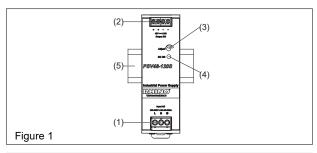
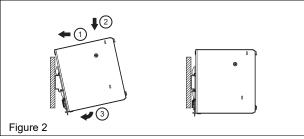
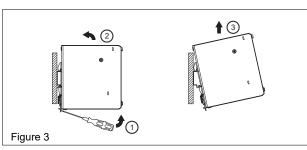
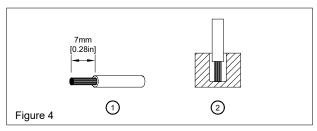
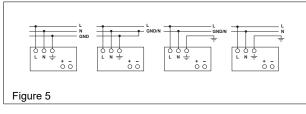
RHINO PSV48-120S Power Supply

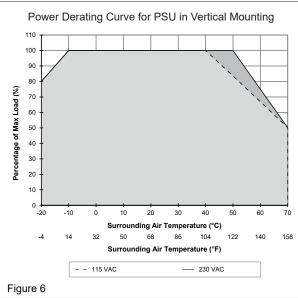












READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

1. Safety instructions

- Switch main power off before connecting or disconnecting the device. Risk of explosion!
- If the unit is used in a manner not specified by the manufacturer, the protection provided by the
 equipment may be impaired.
- To guarantee sufficient convection cooling, please keep a distance of 50mm above and 18cm below the device as well as a lateral distance of 10mm to other units.
- Note that the enclosure of the device can become very hot depending on the ambient temperature and load of the power supply. Risk of burns!
- The main power must be turned off before connecting or disconnecting wires to the terminals!
- Do not introduce any objects into the unit!
- Dangerous voltage present for at least 5 minutes after disconnecting all sources of power.
- The power supplies are built-in units and must be installed in a cabinet or room (condensation free environment and indoor location) that is relatively free of conductive contaminants.
- · The unit must be installed in an IP54 enclosure or cabinet in the final installation.
- CAUTION: FOR USE IN A CONTROLLED ENVIRONMENT.

2. Device description (Fig. 1)

- (1) Input terminal block connector
- (2) Output terminal block connector
- (3) DC voltage adjustment potentiometer
- (4) DC OK LED (green)
- (5) Universal mounting rail system

3. Mounting (Fig. 2)

The power supply unit can be mounted on 35mm DIN rails in accordance with EN60715. For vertical mounting, the device should be installed with input terminal block on the bottom.

Each device is delivered ready to install.

Snap on the DIN rail as shown in Fig. 2:

- 1. Tilt the unit slightly upwards and put it onto the DIN rail.
- 2. Push downwards until stopped.
- 3. Press against the bottom front side for locking.
- 4. Shake the unit slightly to ensure that it is secured.

4. Dismounting (Fig. 3)

To uninstall, use a flat screwdriver to pull or slide down the latch as shown in Fig. 3. Then slide the PSU in the opposite direction, release the latch and pull out the PSU from the rail.

- - ·

The terminal block connectors allow easy and fast wiring.

You can use flexible (stranded wire) or solid cables with cross sections:

Electrical Connections and Wire Size					
	Stranded / Solid		Torque		
	mm²	AWG	N∙m	lb-in	
Input	0.823-8.365	18-8	1.01	9	
Output	0.20-3.3	24-12	0.68	6	

To secure reliable and shock proof connections, the stripping length should be 7mm (see Fig. 4 (1)). Please ensure that wires are fully inserted into the connecting terminals as shown in Fig. 4 (2). All wire strands must be fully inserted into the terminals with the screws securely fastened in order to ensure safety and maximum contact.

In accordance to EN60950 / UL60950, flexible cables require ferrules.

Use appropriate copper cables that are designed to sustain operating temperature of at least $60^{\circ}\text{C}/75^{\circ}\text{C}$ or more to fulfill UL requirements.

