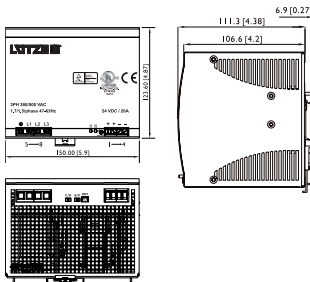


# Power supply - regulated, 480 W, 3-phase

**Primary switchmode power supply, PFC, 3-phase, screw terminal**  
**Input: Wide range input AC 340 - 576 V; DC 480 - 820 V**  
**Output: 24 V / 48 V - adjustable**



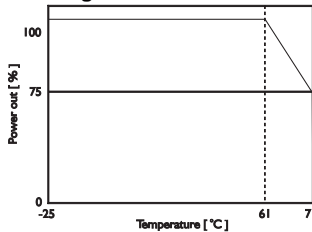
## Dimensions



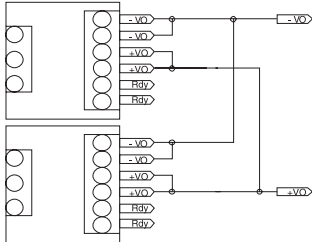
## PIN assignment

1, 2	Vo+	Positive output
3, 4	Vo-	Negative output
5		Ground
6, 7, 8		Input terminal
	DC on	LED DC- ok
	DC low	LED DC- under voltage
	Rdy	Signal contact, only 24V

## Derating



## Parallel mode



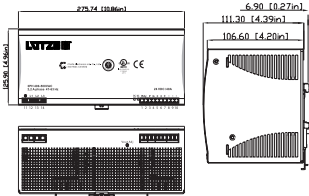
Description	Part-No.	Type	PU	
<b>Screw terminal</b>				
Output voltage/current	DC 24 V; 20 A	722805	WRA 480-24	1
	DC 48 V; 10 A	722809	WRA 480-48	1
<b>Input</b>				
	<b>WRA 480-24</b>	<b>WRA 480-48</b>		
Voltage	AC 380–500 V			
Operation voltage range	AC 340–576 V; DC 480–820 V			
Line frequency	47 – 63 Hz			
Rated current	$V_{in}=400\text{ V}$ ; AC: 1.5 A / $V_{in}=480\text{ V}$ ; AC: 1.2 A			
Inrush current	18 A			
Input fuse	T3, 15 A / internal per phase			
Power Factor Correction P.F.C.	0,7			
<b>Output</b>				
Rated voltage output	DC 24 V	DC 48 V		
Rated current output	20 A	10 A		
Voltage trim range	22.5 –28.5 V	47–56 V		
Accuracy	1 %			
Line regulation	±1 %			
Load regulation	Single ±1 %, Parallel ±5 %			
Transient recovery time	1.0 ms			
Temperature coefficient	±0.02 % / °C			
Ripple & Noise	100 mV			
Hold up time	min. 20 ms			
Status indication DC ON (LED green)	< 17.6/19.4 V	<37–43 V		
Status indication DC LOW (LED red)	< 17.6/19.4 V	<37–43 V		
Parallel mode	max. 3 units at 90% load current, manual switch			
Efficiency	90 %			
Rated over load protection	115–135 %			
Over voltage protection	125–137 %	125–142 %		
Short circuit characteristics	Current limit (C) / Hiccup-mode (D), with switch C/D			
<b>General</b>				
Switching frequency	min. 100 kHz			
Isolation voltage input/output	3 kVeff			
Isolation resistance at DC 500 V	100 MΩ			
Operation temperature range	-25°C – 71°C (Derating)			
Derating	-2.5% / °C starting at 61 °C			
Storage temperature range	-25 °C – 85 °C			
M.T.B.F.	210000 h			
Relative humidity	20–95% RH			
Dimensions	150.0 × 125.0 × 116.0 mm			
Cooling	Air convection			
Housing material	metal			
Field installation	rail TS 35 (EN 50022)			
Installation position	vertical			
IP rating	IP 20			
Protection class	-			
Weight (per unit)	1,75 kg/ 3.857 lbs			
Termination	Screw terminal: 0.2–5.0 mm <sup>2</sup>			
Approvals	UL: UL 508 listed cUL: UL 60950-1 approved TÜV: EN 60950-1; CE: EN 61000-6-3 / EN 55022 Class B EN 6100-3-2, EN 6100-3-3, EN 61000-6-2, EN 55024			
<b>Monitoring</b>				
DC ON Control (Rdy)	Normally open		-	
Switching voltage	DC 60 V		-	
Switching current	max. 300 mA		-	
Switching capacity			-	
Isolation voltage	DC 500 V		-	

