

DNR120-240TS Series



- Rugged Design for Industrial Applications
- Up to 88% Typical Efficiency
- Wide Adjustment Range
- Full Power to 60 °C
- Three Phase Operation
- Single Phase Operation
- -25 °C to 70 °C Operation

Specification

Input

| | |
|-----------------------|------------------------------------------------------------------------------------------|
| Input Voltage | • 340-575 VAC 3Ø (1Ø to 1Ø operation with 75% output derating), 480-820 VDC |
| Input Frequency | • 47-63 Hz |
| Input Current | • DNR120TS: 0.35 A at 500 VAC DNR240TS: 0.70 A at 500 VAC |
| Inrush Current | • 120 W 15 A typical at 500 VAC, cold start 240 W 20 A typical at 500 VAC, cold start |
| Power Factor | • 0.6 at 500 VAC input and nominal load |
| Earth Leakage Current | • 0.32 mA |

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 ms min at 400 VAC |
| Line Regulation | • ±1% |
| Load Regulation | • ±1% (±5% for units in parallel) |
| Transient Response | • 4% max deviation recovering to within 1% in 1 ms for 50% load change |
| Ripple & Noise | • 100 mV pk-pk 20 MHz BW |
| Overvoltage Protection | • 120-145%, recycle input to reset |
| Overload Protection | • Continuous current limit |
| Temperature Coefficient | • ±0.02%/°C |
| Current Share | • 2 units can be connected in parallel, DNR240TS only, total output derates by 10% |

General

| | |
|---------------------|-------------------------------------------------------------------------------------------------------|
| Efficiency | • See table |
| Isolation | • 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground |
| Switching Frequency | • DNR120TS: 65 kHz typical DNR240TS: 25 kHz typical |
| Signals | • DC ON indicator LED Green, DC LOW indicator LED Red DC OK: normally open relay on 24 V models |
| MTBF | • 210 kWhrs to MIL-STD 217 F |

Environmental

| | |
|-----------------------|-------------------------------------------------------------------------------|
| Operating Temperature | • -25 °C to 70 °C, derate linearly from 60 °C at 3.5%/°C (see derating curve) |
| Cooling | • Convection-cooled |
| Operating Humidity | • 20-95% RH, non-condensing |
| Storage Temperature | • -25 °C to +85 °C |
| Shock | • 4 g peak, 22 ms on X, Y and Z axis |
| Vibration | • 10 to 500 Hz, 1 g rms on X, Y and Z axis |

EMC & Safety

| | |
|----------------------|----------------------------------------------------------------------------------|
| Emissions | • EN55022, class B conducted & radiated |
| Harmonic Currents | • EN61000-3-2, class A |
| Voltage Flicker | • EN61000-3-3 |
| ESD Immunity | • EN61000-4-2, level 4 perf criteria A |
| Radiated Immunity | • EN61000-4-3, level 3 perf criteria A |
| EFT/Burst | • EN61000-4-4, level 4 perf criteria A |
| Surge | • EN61000-4-5, level 3 perf criteria B |
| Conducted Immunity | • EN61000-4-6, level 3 perf criteria A |
| Magnetic Field | • EN61000-4-8, level 4 perf criteria A |
| Dips & Interruptions | • EN61000-4-11, 30% 500 ms, 60% 200 ms, 100% 5000 ms Perf Criteria A, A, A |
| Safety Approvals | • EN60950-1:2001, UL508, UL60950-1 |

DNR120-240TS **XP**

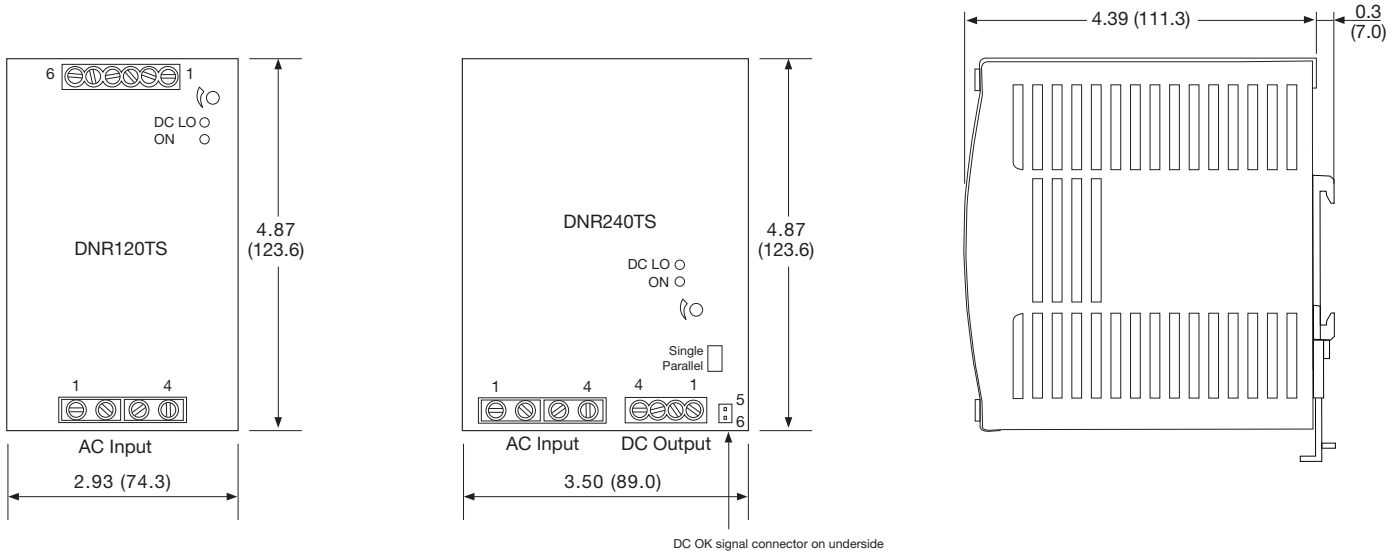
Models and Ratings

| Output Voltage | Output Voltage Trim | Output Current ⁽¹⁾ | Typical Efficiency | Model Number |
|----------------|---------------------|-------------------------------|--------------------|--------------|
| 12 V | 11.4-14.5 V | 10.0 A | 87% | DNR120TS12 |
| 24 V | 22.5-28.5 V | 5.0 A | 88% | DNR120TS24 |
| 24 V | 22.5-28.5 V | 10.0 A | 87% | DNR240TS24-I |
| 48 V | 47.0-56.0 V | 5.0 A | 88% | DNR240TS48-I |

Notes

1. Reduce by 25% for single phase input operation.

Mechanical Details



Notes

- All dimensions in inches (mm).
- Weight - DNR120TS: 1.76 lb (800 g) approx.
DNR240TS: 2.43 lb (1100 g) approx.
- Screw terminal: 10-24 AWG cable size.
DC OK signal connector: 10-24 AWG cable
- DC OK Relay 60 VDC at 300 mA
- Allow 0.98" (25 mm) clearance all round for cooling

| Pin Connections - AC Input | |
|----------------------------|-------------|
| Pin | Designation |
| 1 | Ground |
| 2 | L1 |
| 3 | L2 |
| 4 | L3 |

| Pin Connections - DC Output | |
|-----------------------------|-------------|
| Pin | Designation |
| 1 | -V |
| 2 | -V |
| 3 | +V |
| 4 | +V |
| 5 | DC OK* |
| 6 | DC OK* |

* Available on 24 V versions.

Derating Curves

