

## Technical data sheet

Power supply · 480 W, 3-phase

Primary switchmode power supply, PFC, 3-phase

Input: AC 340–575 V, DC 480–820 V

Output: DC 24 V, 20 A



### Identification

Type WRA480-24  
Part No. [722805](#)

### Product version

Datasheet version 00

### Input

Number of phases 3  
Rated voltage  $U_N$  3 × AC 400–500 V  
Operation voltage range 3 × AC 340–575 V / 3 × DC 480–820 V  
Frequency range 47 Hz – 63 Hz  
Rated current  $I_N$  1.1 A @ AC 400 V / 0.93 A @ AC 500 V  
Inrush current 20 A  
Internal fuse T3, 15 A/per Phase  
External protection Mini-circuit breaker: 3 × B 10 A, C 6 A  
Power factor correction P.F.C. 0.7

### Output

Output voltage/current DC 24 V/20 A  
Rated voltage  $U_N$  DC 24 V  
Rated current  $I_N$  20 A  
Power Dissipation 58 W @ AC 380 V  
Setting range  $U_{out\ min.}/U_{out\ max.}$  22.5/28.5 V  
Accuracy 1 %  
Load regulation Single ±1 %, Parallel ±5 %

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Part No. [722805](#) • Datasheet version: 00

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|                            |                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Line regulation            | ±1 %                                                                                                                          |
| Temperature coefficient    | ±0.03 % / °C                                                                                                                  |
| Ripple and noise           | 100 mV                                                                                                                        |
| Hold up time               | Min. 20 ms                                                                                                                    |
| Parallel / redundant mode  | Max. 3 units at 90% load current, manual switch S/P                                                                           |
| Efficiency                 | 90 %                                                                                                                          |
| Over voltage protection    | 125–137 %                                                                                                                     |
| Rated over load protection | 115–135 %                                                                                                                     |
| Short circuit              | Current limit (C) / Hiccup Mode (D), switching with switch C/D<br>Hiccup Mode: deactivation within 3 s and restart after 30 s |

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#### Status indication

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|                                   |              |
|-----------------------------------|--------------|
| Status indication DC ON LED green | ≥17.6–19.4 V |
| Status indication DC LOW LED red  | ≤17.6–19.4 V |

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#### Monitoring

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|                     |             |
|---------------------|-------------|
| DC ON Control (Rdy) | N/O contact |
| Switching voltage   | DC 60 V     |
| Switching current   | Max. 300 mA |
| Isolation voltage   | DC 500 V    |

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#### General

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|                                    |                                                                                 |
|------------------------------------|---------------------------------------------------------------------------------|
| Switching frequency                | Approx. 80 kHz                                                                  |
| Insulation voltage input / output  | DC 4.2 kV                                                                       |
| Insulation voltage input / ground  | DC 2.1 kV                                                                       |
| Insulation voltage output / ground | DC 700 V                                                                        |
| Insulation resistance at DC 500 V  | 100 MΩ                                                                          |
| Derating                           | Capacity: -2.5 %/°C starting at +61 °C                                          |
| Cooling                            | Air convection, 25 mm clearance all-round                                       |
| Housing material                   | Metal                                                                           |
| Mounting                           | DIN rail mountable TS35<br>(EN 60715)                                           |
| Max. altitude operation            | 3000 m                                                                          |
| Installation position              | Vertical                                                                        |
| MTBF                               | 412000 h                                                                        |
| Degree of protection               | IP20                                                                            |
| Protection class                   | I                                                                               |
| Weight/unit                        | 1.75 kg                                                                         |
| Connection type                    | Screw terminal<br>0.20 mm <sup>2</sup> – 4.0 mm <sup>2</sup><br>AWG 24 – AWG 10 |
| Dimensions (w × h × d)             | 150.0 mm × 124.0 mm × 118.8 mm                                                  |
| PU (units)                         | 1                                                                               |

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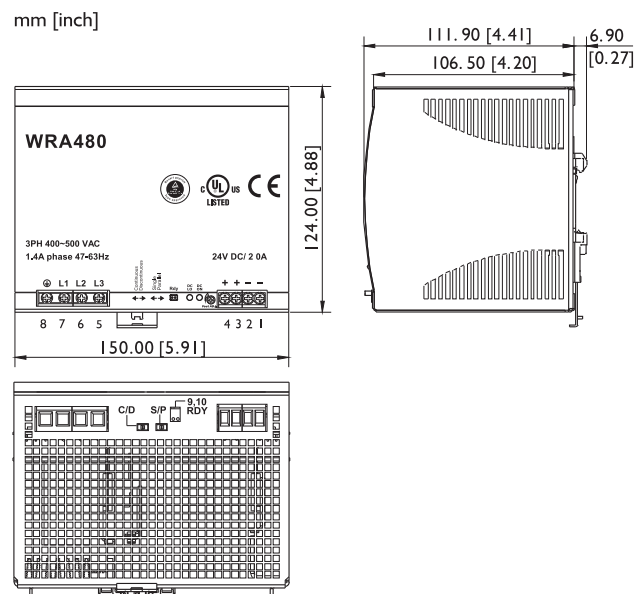
### General ambient conditions

