

## Product OverView:

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**Data**  
(Gen. 2020)

### **PSD RU – Power Supply & Distribution Rack Unit**

The Power & Distribution Rack Unit is rugged military grade housing 19" standard system able to supply, cooling and interfacing up to twelve internal unit.

Fully qualified MIL-STD-810G and MIL-STD-461F the PSD RU is suitable for applications that require clean and reliable ac power in military environment (Naval Sheltered).

REACH, ROHS and CE marking compliance.



## Product Description:

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### PSD RU – Power Supply & Distribution Rack Unit

#### Description:

The Power & Distribution Rack Unit is rugged military grade housing 19" standard system able to supply, cooling and interfacing up to twelve internal unit.

Equipped with an internal 5KVA/4KW frequency converter unit offers one stable, decoupled 1ph 115Vac 60Hz power supply starting from 3ph 115Vac 50/60Hz input voltage in accordance with STANAG 1008 Ed.9

The internal power distribution unit makes available 11 power supplies 1ph 115Vac 60Hz, derived from frequency converter output farther one 12Vdc/150W and one 24Vdc/150W programmable power supplies are also available. Each power supply line is monitored for inrush current, over current with programmable values of inrush time and over current, programmable HICCUP functionality is available too.

The Power & Distribution Rack Unit is able to interface the external world with 98 LVDS and 35 LVCMOS signals by D38999 connectors placed on the upper side.

The fan unit cools the system maintaining the internal temperature below the 40°C along [-5 ÷ +55]°C external temperature range.

Temperature monitoring is performed by 4 internal sensors, high and low temperature limit are programmable for system shut down.

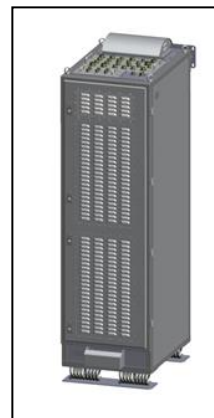
Customer 19" internal units will be fixed on telescopic guides the make easier the insertion and the connection during the installation or the maintenance activities, safety switch are foreseen to monitoring correct insertion and to guaranty the operator safety.

The PSD RU structure as well as the internal units are made of aluminum alloy of the 5000 and 6000 series equipped with conductive anticorrosion treatment Surtec 650, in accordance with MIL DTL 5541F Class III, the external surfaces may be painted on demand.

The RU is equipped with an isolation system for mechanical stress (ship motions, vibrations, impacts and accelerations from air transport) made with helical metal cable shock absorbers positioned both at the base and on the upper-rear side of rack.

Fully qualified MIL-STD-810G and MIL-STD-461F the PSD RU is suitable for applications that require clean and reliable ac power in military environment (Naval Sheltered).

REACH, ROHS and CE marking compliance, environmental Stress Screening service available on demand.



**Key Specifications:**

- Rugged military grade rack unit (standard 19")
- 3ph 115Vac 50/60Hz input voltage (STANAG 1008 Ed.9 compliance)
- Twelve single phase 115Vac 60Hz internal power supplies (internal frequency converter) decoupled and stabilized respect the input power supply
- Two DC internal power supplies also available
- Programmable thresholds for inrush time and over current for each AC and DC internal power supplies
- External interface with 98 LVDS and 35 LVCMOS signals by D38999 connectors
- Operative temperature range [-5 ÷ +55]°C with warning and alarm programmable thresholds
- Telescopic guides for customer units installation with integrated cables handling system
- Isolation system for mechanical stress at the base and on the upper-rear side of rack
- Fully qualified MIL-STD-810G and MIL-STD-461F
- REACH, ROHS and CE marking compliance
- Dimensions (h x l x d) 2150x600x800mm
- Weight 270 kg

## Product DataSheet:

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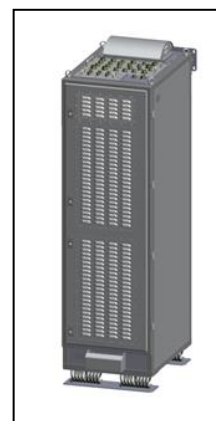
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**INPUT POWER**

105÷125Vrms 50 or 60Hz  
25Arms max  
5KVA max

**INPUT TRANSIENT**

<2sec to 89Vrms or 141Vrms

**INPUT HARMONIC DISTORSION**

THD < 7,5%  
SHD < 5%

**INPUT PROTECTION**

Varistors  
Breaker

**ISOLATION**

1500Vdc input to chassis  
1000Vdc internal power supplies  
200Vdc signal to chassis

**STANDARD**

Compliant to STANAG 1008 ed.9

**EMI**

Compliant to MIL-STD-461F:  
CE101, CE102, RE101, RE102  
CS101, CS106, CS114, CS116,  
RS101, RS103

**INPUT/OUTPUT SIGNALS**

98 lines LVDS  
35 lines LVCMOS  
1 line Ethernet  
1 line open/close contact  
3 line 24Vdc alarm signals  
9 line 3GHz RF signals

**INTERNAL HOUSING**

Twelve 19" standard units (25U)  
One non standard unit

**INTERNAL POWER SUPPLY**

Twelve 115Vrms 60Hz 10Arms  
One 12Vdc 150W  
One 24Vdc 150W

**INTERNAL POWER DISSIPATION**

<2500W to have  $T_i < 40^\circ\text{C}$

**OPERATING TEMPERATURE**

$[-5 \div +55]^\circ\text{C}$  at full power

**COOLING**

Forced air by FAN UNIT

**ENVIRONMENT PROTECTION**

Full ruggedizing  
Conformal coating

**SHOCK & VIBRATION**

MIL-STD-810G:  
Half sine 30g 6ms over three axis  
4÷14Hz 0,25mm 14÷100Hz 0,2g

**HUMIDITY**

MIL-STD-810G method 507.6

**SALT FOG**

MIL-STD-810G method 509.6

**MTBF**

16.595h MIL-217F  
Naval Sheltered at 20°C

**INDICATORS**

Power presence  
System status  
Internal power supply status

**CONNECTOR**

D38999 standard  
3xTNC type, 9xN type for RF signal

**DIMENSIONS (h x l x d)**

2150x600x800mm

**WEIGHT**

270 Kg

**COMPLIANCE**

REACH, ROHS and CE marking