5.1. Input connection (Fig. 1, Fig. 5)

Use L, N and GND connections of input terminal connector (see Fig. 1 (1)) to establish the 100-240 VAC connection. Typical connection methods are shown in Figure 5.

The unit is protected with an internal fuse (not replaceable) at L pin and it has been tested and approved on 20A (UL) and 16A (IEC) branch circuits without additional protection device. An external protection device is only required if the supplying branch has an ampacity greater than above.



The internal fuse must not be replaced by the user.

5.2. Output connection (Fig. 1 (2))

Use the "+" and "-" screw connections to establish the 48 VDC connection. The output provides 48 VDC. The output voltage can be adjusted from 44 to 56 VDC on the potentiometer. The green LED DC OK displays correct function of the output (Fig. 1 (4)). The device has a short circuit and overload protection and an overvoltage protection limited to 56-67.2 VDC.

5.3. Output characteristic curve

The device functions normal under operating line and load conditions. In the event of an overload ($I_O = 105-150\%$) the output voltage will start to droop until overload has been removed.

5.4. Thermal behavior (Fig. 6)

In the case of ambient temperatures:

- At -10°C to -20°C [14°F to -4°F], the output capacity has to be reduced by 2% per degree Celsius increase in temperature.
- 2. Above +40°C [104°F] (115VAC), the output capacity has to be reduced by 1.67% per degree Celsius increase in temperature.
- Above +50°C [122°F] (230VAC), the output capacity has to be reduced by 2.5% per degree Celsius increase in temperature.

If the output capacity is not reduced when $T_{\rm Amb} > 40^{\circ}{\rm C}$ [104°F] (115VAC) or $> 50^{\circ}{\rm C}$ [122°F] (230VAC), the device will engage thermal protection by switching off, i.e., the output voltage will go into latch-off mode until the component temperature cools down and the AC power is recycled.

