

3-phase switching power supply
regulated, 960 W, 3-phase



Identification	Type	WRA 960-48
	Part-No.	722810

Input

Nominal voltage	3× AC 400–500 V
Operation voltage range	3× AC 340–575 V; 3× DC 480–820 V
Line frequency	47 Hz – 63 Hz
Rated current	$U_i = AC 400 V: 2.4 A / U_i = AC 480 V: 1.6 A$
Inrush current	30 A
Internal fuse	T6, 3 A / per phase
External fuse	Automatic: 3 × B 16 A, C 10 A
Power Factor Correction P.F.C.	0.7

Load Side

Rated voltage output	DC 48 V
Rated current output	20 A
Voltage trim range	47/56 V
Accuracy	1 %
Line regulation	±1 %
Load regulation	Single ±1 %, Parallel ±5 %
Rise time	1 s
Temperature coefficient	±0.03 % / °C
Ripple & Noise	80 mV

08.11.2013 – Subject to technical modification

Part-No. 722810

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Hold up time	15 ms
Status indication DC ON LED green	≥37–43 V
Status indication DC LOW LED red	≤37–43 V
Parallel/redundant operation	max 2 devices with 92 % load current each, connection P and G for distributed current
Efficiency	93 %
Rated over load protection	Rated over load protection: 110 % –130 %
Over voltage protection	125–142 %
Short circuit characteristics	Hiccup-mode

General

Switching frequency	approx. 52 kHz
Insulation voltage input/output	3.0 kV _{eff}
Insulation voltage input / ground	AC 1.5 kV _{eff}
Insulation resistance at DC 500 V	100 MΩ
Operation temperature range	-25 °C – 71 °C (derating)
Derating	-3.5% / °C starting at 61°C
Storage temperature range	-25 °C – 85 °C
M.T.B.F.	390000 h
Relative humidity	20–90% RH, non-condensing
Dimensions (w × h × d)	276.0 × 125.0 × 118.0 mm
Cooling	Natural air cooling, 25 mm distance on all sides
Installation position	vertical
Housing material	metal
Protection class	IP 20
Field installation	rail TS 35 (EN 50022)
Application height	3000 m
IP rating	I (SELV, PELV)
Overvoltage category	II
Pollution degree	2
Weight (kg/piece)	3.200
Termination	Screw terminal: 0.5–10.0 mm ² , max. 0.62 Nm
Approvals	UL: UL 508 listed; cUL: UL 60950-1 accepted; TÜV: EN 60950-1, CE: EN 61000-6-3 / EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024

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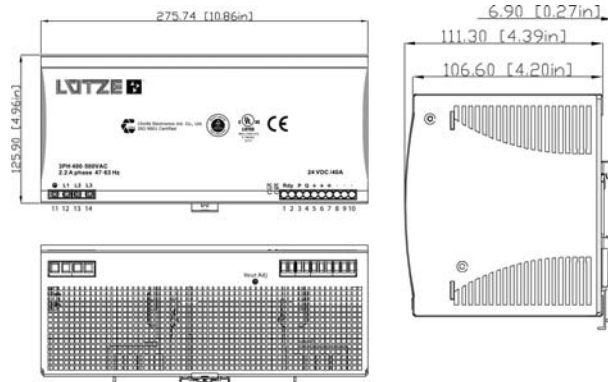
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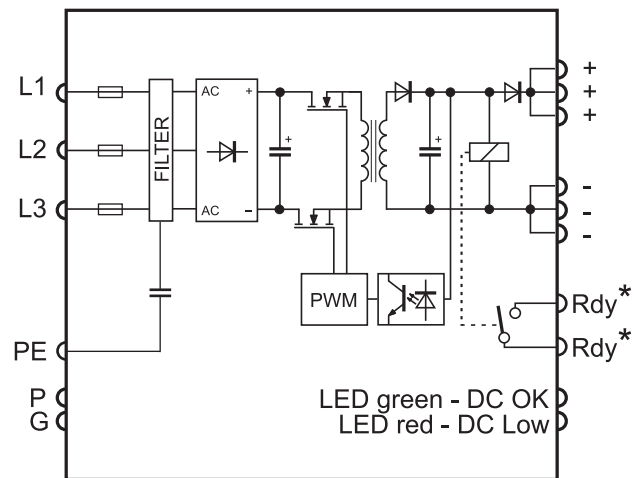
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Dimensions