|                             |                              |
|-----------------------------|------------------------------|
| Operation temperature range | -40 °C ... +71 °C (Derating) |
| Storage temperature range   | -40 °C ... +85 °C            |
| Over voltage category       | II                           |
| Degree of pollution         | 2                            |
| Relative air humidity       | 20 – 90 % RH, not condensing |

### Certifications/Standards

|                |                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certifications | UL 508 Listed (E249179)<br>UL 60950-1, (Class 1, Division 2, Groups A, B, C and D) (E350538)<br>CE<br>UKCA                                                                                                                                                                                                                                                                   |
| Standards      | IEC/EN 62368-1<br>EN 61558-1<br>EN 61558-2-16<br>EN 61000-6-3<br>EN 55032 Class B<br>EN 61000-3-2 Class D<br>EN 61000-3-3<br>EN 61000-6-2<br>EN 55024<br>EN 61000-4-2 Level 4<br>EN 61000-4-3 Level 3<br>EN 61000-4-4 Level 4<br>EN 61000-4-5 L-N Level 3<br>L/N-FG Level 4<br>EN 61000-4-6 Level 3<br>EN 61000-4-8 Level 4<br>EN 61000-4-11 ENV 50204 Level 2<br>EN 61204-3 |

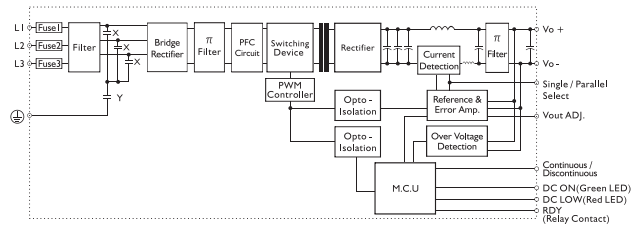
### Dimensions



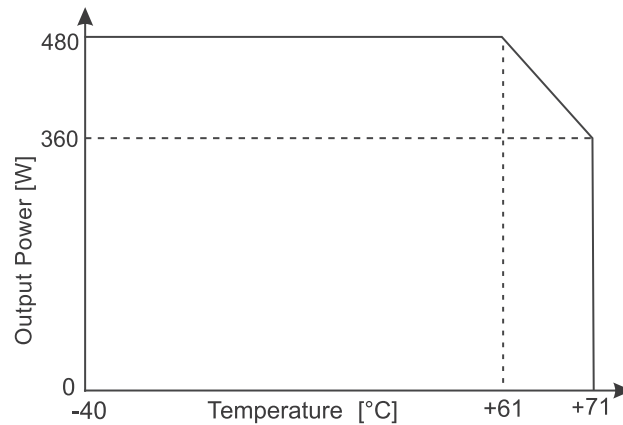
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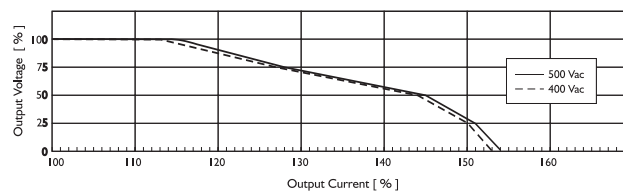
### PIN assignment



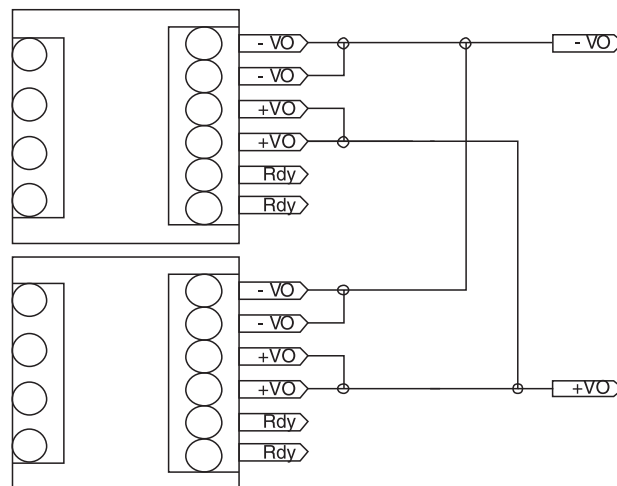
### Derating



### Short circuit characteristics



### Parallel/redundant mode



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### Efficiency

