

- 960 watts output power
- Only 66mm wide
- 3 x 340-550VAC wide range input
- output: 40 - 55VDC and 56 - 80VDC
- Parallel connection with load sharing
- Advanced Power Boost
- Operation in any assembly position
- Primary and secondary overvoltage protection
- Overtemperature protection
- For IT- or Delta- mains



Dimensions LxWxH (DIN-rail)
 66 x 230 x 183 (+28 for connector) mm

Dimensions LxWxH (Wall-mounting)
 66 x 230 x 177 (+28 for connector) mm

Detailed dimension drawing please see www.mgv.de / 3D-files (.stp) on request


| ORDER DATAS | | | Order numbers | |
|-------------|----------|----------------------|------------------------------------|------------------------------------|
| Vo V | Io A | Preset range Vo V | Typ-No. DIN-rail | Typ-No. Wall mounting |
| 48 | 0 - 20 | 40 - 55 | SPH1013-4821 14.5943.800 | SPH1013-4821 14.5943.805 |
| 72 | 0 - 13.5 | 56 - 80 | SPH1013-7214 14.5943.900 | SPH1013-7214 14.5943.905 |

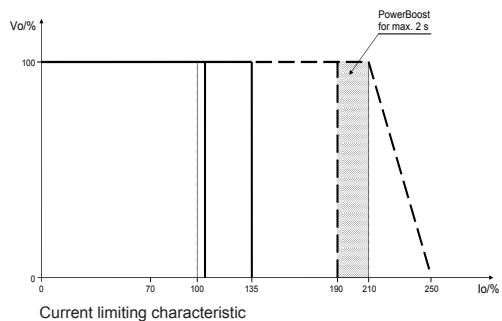
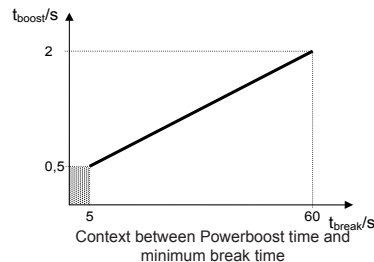
Operation in any assembly position possible. The distance between the surrounding components and the air admission and air exit holes should be at least 50 mm.

Please ensure that exhaust air is not immediately sucked in again.

Output voltages **120Vdc (96-130Vdc)** and **160Vdc (130-175Vdc)** on request.

