

Operating instructions



Power supply module (9 amps)



HELIOS family
Part N°: 515x.xx



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1. Safety and operating instructions



When assembling, starting-up and adjusting the modules, it is necessary to consider the system specific references in the instruction manual.



The modules may only be installed and started up by authorized technical personnel. There are only permitted the mounting styles indicated in the quick start guide, included with each module.



When assembling the modules into the receiving points, the adherence of the EMC regulations is to be ensured.



The assembly and wiring have to be done without voltage. For installation, only the supplied accessories (DIN rail clip with screws and 19" accessories) may only be used.



All active modules may only be powered by the power supplies of the HELIOS family or QUASARIOS. Only connect the module with the accessory cables provided.



The mains voltage and the operating voltage of the modules working by DC have to be in compliance with the operating parameters described in the technical data.



With all work the defaults of the DIN EN 50083 have to be considered. It is especially important to follow DIN EN 60728-11[1].



The unit must only be mounted vertically. The ventilation slots as well as the circulation perforation of the modules is not be obstructed in any way.



If installed in mounting cabinets a adequate heat circulation must be guaranteed. The mounting in closed cabinets without air sufficient flow **is not allowed**.



For **DIN rail mounting** is important to note that between the heat sink and a neighboring module, a distance of 2 cm is required. If the modules mounted on top of each, so they must be spaced 20 cm apart.



For **19" mounting** all devices in the rack must be fitted with 19" Edge Guide. Mounting the device using only the screw holes at the front panel is insecure and discouraged. Furthermore, the operation of a fully occupied rack is only allowed with an underlying 1-U fan box (at least 3 fans, 176 mm deep).



The HELIOS-P1 module comes under protection classification I. It is absolutely necessary, therefore, to insert the mains plug into a fused socket.



WEEE-Reg.-Nr. DE 50389067

2. Device variants

HELIOS	5150.01	Power supply (9 A, 100 ... 240 V~ input, protection class II)
HELIOS-P1	5150.10	Power supply (9 A, 100 ... 240 V~ input, protection class I)
HELIOS-48	5152.10	Power supply (9 A, 48 V- input)

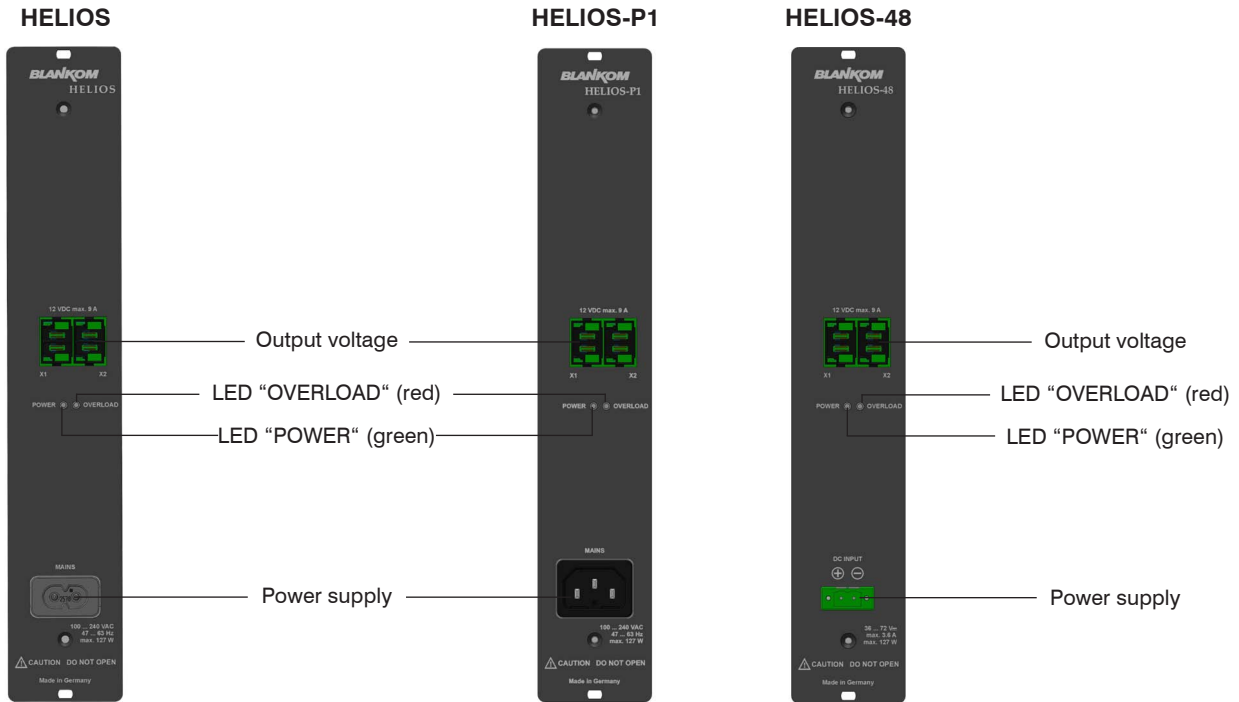
3. General

The Smart Business Line (SBL) is a modern head end system, that is distinguished by its modular and compact design. A user-friendly operating concept facilitates setup, configuration and maintenance of the system.

