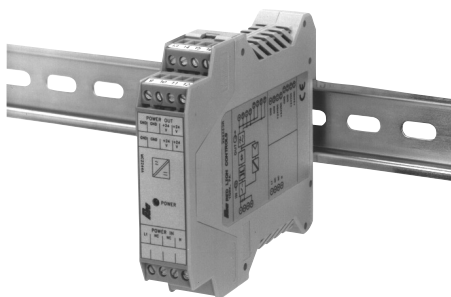


## MODEL PSDR6 - SIGNAL CONDITIONER 650 mA POWER SUPPLY



### SPECIFICATIONS

#### 1. POWER REQUIREMENTS:

Input Voltage: 120 to 230 VAC or 100 to 250 VDC  
Input Voltage Range: 85 to 264 VAC or 90 to 350 VDC  
Current Consumption at nominal input voltage: 0.2/0.4 A (230/120 VAC)

#### 2. FREQUENCY: 47 to 63 Hz

#### 3. POWER FACTOR: >0.5

#### 4. MAINS BUFFERING: >30 msec (120 VAC); >100 msec (230 VAC)

#### 5. SURGE VOLTAGE PROTECTION: Varistor

#### 6. POWER OUTPUT: 24 VDC -0%/+3% @ 650 mA

#### 7. ENVIRONMENTAL CONDITIONS:

Operating Temperature Range: -25 to 50°C  
Storage Temperature: -40 to 85°C  
Humidity, no moisture condensation: 95 % at 25°C  
Vibration in acc. with IEC 68-2-6: 10 Hz -150 Hz, 0.15 mm or 2 g  
Shock in acc. with IEC 68-2-27: 30 g for 18 msec in 3 directions  
Contamination in acc. with EN 50178: 2

#### 8. STANDARDS AND CERTIFICATIONS

UL Listed, File # E171375

LISTED by Und. Lab. Inc. to U.S. and Canadian safety standards

#### ELECTRICAL SAFETY

Electrical Safety EN 60950 / VDE 0805  
UL 508 listed (CSA 22.2 No. 14-M-91)  
UL 1950 (CSA 22.2 No. 950)

Electronic equipment for use in electrical power installations and their assembly into electrical power installations EN 50178 / VDE 0160

Reliable isolation VDE 0100-410 / DIN 57100-410

Protection against electric shock (reliable isolation) VDE 0106-101

**CE** In compliance with the EMC guideline and the low-voltage guideline 89/336/EWG 73/23/EWG

Radio interference suppression in accordance with EN 55011 (EN 55022) Class B (industrial and residential areas).

It is not necessary to apply EN 61000-3-2 (line harmonic current) (Effective power <75 W).  
Protection class II

### DESCRIPTION

The compact PSDR power supplies are industrial input voltage supplies with primary switched-mode regulator technology. They feature low output ripple and tight nominal voltage tolerance. The output is electronically protected against overloads and short circuits.

The modules snap onto standard 35 mm flat DIN rails, and use removable terminal blocks for easy wiring.

### MECHANICAL SAFETY

The devices have been tested for shock resistance in accordance with IEC 68 part 2-27 and for vibrations in accordance with IEC 68 part 2-6.