AC / DC POWER SUPPLY
PRIMARY SWITCHED · SINGLE OUTPUT
SPH1013 - 48V / 72V SERIES

| | | | |
|--|--|--|---|
| 1. INPUT | | 6. SAFETY | |
| Input voltage range | AC 3 x 340-550V, 50/60Hz | EN 60950 / VDE 0805 / VDE 113 safety class I / VDE 0100 / IP20 CSA-C22.2 No 107 / CSA-C22.2 No. 60950-1-03 UL Std. 60950-1 / UL Std. 508 (Operation in Delta mains only for UL508) SELV-output (EN60950) at the 48V version pollution degree 2 | |
| Efficiency | 48V: 90.5% typ. / 72V: 91.5% typ. | Ensure fire protection by means of the surrounding housing system. | |
| Input current limitation | < 35 A _{peak} typ. - in cold state < 70 A _{peak} typ. - in hot state | 7. OPERATING DATA | |
| fuse | intern 3 x 6.3AT, external fuse with 16A to max. 32A necessary (C,D,K) | Temperature range | -25...+70°C, integral, temperature controlled fan, air intake bottom-up |
| 2. OUTPUT | | Derating | 2%/K at +60°C |
| Preset range Vo | 48V: 40 - 55VDC / 72V: 56 - 80VDC adjusted by MGv: Vo _{norm} ±0.15/0.2V | Weight | 2.0 kg |
| Max. output power | 1000W | 8. MECHANICS | |
| Max. output current | 48V: 20A / 72V: 13.5A | Connection | Main input: 4-pole 1.5-4 mm ² strand / wire min. tightening torque 0.5Nm |
| Powerboost >0.5s - 2s: | boostbreak necessary, see diagram | Load output: | 5-pole 2.5-4 mm ² strand / wire min. tightening torque 0.5Nm |
| Powerboost <0.5s: | no boostbreak necessary, but the boosttime in the last 4s mustn't be longer a 2s, otherwise a boostbreak 1min is necessary (boostbreak <25ms will be not recognized) | Control signals: | 4-pole 0.5-1.5 mm ² strand / wire min. tightening torque 0.22Nm |
| Operation indicator | green LED for Vo, red LED for error | Assembly | All systems can be snapped onto a symmetrical 35mm DIN-rail according to EN 50022 with a diameter of 1 to 2.5 mm or directly be screwed onto the wall. Please notice the assembly conditions. |
| Ripple | 48V: 40mV _{ss} typ. / 72V: 40mV _{ss} typ. | 9. EXPLANATORY NOTES | |
| Noise voltage | 48V: 150mV _{ss} typ. / 72V: 200mV _{ss} typ. | PE | ⊕ Protective conductor Do not use supply without PE connection! |
| Temperature coefficient | ≤ 0.025% / K | L1 / L2 / L3 | Mains phases |
| Switch on / switch off | No Vo overshoot (soft-start) | + / - | Load connection |
| Start-up delay | 150ms typ. | Relay OK/FAIL | Monitoring connections |
| Rise time | 48V: 25ms typ. / 75ms at 50,000 µF load 72V: 20ms typ. / 155ms at 50,000 µF load | OFF | Control connection |
| Back feeding voltage | 48V: approx. 63VDC / 72V approx. 100VDC |  Please refer to the MGv user instructions before use. (also in internet www.mgv.de) | |
| Serial connection | yes (max. 2 identical power supplies) | | |
| Parallel connection | yes (max. 3 identical power supplies) | | |
| battery operation | after consulting MGv possible | | |
| 3. REGULATION | | | |
| Line regulation | < 0.3% for bei Ue _{min} - Ue _{max} | | |
| Load regulation | < 0.5% for Vo at Io 0 - 100% single operation < 3% for Vo at Io 0 - 100% parallel operat. | | |
| Response time | 1 ms typ. at Io 20 - 80% | | |
| 4. PROTECTION AND CONTROLING | | | |
| Oversvoltage protection (OVP) | 48V: ≤ 60V / 72V: approx. 87V automatical repeating | | |
| Current limitation | see diagramm output permanent short-circuit proof | | |
| Overtemperature | Switches off if inside temperature becomes to high, reconnection with hysteresis | | |
| Mains buffering | 15 ms typ. in normal operation | | |
| Relay contact | Relay contact (<80V/0.2A), changing at Vo < 37 / 52V from OK to FAIL | | |
| Control signal OFF | external switch-off with 5 - 63VDC/5mA _{min} or switch from Vo | | |
| 5. EMC | | | |
| Interference suppression/interference immunity | EN 61000-6-2 / EN61204-3 EN 61000-4-2 8/15 kV EN 61000-4-3 Noise level 10V/m | | |
| Burst (input) | EN 61000-4-4 4 kV | | |
| (output) | EN 61000-4-4 2 kV | | |
| Surge (input) | EN 61000-4-5 2/4 kV | | |
| (output) | EN 61000-4-5 0,5 kV EN 61000-4-6 Noise level 10V EN 61000-4-8 30 A/m EN 61000-4-11 | | |
| Interference emission | EN 61000-6-3 / EN61204-3 EN 55022 / EN 55011 class B Radiation depends on assembly | | |
| Flicker | EN 61000-3-3 | | |



Start-up takes place with Powerboost between 190% and 210% of the nominal current for a period of approx. 2s.
 You can use Powerboost also in running operation.