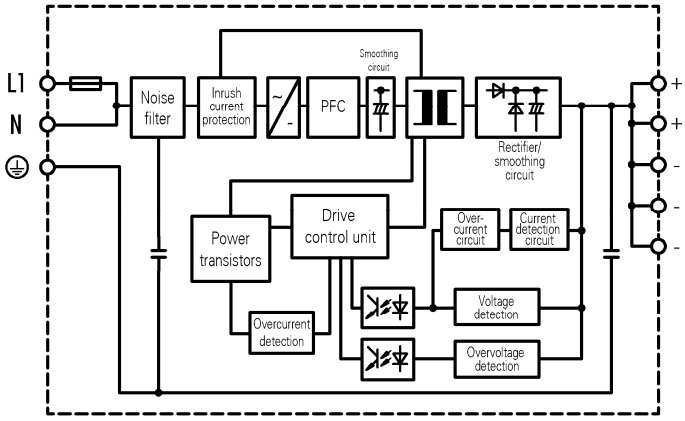


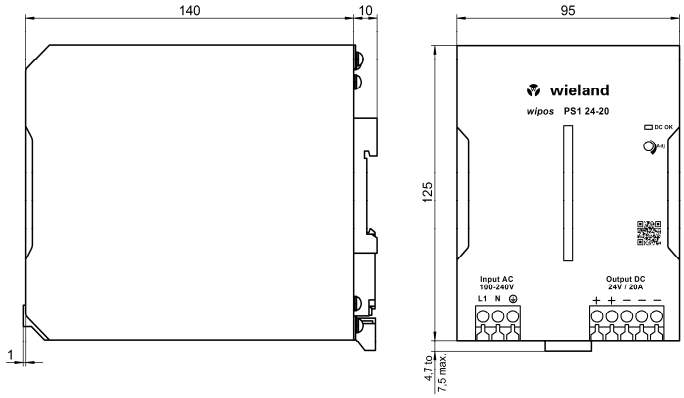

# wipos PS1 24-20

## Switching power supply
## 24 V DC/20 A
## 81.000.6550.0

- Primary switching power supply, single phase
- Output: 24 V DC/20 A (adjustable 21.6 - 27.6 V DC)
- Input: 85 - 264 V AC; 90 - 350 V DC
- Full load up to 60 °C
- PFC technology
- Parallel operation (2 dev. max.)




Block diagram




Dimensional diagram

## Technical data

| **wipos PS1 24-20** | **Part number: 81.000.6550.0** |
|---|---|
| | |
| **Input (L1, N)** | |
| Rated voltage AC | 100 … 240 V AC |
| Voltage range AC | 85 … 264 V AC |
| Line frequency AC | 47 … 63 Hz |
| Voltage range DC | 90 … 350 V DC |
| Rated input current 115/230 V AC typ. | 4.7 A/2.3 A |
| Inrush current 115/230 V AC max. | 16 A/32 A (5ms) |
| Input fuse | 12 A/250 V (internal) |
| Power factor correction filter (PFC) | yes (0.97 typ. at $U_I$ = 230 V AC) |
| Two-phases application | 85 - 264 V AC (see Fig. 1 Two-phases application)<br>A fuse or circuit breaker has to be connected on N terminal |
| | |
| **Output (+, -)** | |
| Rated output power | 480 W |
| Rated output voltage | 24 V DC |
| Rated output current | 20 A DC |
| Operation indicator Output voltage OK | "DC OK", LED green<br>Display range ($U_O$ < 19.4) |
| Output voltage trim range | 21.6 V ... 27.6 V |
| Rated overload protection | 121 % - 160 % (see Fig. 2 Overload protection) |
| Power boost function | 120 %, max. 10 sec. |
| Efficiency typ. | 93 % |
| Line regulation | ±0.5 % |
| Load regulation | 1.5 % |
| Temperature coefficient | ±0.05 %/C |

