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The unit must be installed only by qualified personnel. As a minimum, the following conditions must be met:

- Connection to the mains supply must be compliant with VDE01000 and EN50178
- All wires must be properly secured in terminal blocks
- Unit and power supply cables must be properly fused
- Non-fused earth conductor must be connected to the earth connector (Protection Class 1)
- All output lines must be correctly rated and connected with the correct polarity
- Sufficient air cooling must be ensured

No modifications should be made while the unit is in operation. Only disconnect the plug connectors when the power is off. Do not cover ventilation holes - leave sufficient space for cooling around the unit.

This unit contains unprotected conductors carrying a lethally high voltage. Improper usage or handling may result in electric shock or serious burns. Do not introduce any object into the unit.

Keep away from fire and water.

Installation

The DNR is a primary switched-mode power supply designed for use in panel-board installations or building-in applications where access to the supply is restricted. It must only be installed and put into service by qualified personnel.

MOUNTING

See fig 1. Ventilation holes must be kept clear - recommended minimum clearance is 25mm on all sides. To mount, tilt the top of the unit backwards and clip the top edge of the lock onto the rail. Tilt the bottom of the unit backwards and click into place.

REMOVAL

BEFORE REMOVAL SWITCH OFF MAINS POWER and disconnect rack from the supply network. Push down the slider at the rear (see fig 4), tilt front of unit forwards and up.

Connection

Ensure that cables used are suitable for the load - see technical data below. Ensure that cables are correctly stripped and fitted - see fig 3 overleaf. Ensure correct polarity at output terminals.

GROUNDING

To comply with EMC and safety approvals (see below), the unit must be operated only if the PE terminal (⊕) is connected to the non-fused earth conductor. The secondary side is not earthed. If necessary the +ve or -ve terminal can be earthed.

INTERNAL FUSE

The internal fuse protects the unit and is not user-replaceable. In the event of an internal failure, the unit should be returned to XP.

Specification

Input

- Input Voltage • 90-264 VAC (120-370 VDC)
- Input Frequency • 47-63 Hz
- Inrush Current • 30W: 20/40 A at 115/230 VAC
60W: 30/60 A at 115/230 VAC
- Power Factor • Meets EN61000-3-2 for class A equipment
- Earth Leakage Current • 0.8 mA max

Output

- Output Voltage • See table
- Output Voltage Trim • See table
- Initial Set Accuracy • ±1%
- Minimum Load • No minimum load required
- Start Up Delay • <1000 ms
- Start Up Rise Time • <150 ms
- Hold Up Time • 20/30 ms at 115/230 VAC
- Line Regulation • ±1% max
- Load Regulation • ±2% max
- Transient Response • 300 µs for a 50% load change
- Ripple & Noise • 50 mV pk-pk 20 MHz BW
- Overvoltage Protection • 120-145% Vnom
- Overload Protection • 105-145% constant current
- Short Circuit Protection • Constant current/constant power
- Temperature Coeff. • ±0.02% / °C

General

- Efficiency • See table
- Isolation • 3000 VAC Input to Output
1500 VAC Input to Ground
500 VAC Output to Ground
- Signals • DC On indicator LED green,
DC OK relay 24 V models
- MTBF • 200 kHrs DNR30, 167 kHrs DNR60,
MIL-HDBK-217F, Ground Fixed, 40 °C
- Case Material • Plastic 94-V0
- Switching Frequency • 100 kHz typical

Output Voltage	Output Voltage Trim	Current	Typical Efficiency	Model Number
5.0 V	5.0-5.5 V	6.00 A	79%	DNR30US05
12.0 V	12.0-14.0 V	2.50 A	84%	DNR30US12*
24.0 V	24.0-28.0 V	1.25 A	86%	DNR30US24*
48.0 V	48.0-55.0 V	0.625 A	86%	DNR30US48*
5.0 V	5.0-5.55 V	10.00 A	79%	DNR60US05
12.0 V	12.0-14.0 V	5.00 A	86%	DNR60US12
24.0 V	24.0-28.0 V	2.50 A	89%	DNR60US24*
48.0 V	48.0-55.0 V	1.25 A	89%	DNR60US48*

Environmental

- Operating Temperature • -10 °C to +70 °C, derate linearly from 60 °C at 2.5% / °C
- Cooling • Convection-cooled
- Operating Humidity • 90% RH, non-condensing
- Storage Temperature • -25 °C to +85 °C
- Shock • 4 g, 22 ms, X, Y & Z axis
- Vibration • 1 g, 10 Hz to 500 kHz, along X, Y & Z axis

EMC & Safety

- Emissions • EN55022, level B conducted
- Harmonic Currents • EN61000-3-2, class A
- Voltage Flicker • EN61000-3-3 amendments 1 & 2
- ESD Immunity • EN61000-4-2, level 3 Perf Criteria B
- Radiated Immunity • EN61000-4-3, level 3 Perf Criteria A
- EFT/Burst • EN61000-4-4, level 3 Perf Criteria B
- Surge • EN61000-4-5, level 3 Perf Criteria B
- Dips & Interruptions • EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
- Safety Approvals • EN60950, UL508 (class 2), CE Mark, *UL1310 recognized (class 2)