RHINO PSV48-120S Power Supply

	Technical Specifications				
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Description 1-10°C to -20°C (25°F/C), 3-40°C (15°F/C) (24°C) (25°F/C), 3-40°C (15°F/C),					
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Efficiency at 100% load	Startup with capacitive loads	Мах. 4,000µF			
PARD (20MHz) at 100% load PSB00-PEN/COS / PSB00-PEN/MIS or with ORing Diode Reaneral Data Spice of housing ED spirals SGCC (Case Cover) / Aluminum (Case Chassis) ED spirals Green LED DC KY MTSE 7,700,000 hrs. as per Telocordia Dimensions (I. xW x H) 123.6 mm x 40mm x 117.6 mm (4.87 in x 1.57 in x 4.65 in) (See www. AutomationDirect.com for complete engineering drawings.) Weight Connection method Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Shipping length 7,700,000 hrs. as per Telocordia Screw connection Thim (0.28 in) Sporaga length length 7,700,000 hrs. as per Telocordia Screw connection 7,700,000 hrs. as per Telocordia	Max. power dissipation idling / nominal load approx.	1.21 W / 13.3 W			
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Parallel operation General Data Type of housing SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) SGC (Case Cover) / Aluminum (Case Chassis) LED sypris SGC (Case Cover) / Aluminum (Case Chassis) SGC (Case Cover) / Aluminum (Case Chase Case Case Case Case Case Case Case C	PARD (20MHz) at 100% load	< 150 mVpp			
Upo of housing SGCC (Case Cover) / Aluminum (Case Chassis) LED signals Green LED DC DK MTBF > 7000.00 hrs. as per Telecordia Dimensions (L x W x H) 123.6 mm x 40mm x 117.8 mm (487 in x 1.57 in x 4.63 in) (See www.AutomationDirect.com for complete engineering drawings.) Weight 0.54 kg [19 oz] Connection method Screw connection Stripping length 7mm (0.28 in) Departing len	Parallel operation	PSB60-REM20S / PSB60-REM40S or with ORing Diode			
Upo of housing SGCC (Case Cover) / Aluminum (Case Chassis) LED signals Green LED DC DK MTBF > 7000.00 hrs. as per Telecordia Dimensions (L x W x H) 123.6 mm x 40mm x 117.8 mm (487 in x 1.57 in x 4.63 in) (See www.AutomationDirect.com for complete engineering drawings.) Weight 0.54 kg [19 oz] Connection method Screw connection Stripping length 7mm (0.28 in) Departing len	General Data				
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Dimensions (L x W x H) 123.6 mm x 40mm x 117.6 mm [4.87 in x 1.57 in x 4.63 in] (See www.AutomationDirect.com for complete engineering drawings.) Weight					
Connection method Screw connection		7 1			
Connection method Screw connection Stripping length Operating temperature (surrounding air temperature) -20°C to 470°C to 470°C to 470°C to 470°C to 470°C to 185°F [Refer to Fig. 6] -40°C to 48°C [-40°F to +185°F] Flumidity at 425°C, no condensation Operating: EC60068-2-6. Sine Wave: 10Hz to 500Hz & 91 56ms/ (20 peak); 10min per cycle, 60min for X direction Non-Operating: EC60068-2-6. Sine Wave: 10Hz to 500Hz & 91 56ms/ (20 peak); 20 min; per axis for all X, Y, 2 directions Shock Operating: EC60068-2-27. Half Sine Wave: 50G for a duration of 11ms, 3 shocks for aduration of 11ms, 3 shocks for each 3 directions Non-Operating: EC60068-2-27, Half Sine Wave: 50G for a duration of 11ms, 3 shocks for each 3 directions Soloom for life application Certification and Standards Safety entry low voltage Electrical safety (of information technology equipment) Industrial control equipment UL/C-UL recognized to UL60950-1 and CSA C22 2 No. 107.1-10 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL recognized to UL60950-1 and CSA C22 2 No. 107.1-10 (File No. E198298) CB Entition of the strip of the str	· · · · · · · · · · · · · · · · · · ·				
Stripping length		0			
Comparating temperature Comparating temp					
Storage temperature -40°C to +85°C [-40°F to +185°F] -50 195% RH -40°C to +85°C [-40°F to +185°F] -50 195% RH -40°C to +85°C [-40°F to +185°F] -50 195% RH -40°C to +85°C [-40°F to +185°F] -50 195% RH -40°C to +85°C [-40°F to +185°F] -50 195% RH -50 195% R					
Humidity at +25°C, no condensation Operating: IEC60068-2-6, Sine Wave: 10Hz to 50bt; 29°19, Smys* (26 peak); 10min per cycle, 60min for X direction Non-Operating: IEC60068-2-6, Random: 5Hz to 500bt; 20°19, Smys* (26 peak); 10min per cycle, 60min for X direction Non-Operating: IEC60068-2-27, Half Sine Wave: 10G for a duration of 11ms, shock for 1 direction (X axis) Non-Operating: IEC60068-2-27, Half Sine Wave: 10G for a duration of 11ms, shock for 1 direction (X axis) Non-Operating: IEC60068-2-27, Half Sine Wave: 50G for a duration of 11ms, 3 shocks for each 3 directions 2000m for industrial application Certification and Standards Safety entry low voltage Electrical safety (of information technology equipment) UL/C-UL recognized to UL60850-1 and CSA C222 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 ludustrial control equipment UL/C-UL listed to UL508 and CSA C222 No. 107:1-01 (File No. E198298), CB scheme to IEC60950-1 ludustrial control equipment with EMC directive 2014/30/EU and Low Voltage Directive 2014/35/EU Component power supply for general use Immunity EN5032, EN55011, EN61000-6-1, EN61000-6-2 (EN61000-6-1, EN61000-6-2) (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) EN55032, EN55011, EN61000-3-2, Cass A, En61000-6-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 (Cass A, En61000-6-3, EN61000-6-4) SEMI F47 - 0706 @ 200VAC CCCURRENT INTERIOR Suppose Varistor Current limitation at short-circuits approx. Surge voltage protection Current limitation at short-circuits approx. Yes Solation voltage: Input / output Input / PE					
