve-Tufvassons Sp. z o.o
93-347 Łódź, ul. Postępowa 25/27
www.breve.pl