

iPowerSupply S 230VAC/48VDC 100W

Features

- Industrial power supply, input voltage 85...264V AC and 95V DC ... 250V DC
- Nominal output voltage 48V DC and 54V DC for Power over Ethernet
- Adjustable output voltage from 30V DC up to 56V DC
- 100 Watts power output
- Easy assembly on the DIN-rail or wall
- Maximum energy efficiency thanks to low idling losses
- Quick startup with LED function monitoring
- High operating safety due to long mains buffering under full load and high MTBF (> 500,000 h)
- Can be used worldwide in all industrial sectors due to a wide-range input and an international approval package
- Extended operating temperature range: -25 ... 70 °C (> 55° C derating)
- Start-up temperature -40°C
- Short circuit-/no-load protection
- Overload protection
- High Efficiency
- Parallel connection possible for increased performance and redundancy, with red. modules

Description

The compact iPowerSupply perfectly complements Aginode's Industrial Ethernet product portfolio. Due to the design, the wide-range inputs and the global approvals, the iPowerSupply is well suited for use in installations around the globe. The iPowerSupplies comply with high requirements for EMC and environmental conditions which allows its operation in very harsh environments.

The iPowerSupply is not only able to supply active systems, such as switches, with power, but also other Power over Ethernet enabled devices at the same time. Moreover a parallel connection of iPowerSupplies can be used to increase the power and realise redundancy. The reliability and efficiency of the iPowerSupply is underlined by a high electrical efficiency, low stand-by losses and high MTBF values.



LANactive

Standards

EN 60204 / Surge voltage category III
EN 61558-2-17
EN 60950/VDE 0805 (SELV)
EN 61558-2-17
EN 50178/VDE 0160 (PELV)
EN 60950 (SELV)
EN 60204 (PELV)
DIN VDE 0100-410
DIN VDE 0106-1010
DIN 57100-410
DIN VDE 0106-101
EN 61000-3-2
EN 61000-6-2
EN 61000-4-2
EN 61000-4-3
EN 61000-4-4
EN 61000-4-5
EN 61000-4-6
EN 61000-4-11
EN 61000-6-3
EN 55011

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Characteristics

Input data

Input nominal voltage range	100V AC ... 240V AC
AC input voltage range	85V AC ... 264V AC
DC input voltage range	95V DC ... 250V DC
AC frequency range	45 ... 65 Hz
Current consumption	Approx. 1.3 A (120V AC) Approx. 0.8 A (230V AC)
Inrush current limitation	< 15 A (typical)
Power failure bypass	> 20 ms (120V AC) > 120 ms (230V AC)
Typical response time	<0.5 s
Protective circuitry	Transient surge protection varistor
Recommended backup fuse for mains protection	6 A 10 A 16 A (characteristic B)
Input fuse, integrated	4 A (slow-blow, internal)

Output data

Nominal output voltage	48V DC \pm 1%
Setting range of the output voltage	30V DC ... 56V DC (> 48 V constant capacity) 2 A (-25°C ... 70°C)
Output current	2.2 A (-25 °C ... 40 °C permanent) 3.5 A (maximum output current)
Derating	Above +55°C: 2.5% per Kelvin
Control deviation	< 1 % (change in load, static 10% ... 90%) < 2 % (change in load, dynamic 10% ... 90%) < 0.1 % (change in input voltage \pm 10%)
Power loss nominal load max.	9.6 W
Maximum power dissipation idling	0.9 W
Efficiency	> 90 %
Ascent time	<0.5 s (U_{OUT} (10% ... 90%))
Residual ripple	< 25 mVPP (with nominal values)
Peak switching voltages	< 25 mVPP (with nominal values)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Surge protection against internal surge voltages	Yes, limited to approx. 60V DC
Resistance to reverse feed	max. 60V DC

Signal output DC OK active

Status display	"DC OK" LED green / U_{OUT} > 16.7 V: LED flashing
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General data

Insulation voltage input/output	4 kV AC (type test) 2 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test) 2 kV AC (routine test)
Insulation voltage output / PE	500V DC (routine test)
Degree of protection	IP20
Class of protection	II
MTBF	> 500 000 h in acc. with IEC 61709 (SN 29500)
Type of housing	Polycarbonate
Type of foot bolt	Plastic POM
Dimensions W / H / D (state of delivery)	90 / 90 / 61 mm
Weight	0.4 kg

Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating)
Ambient temperature (storage/transport)	-40 ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25°C, no condensation)
Vibration (operation)	< 15 Hz, amplitude ± 2.5 mm in acc. with IEC 60068-2-6 15 Hz ... 150 Hz, 2.3g, 90 min.
Shock	30 g in all directions in acc. with IEC 60068-2-27
Pollution degree in acc. with EN 50178	2
Climatic class	3K3 (in acc. with EN 60721)

Standards

Electrical Equipment for Machinery	EN 60204
Safety transformers for power supply units	IEC 61558-2-17
Electrical safety (of information technology equipment)	IEC 60950/VDE 0805 (SELV)
Electronic equipment for use in electrical power installations	EN 50178/VDE 0160 (PELV)
SELV	EN 60950 (SELV) EN 60204 (PELV)
Safe isolation	DIN VDE 0100-410 DIN VDE 0106-1010
Protection against electric shock	DIN 57100-410
Protection against electric shock, basic requirements for safe isolation in electrical equipment	DIN VDE 0106-101
Limitation of mains harmonic currents	EN 61000-3-2
Certificate	CB Scheme

Approvals

UL approvals	UL Listed UL 508 UL/C-UL Recognized UL 60950
Shipbuilding	Germanischer Lloyd

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Characteristics

Conformance with EMC directive 2004/108/EC and for low-voltage guideline 2006/95/EC Noise immunity according to EN 61000-6-2

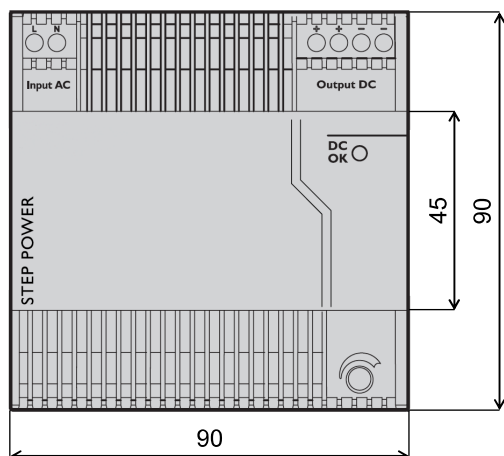
Electrostatic discharge	EN 61000-4-2 Housing: Level 3 Contact discharge: ± 6 kV Discharge in air: ± 8 kV Comments: Criterion B
Electromagnetic HF field	EN 61000-4-3 Housing: Level 4 Frequency range: 80... 3000 MHz Field intensity: 10 V/m Comments: Criterion A
Fast transients (burst)	EN 61000-4-4 Input: 4 kV (Level 4 - asymmetrical) Output: 2 kV (Level 3 - asymmetrical) Comments: Criterion B
Surge current loads (surge)	EN 61000-4-5 Input: 4 kV (asymmetrical: conductor to ground) 2 kV (symmetrical: conductor to conductor) Output: 2 kV (Level 3 - asymmetrical: conductor to ground) 1 kV (Level 3 - symmetrical: conductor to conductor) Comments: Criterion B
Conducted interference	EN 61000-4-6 Input/output: Level 3 - asymmetrical Frequency range: 10 ... 80 MHz Voltage: 10 V Comments: Criterion A
Voltage dips	EN 61000-4-11 Input: (mains buffering > 20 ms) Comments: Criterion A

Emitted interference in acc. with EN 61000-6-3

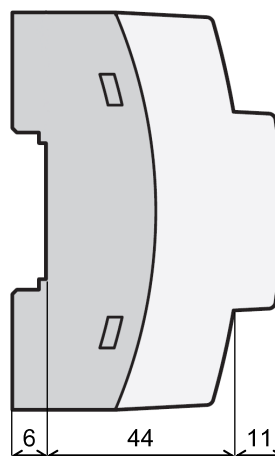
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) class B used in industry and residential area / EMC 1
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) class B used in industry and residential area / EMC 1

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Dimensions



Front view



Side view

Details

Attention

In order to guarantee sufficient convection, we recommend observing the following minimum distance to other modules: 30 mm in a vertical direction.

Info

The power supply unit can be snapped onto all DIN rails in acc. with EN 60715 and must be mounted horizontally (connecting terminals on top).

Installation

The power supply unit can be installed on all 35 mm DIN rails according to EN 60175. Position the module with the DIN rail guide on the upper edge of the DIN rail, and snap it in with a downward motion.

Removing

Pull the snap lever open with the aid of a screwdriver and slide the module out at the lower edge of the DIN rail.

Ordering information

Article number	Description
903544	iPowerSupply S 110-230VAC/48VDC 100W