Protection type IP 20

### CE In compliance with the EMC guideline 89/336/EEC and the low-voltage guideline 73/23/EEC

EMC (Electromagnetic compatibility)		Limit value requirements:	
Immunity in accordance with EN 61000-6-2		Standard:	Tested To:
Discharge of static electricity (ESD)	EN 61000-4-2 <sup>2)</sup>	contact discharge (4 kV) air discharge (8 kV) > Level 3	contact discharge (6 kV) air discharge (8 kV) is equivalent to Level 4
Electromagnetic HF field	EN 61000-4-3 <sup>1)</sup>	frequency: 80-1000 MHz field intensity: 10 V/m is equivalent to level 3	frequency: 26-1000 MHz field intensity: 10 V/m > level 3
Fast transients (Burst)	EN 61000-4-4 <sup>2)</sup>	AC <sub>IN</sub> conductors (2 kV) asymmetrical <sup>4)</sup> is equivalent to level 3	AC <sub>IN</sub> conductors (2 kV) symmetrical <sup>3)</sup> (4 kV) asymmetrical <sup>4)</sup> is equivalent to level 4 DC <sub>OUT</sub> conductors (2 kV) asymmetrical <sup>4)</sup>
Surge currents (Surge)	EN 61000-4-5 <sup>1)</sup>	AC <sub>IN</sub> conductors (1 kV) symmetrical <sup>3)</sup> is equivalent to level 3	AC <sub>IN</sub> conductors (1 kV) symmetrical <sup>3)</sup> is equivalent to level 3
Conducted interference	EN 61000-4-6 <sup>1)</sup>	field intensity: 10 V/m frequency: 0,15-80 MHz is equivalent to level 3	field intensity: 10 V/m frequency: 0,15-80 MHz is equivalent to level 3
Voltage dips	EN 61000-4-11 <sup>2)</sup>	30 % reduction in input voltage for 0.5 periods	see mains buffering > 30 ms
Simulation mobile phones	EN 50204	not required in EN 61000-6-2	field intensity: 20 V/m frequency: 900 MHz, 1800 MHz ± 5 MHz

### Noise radiation in accordance with EN 50081-2

Radio interference radiation	EN 55011 Class A <sup>5)</sup>	EN 55011 (EN 55022) Class B <sup>6)</sup>
Radio interference voltage at input to mains	EN 55011 Class A <sup>5)</sup>	EN 55011 (EN 55022) Class B <sup>6)</sup>

EN 55011 corresponds to CISPR11 / EN 55022 corresponds to CISPR22

EN 61000 corresponds to IEC 1000

- 1) Criterion A: normal operational behavior within the defined limits.
- 2) Criterion B: temporary impairment in the operating behavior, which is corrected by the device itself.
- 3) Symmetrical: Conductor to conductor.
- 4) Asymmetrical: Conductor to ground.
- 5) Class A: application industry.
- 6) Class B: application industry and residential area.

#### 9. INSULATION VOLTAGE: input/output 3 kV (4 kV routine test)

#### 10. INSTALLATION POSITION: on horizontal mounting rail NS 35 according to EN 50022

#### 11. CONNECTIONS: 24 to 14 AWG max.

#### 12. MOUNTING: Standard DIN rail top hat (T) profile rail according to EN50022 - 35 X 7.5 and 35 X 15. Can be mounted in rows with vertical Spacing > 10 cm or horizontally with no space.

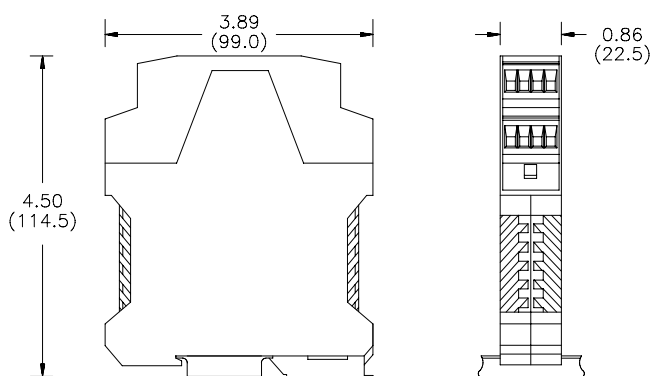
#### 13. CONSTRUCTION: Case body is green, high impact plastic. IP20 touch safe. Protection Class II.

#### 14. MTBF (Mean Time Between Failure): >500000 h acc. To IEC 1709 (SN 29500)

#### 15. EFFICIENCY: > 80 %

#### 16. WEIGHT: 4.93 oz (140 g)

### DIMENSIONS In inches (mm)



# CONNECTION AND OPERATION INSTRUCTIONS



**Caution:** Danger! Never work on live equipment!

**Caution:** When the device is opened, a dangerous voltage may remain at the electrolytic capacitors for up to 2 minutes after shutdown!



The installation must be performed by a specialist in accordance with the requirements of EN 60950.