Figure 1 - Installation

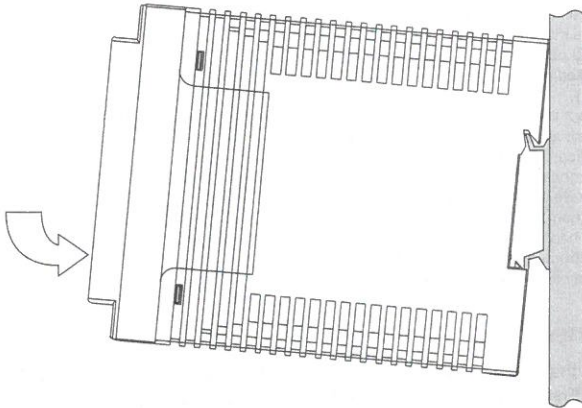


Figure 2 - Airflow direction. Minimum 25mm clearance required

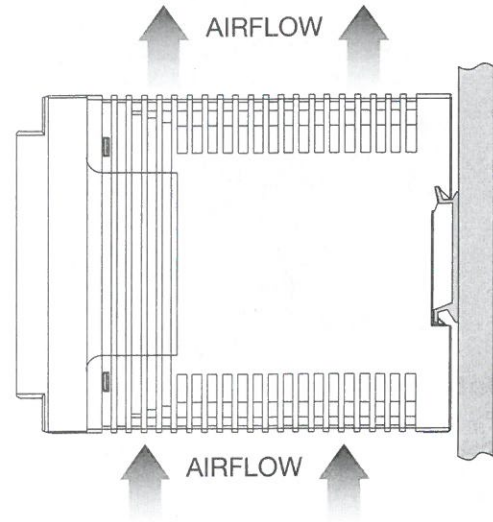


Figure 3

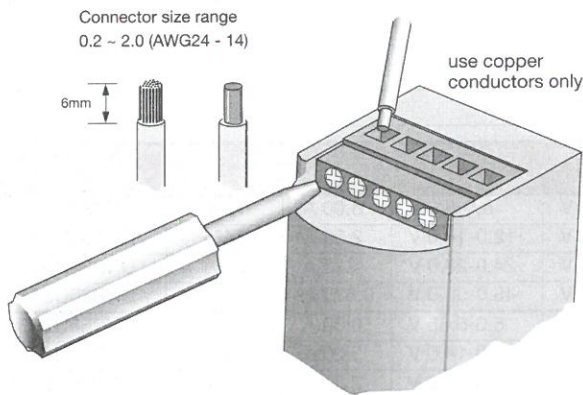
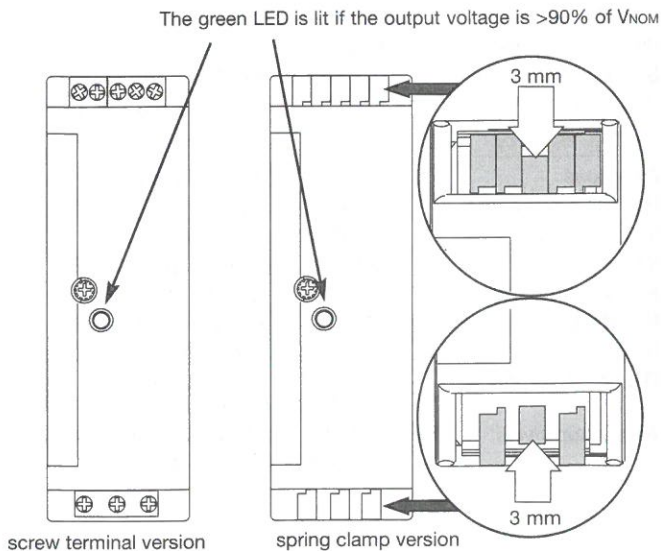
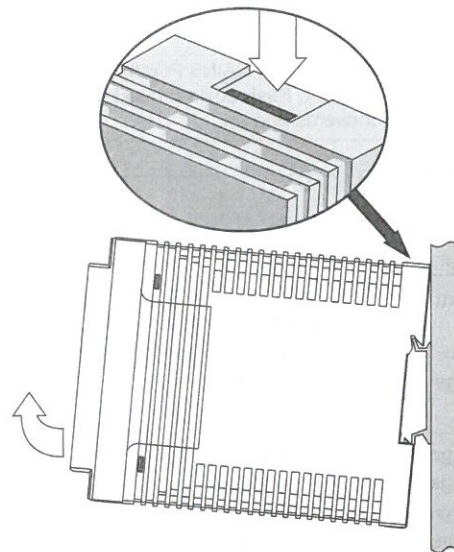



Figure 4 - Removal - switch power off and disconnect supply.



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