# Power supply - regulated, 960 W, 3-phase

**Primary switchmode power supply, PFC, 3-phase, screw terminal**  
**Input: Wide range input AC 340 - 576 V; DC 480 - 820 V**  
**Output: 24 V / 48 V - adjustable**



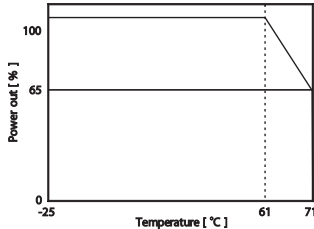
## Dimensions



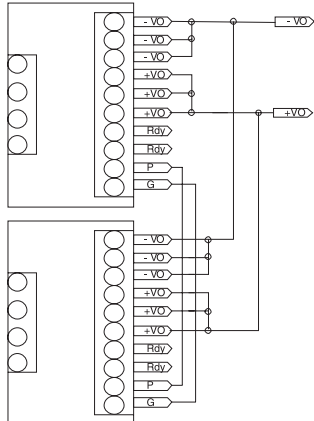
## PIN assignment

1, 2	Rdy	Signal contact, only 24V
3, 4	P, G	Current share
5, 6, 7	Vo+	Positive output
8, 9, 10	Vo-	Negative output
11		Ground
12, 13, 14		Input terminal
	DC on	LED DC- ok
	DC low	LED DC- under voltage

## Derating



## Parallel mode



Description	Part-No.	Type	PU	
<b>Screw terminal</b>				
Output voltage/current	DC 24 V; 40 A	722806	WRA 960-24	1
	DC 48 V; 20 A	722810	WRA 960-48	1
<b>Input</b>				
	<b>WRA 960-24</b>	<b>WRA 960-48</b>		
Voltage	AC 400–500 V			
Operation voltage range	AC 340–575 V; DC 480–820 V			
Line frequency	47 – 63 Hz			
Rated current	$V_{in}=400\text{ V}$ ; AC: 2,4 A / $V_{in}=480\text{ V}$ ; AC: 1,6 A			
Inrush current	30 A			
Input fuse	T6, 3 A / internal per phase			
Power Factor Correction P.F.C.	0,7			
<b>Output</b>				
Rated voltage output	DC 24 V		DC 48 V	
Rated current output	40 A		20 A	
Voltage trim range	22.5–28.5 V		47–56 V	
Accuracy	1 %			
Line regulation	±1 %			
Load regulation	Single ±1 %, Parallel ±5 %			
Transient recovery time	–			
Temperature coefficient	±0.02 % / °C			
Ripple & Noise	80 mV			
Hold up time	min. 20 ms			
Status indication DC ON (LED green)	>17.6–19.4 V		<37–43 V	
Status indication DC LOW (LED red)	>17.6–19.4 V		<37–43 V	
Parallel mode	max. 2 units at 90% load current, terminal P, G for current share			
Efficiency	92 %			
Rated over load protection	Rated over load protection: 110 % –130 %			
Over voltage protection	125–137 %		125–142 %	
Short circuit characteristics	Current limit			
<b>General</b>				
Switching frequency	min. 100 kHz			
Isolation voltage input/output	3 kVeff			
Isolation 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.	210000 h			
Relative humidity	20–95% RH			
Dimensions	276.0 × 125.0 × 118.0 mm			
Cooling	Air convection			
Housing material	metal			
Field installation	rail TS 35 (EN 50022)			
Installation position	vertical			
IP rating	IP 20			
Protection class	–			
Weight (per unit)	3,2 kg/ 7.053 lbs			
Termination	Screw terminal: 0.2–5.0 mm <sup>2</sup>			
Approvals	UL: UL 508 listed cUL: UL 60950-1 anerkannt TÜV: EN 60950-1; CE: EN 61000-6-3 / EN 55022 Class B EN 6100-3-2, EN 6100-3-3, EN 61000-6-2, EN 55024			
<b>Monitoring</b>				
DC ON Control (Rdy)	Normally open		–	
Switching voltage	DC 60 V		–	
Switching current	max. 300 mA		–	
Switching capacity			–	
Isolation voltage	DC 500 V		–	