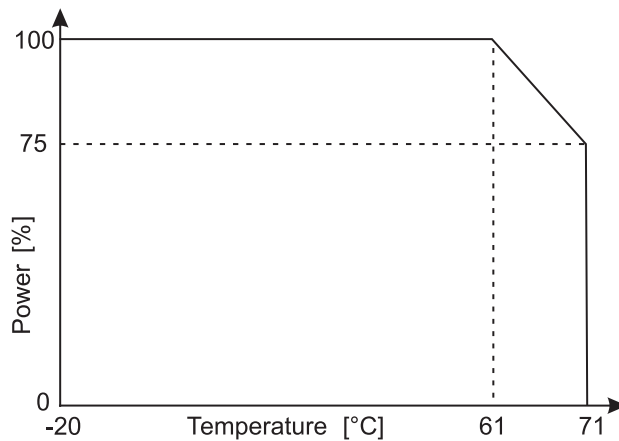


PIN assignment



* for 24V version only

Derating



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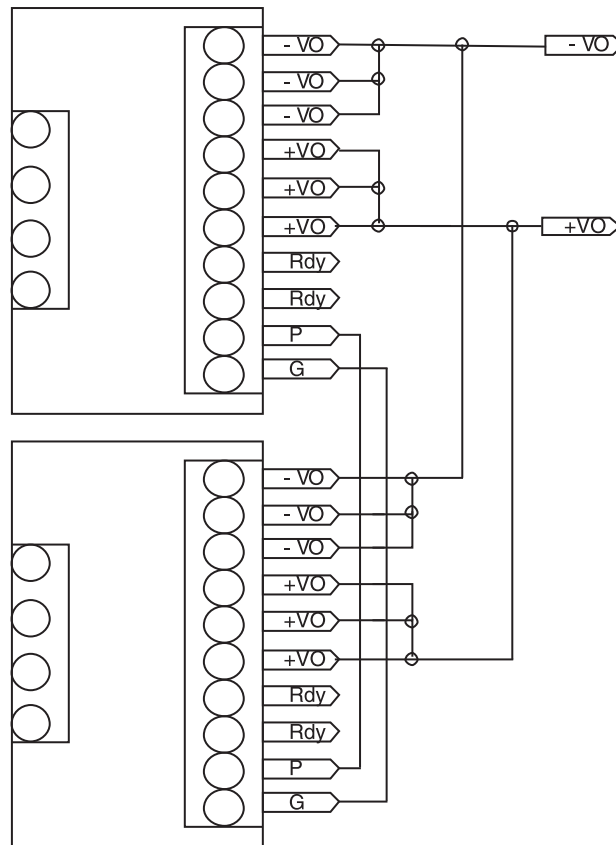
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Parallel/redundant mode



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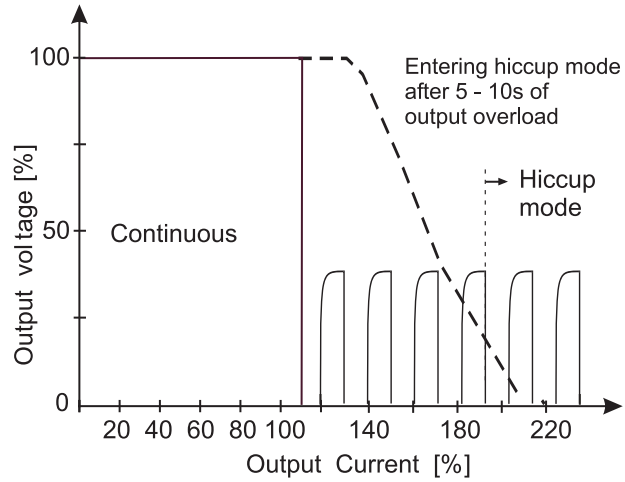
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Short circuit characteristics



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