Operating: IEC60088-2-6. Sine Wave: 10Hz to 500Hz @ 19 6mys (20 pack): 10min per cycle. 60min for X direction Non-Operating: IEC60088-2-6, Random: 5Hz to 500Hz (2 19 6mys); 20 min, per axis for all X, Y, Z directions Operating: IEC60088-2-27, Half Sine Wave: 10G to 1 duration of 11ms, shock for 1 direction (X axis) Non-Operating: IEC60088-2-27, Half Sine Wave: 10G for a duration of 11ms, shock for each 3 directions Pollution degree 2 2000m for industrial application Certification and Standards Safety entry low voltage Electrical safety (of information technology equipment) UL/C-UL recognized to UL60950-1 and CSA C22 2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment Electrical safety (of information technology equipment) UL/C-UL listed to UL508 and CSA C22 No. 1077.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment Electrical safety (of information technology equipment) UL/C-UL listed to UL508 and CSA C22 No. 1077.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment Electrical safety (of information technology equipment) UL/C-UL recognized to UL60950-1 and CSA C22 No. 1077.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment Electrical safety (of information technology equipment) UL/C-UL recognized to UL508 and CSA C22 No. 1077.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment Electrical safety, of information technology equipment) UL/C-UL recognized to UL508-0-1 and CSA C22 No. 1077.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment experiments are supply for general use ENSIGHATION TO CARREST AND TO CARRE		-40°C to +85°C [-40°F to +185°F]			
Non-Operating: IEC600088-2-6, Random: SHz to 500Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions Shock Operating: IEC600088-2-7, Half Sine Wave: 50G for a duration of 11ms, 3 shocks for each 3 directions Non-Operating: IEC60068-2-27, Half Sine Wave: 50G for a duration of 11ms, 3 shocks for each 3 directions Altitude (operating) Zeotification and Standards Safety entry tow voltage Electrical safety (of information technology equipment) UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 1071-101 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 1071-101 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 1071-101 (File No. E197592) ENSO(24, ENG1000-6-1) (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment ENG1204-3 Immunity ENS5024, ENG1000-6-1, ENG1000-6-2 (ENG1000-6-2) ENG5032, ENS5011, ENG1000-6-2, ENG1000-6-3, ENG1000-6-3 ENS5032, ENS5011, ENG1000-3-2 (ENG1000-6-3, ENG1000-6-3, ENG1000-6-4) Voltage Sag Immunity ENSS604 Protection Transient surge voltage protection Current limitation at short-circuits approx. Issuege = 105-150% or Po _{max} ypically Surge voltage protection against internal surge voltages Solation voltage: Input / output Input / PE Output / PE Protection degree	Humidity at +25°C, no condensation				
Non-Operating: IEC60068-2-27, Half Sine Wave: 506 for a duration of 11ms, 3 shocks for each 3 directions Pollution degree Altitude (operating) Certification and Standards Sately entry low voltage Electrical safety (of information technology equipment) Industrial control equipment UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01 (File No. E197592) CE In conformance with EMC directive 2014/30/EU and Low Voltage Directive 2014/35/EU Emission EN55032, EN55001, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55031, EN55031, EN61000-3-3, EN61000-6-3, EN61000-6-4 Voltage Sag Immunity EN55032 is a series of the series o	Vibration	Non-Operating: IEC60068-2-6, Random: 5Hz to 500Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions			
Pollution degree 2 2000m for ITE application Certification and Standards Safety entry low voltage Electrical safety (of information technology equipment) Industrial control equipment IUL/C-UL recognized to UL60950-1 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL recognized to UL5098-034 CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment IUL/C-UL listed to UL5098 and CSA C222 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment in Industrial surge voltage Diction Industrial control equipment in Industrial surge voltage Protection Industrial control equipment in Industrial surge voltage Protection Industrial control equipment in Industrial surge voltage Industrial equipment in Industrial equipment i	Shock				