For vertical installations we recommend a minimum spacing of 10 cm (3.937 in.) between other modules and this power supply to ensure sufficient convection.

No minimum spacing is required for horizontal alignment.

The mains feed line must have an appropriate fixing or strain relief outside of the device.

The supply-side installation and the connection via screw terminal blocks must be done in a way that ensures protection against electric shock.

## RAIL MOUNTING

The power supply unit can be snapped onto all mounting rails in accordance with EN 50022-35.

## CABLE CONNECTION

The device is equipped with COMBICON plug connectors.

This easy-to assemble connection method allows devices to be exchanged easily and the electrical connection to be visibly isolated.

### Connecting Cables:

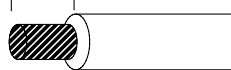
Cable cross sections from 0.2 - 2.5 mm<sup>2</sup> rigid (solid)/ flexible (stranded) (AWG 24-14) may be used.

To maintain UL, please use copper cable rated for an operating temperature of 75°C/170°F.

### For Reliable And Touch-proof Contacts:

Strip the connection ends (8 mm - See Figure)

8 mm (0.32")



**Input:** The 120 to 230 VAC resp. 100 to 250 VDC connection is made by the screw connections "L(+)" and "N(-)" (torque 0.5 Nm) on the COMBICON plug connection. The power o.k. control lamp signals that the device is functioning.

**Output:** The 24 VDC connection is made by the screw connections "+" and "-" (torque 0.5 Nm) on the COMBICON plug connection.

## PROTECTION

The device must be installed in accordance with the specifications of EN 60950.

It must be possible to switch off the device using a suitable disconnecting device outside the power supply. For example, primary side line protection could be used.

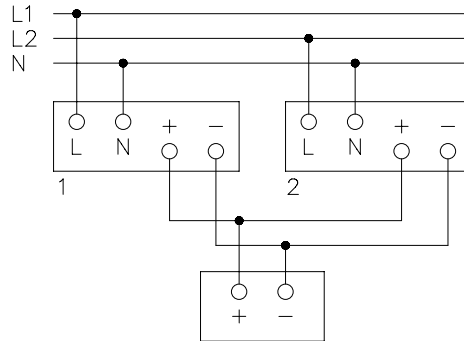
*In case of DC applications it is necessary to connect in series an adequate fuse.*

**On The Secondary Side:** The device is electronically protected against short circuits and idling. In the event of an error, the output voltage is limited to max 33 V $\pm$  5 %.

## REDUNDANCY MODE

This device can only be switched in parallel for redundancy operation.

If a fault occurs in the primary circuit of device No.1, device No.2 automatically takes control of the entire power supply without interruption and vice versa.



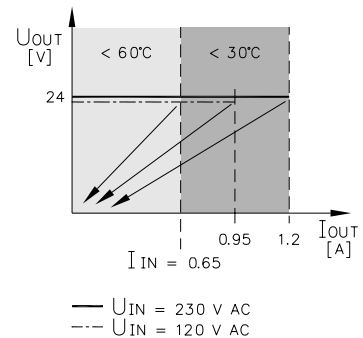
## CHARACTERISTIC CURVES

### Thermal Behavior

The device supplies the rated current  $I_N$  of 650 mA with an ambient temperature up to 60°C.

### Short Circuit and Overload Behavior

The output of the device is electronically protected against overload and short circuiting.



With an ambient temperature lower than 30°C, higher output currents than  $I_N$  are supplied constantly:

INPUT VOLTAGE $U_{IN}$	MAX. OUTPUT CURRENT WITH $T_{AMB} < 30^\circ\text{C}$ (CONSTANTLY)
120 VAC	typ. 0.95 A
230 VAC	typ. 1.20 A
110 VAC	typ. 0.80 A
220 VDC	typ. 1.00 A

In the case of a considerable overload resp. short circuit, the operating point follows the curve depicted above. After the device has shut down, it will attempt to switch on again until the short circuit on the secondary side has been eliminated.

## ORDERING INFORMATION

MODEL NO.	INPUT	OUTPUT	PART NUMBER
PSDR6	120 - 230 VAC	24 VDC	PSDR6000