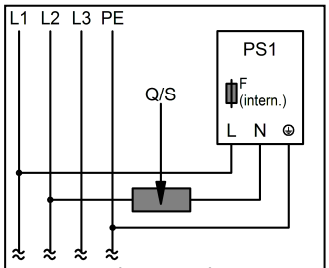



Fig. 1 Two-phases application
Q/S: External fuse or circuit breaker

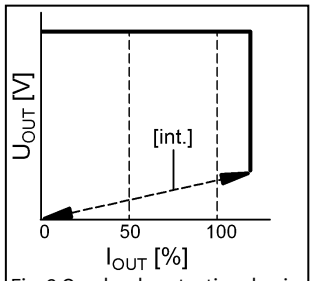



Fig. 2 Overload protection, basic principle; [int.] = intermittent operation

## Technical data

| **wipos PS1 24-20** | | **Part number: 81.000.6550.0** |
|---|---|---|
| Ripple & noise | | < 230 $mV_{ss}$ |
| Hold up time 115/230 V AC | | > 40 ms |
| Parallel operation | | yes (max. 2 devices) |
| Parallel operation | | yes (max. 2 devices with external diodes) |
| | | |
| **General data** | | |
| Isolation voltage (input/output) | | 3000 V AC/4242 V DC |
| Isolation resistance (input/output) | | 100 MOhm |
| Operating ambient temperature | | -40 °C ... +70 °C (UL: max. 40 °C) |
| Storage temperature | | -40 °C ... +85 °C |
| Derating | | A. 61 °C ... 70 °C: 2.5 %/K<br>B. 30 °C ... 70 °C: 1.75 %/K<br>(see Fig. 3 Derating) |
| Humidity in operation | | 0 - 95 % RH, non-condensing |
| Ventilation/Cooling | | Free convection |
| MTBF | | 230,000 h |
| Pollution degree | | 2 |
| Degree of protection | | IP 20 |
| Safety class | | 1 |
| Mounting | | DIN rail 35 mm (EN 60715) |
| Mounting conditions (free space) | | 20 mm horizontal, 75 mm vertical |
| Dimensions (W x H x D) | | 95 x 125 x 150 mm |
| Weight | | 1,500 g |
| Housing material | | Metal |
| | | |
| **Connections** | | |
| Connector cross section input | solid/stranded | 1.5 - 6 $mm^2$/1.5 - 4 $mm^2$<br>(AWG16 - 10/AWG16 - 12) |
| Connector cross section output | solid/stranded | 4 - 6 $mm^2$/4 $mm^2$<br>(AWG12 - 10/AWG12) |
| Connector cross section PE | solid/stranded | min. 2.5 $mm^2$ (AWG14) |
| Strip length | | 8 mm |
| Torque | | 4.43 … 5.31 lb-in max. |
| | | |
| **Approvals and Standards** | | |
| Standards | | SELV: EN50178 / EN60950-1 / UL60950-1<br>PELV: EN50178 / EN60204-1 |
| Approvals | | CE / cURus / cULus / LR |
| | | |
| **Control elements** | | |
| Adj | | Trim potentiometer for fine adjustment of $U_O$ |
| | | |
| **Terminal assignment** | | |
| L1 | | AC: phase conductor, DC: no polarity |
| N | | AC: neutral conductor, DC: no polarity |
| ⏚ (PE) | | PE (Ground), always connect |
| + | | 2 x output voltage 24 V, positive output terminal (internally connected) |
| - | | 3 x output voltage 24 V, negative output terminal (internally connected) |
| | | |

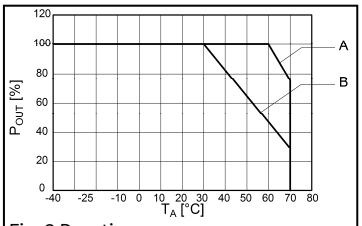



Fig. 3 Derating
A. Standard mounting
B. Face-up mounting