Altitude (operating) Certification and Standards Safety entry low voltage Electrical safety (of information technology equipment) Industrial control equipment Electrical safety (of information technology equipment) UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01 (File No. E197592) In conformance with EMC directive 2014/30/EU and Low Voltage Directive 2014/35/EU Component power supply for general use EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity SEMI F47 — 0706 @ 200VAC E 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Pollution degree	2			
Certification and Standards	Altitude (energting)				
Safety entry low voltage SELV (EN60950)		5000m for ITE application			
Electrical safety (of information technology equipment) UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1 (File No. E198298), CB scheme to IEC60950-1 Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01 (File No. E198298), CB scheme to IEC60950-1 UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01 (File No. E198298) In conformance with EMC directive 2014/35/EU and Low Voltage Directive 2014/35/EU EN55024, EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-6-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-3 EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity SEMI F47 – 0706 @ 200VAC **E198298** **ROHS Compliant** Yes **Safety and Protection** Transient surge voltage protection Current limitation at short-circuits approx. Varistor Varisto					
Industrial control equipment UL/C-UL listed to UL508 and CSA C22.2 No.107.1-01 (File No. E197592) CE In conformance with EMC directive 2014/30/EU and Low Voltage Directive 2014/35/EU EN61204-3 Immunity EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-3, EN61000-6-4 SEMI F47 – 0706 @ 200VAC **E988** **Safety and Protection** Transient Surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE	7 7 9				
CE In conformance with EMC directive 2014/30/EU and Low Voltage Directive 2014/35/EU Component power supply for general use EN55024, EN51000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity Yes Safety and Protection Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE	Electrical safety (of information technology equipment)				
EN61204-3 Immunity	Industrial control equipment	UL/C-UL listed to UL508 and CSA C22.2 No.107.1-01 (File No. E197592)			
EN55024, EN61000-6-1, EN61000-6-2 (EN61000-4-2, 3, 4, 5, 6, 8, 11, 12)	CE				
Emission EN55032, EN55011, EN61000-4-2, 3, 4, 5, 6, 8, 11, 12) Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity SEMI F47 – 0706 @ 200VAC C C C C C C C C C C C C C C C C C C	Component power supply for general use				
Emission EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-4 Voltage Sag Immunity EN55032, EN55011, EN61000-3-2 Class A, EN61000-6-3, EN61000-6-4 SEMI F47 – 0706 @ 200VAC C	Immunity				
Voltage Sag Immunity SEMI F47 – 0706 @ 200VAC LISTED LI					
RoHS Compliant Yes Safety and Protection Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / Output Input / PE Output / PE Output / PE Protection degree IROHS Compliant Yes E198298 Yes E198298 Yes Surge voltage protection Varistor Surge voltage protection against internal surge voltages Yes Isolation voltage: Input / Output Input / PE Output / PE O					
RoHS Compliant Yes Safety and Protection Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / PE Output / PE Output / PE Protection degree IROU LISTED LIS					
RoHS Compliant Safety and Protection Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE Output / PE Protection degree IP20	C C C UL E197592 C F198298				
Safety and Protection Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE Output / PE Output / PE Protection degree IP20	RoHS Compliant				
Transient surge voltage protection Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE Output / PE Protection degree IP20		160			
Current limitation at short-circuits approx. Surge voltage protection against internal surge voltages Isolation voltage: Input / output Input / PE Output / PE Output / PE Protection degree IP20		Variator			
Surge voltage protection against internal surge voltages Isolation voltage: Input / output					
Isolation voltage: 3kVAC Input / output 3kVAC Input / PE 2kVAC Output / PE 0.5 kVAC Protection degree IP20	**				
Input / output 3KVAC Input / PE 2kVAC Output / PE 0.5 kVAC Protection degree IP20					
Input / PE 2kVAC Output / PE 0.5 kVAC Protection degree IP20	olation voitage:				
Protection degree IP20	Input / PE	2kVAC			
	Output / PE	0.5 kVAC			
Safety class Class I with PE connection	Protection degree	IP20			
· · · · · · · · · · · · · · · · · · ·	Safety class	Class I with PE connection			