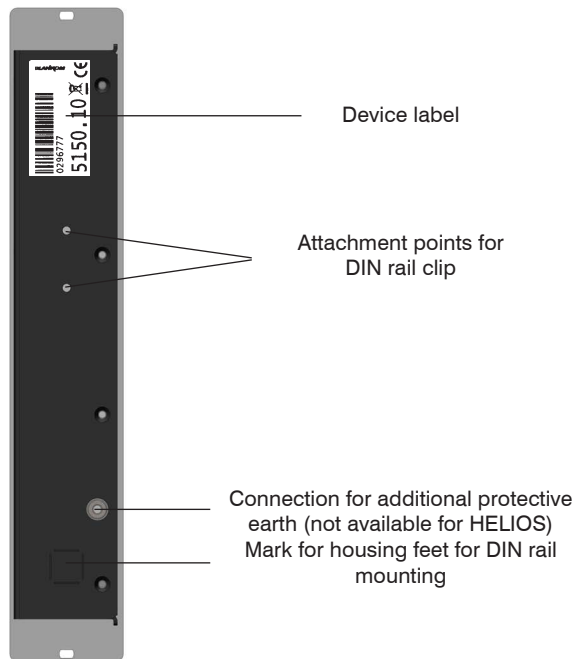
The modules of the HELIOS family are the power supplies (9 amps) of the SBL. The status of the modules will be displayed by LED's.

4. Device view

4.1 Front view



4.2 Rear view



5. Functional description

The modules of the HELIOS family supply the modules of the SBL family with 12V DC voltage. The total power consumption of all connected modules SBL must not exceed the current limit of the respective HELIOS module. Comprehensive measures are in place in the family of the HELIOS modules to ensure maximum operational reliability. Increases e.g. by failure of the controlled system, the output voltage to incorrect values (above about 14 V), so an independent monitoring circuit becomes active and turns off the power supply. A re-starting up the respective HELIOS module is possible in this state by disconnecting the input voltage for about 2 minutes. At the output present voltages (possibly by wiring error) or transients caused by environmental factors are limited by a suppressor diode in the power supply to acceptable values. A graceful restart of the power supply is ensured under all load conditions and with a capacitive load up to 12000 uF in the operating temperature range. The modules of the HELIOS family have an active inrush current limiting, which is just as effective due to momentary power interruptions for hot and cold start.

6. Meaning of status LED's

Designation	Colour	Status	Meaning of display
POWER	green	permanently on	unit is ready
		off	unit is off, operating voltage not applied
OVERLOAD	red	permanently on	overload on the output (for example to many consumers)
		off	load is within limits

7. Technical data

Electrical characteristics

HELIOS (5150.01)

Main voltage	100 ... 240 V, (+10%/ - 5%)
Mains frequency	47 ... 63 Hz
Mains connector	built in connector according DIN EN 60320-1/ C8 (IEC 60320 C8) [3]
Power consumption	178 VA max.
Output voltage	12 V DC
Ripple noise ratio	66 dB
Current drain	9 A max.
Current limit	yes (10 A typical)
Short circuit protection	yes
Overvoltage protection	yes (≤ 14.5 V)*
Startup current limitation	< 50 A
Internal fuse	G5 x 20, T4A (IEC 127-2/ V)
Protection class	II according DIN EN 60065 (VDE 0860) [6]
Protection standard	IP 20
Noise emission	according DIN EN 55011 [5], DIN EN 55022 class B [7], DIN EN 50083-2 [2]
Immunity	DIN EN 61000-6-1 [8]/ DIN EN 61000-6-2 [9]]

HELIOS-48 (5152.01)

Input voltage	48 V DC (36 ... 72 V DC)
Input connection	Plug with screw termination, with polarity protection
Reverse polarity protection	yes
Power consumption	150 W max.
Voltage stability AC	1500 V (input/ output)
Output voltage	12 V DC
Ripple noise ratio	66 dB
Current drain	9 A max.
Current limit	yes (10 A typical)
Short circuit protection	yes
Overvoltage protection	yes (≤ 14.5 V)*
Startup current limitation	< 10 A
Internal fuse	T 6.3 A/ 250 V „H“ (5x20)
Protection class	II according DIN EN 60065 (VDE 0860) [6]
Protection standard	IP 20
Noise emission	according DIN EN 55011 [5], DIN EN 55022 class B [7], DIN EN 50083-2 [2]
Immunity	DIN EN 61000-6-1 [8]/ DIN EN 61000-6-2 [9]

HELIOS-P1 (5150.10)

Main voltage	100 ... 240 V, (+10%/ - 5%)
Mains frequency	47 ... 63 Hz
Mains connector	built in connector according DIN EN 60320-1 (IEC 60320 C14) [3]
Power consumption	178 VA max.
Output voltage	12 V DC
Ripple noise ratio	66 dB
Current drain	9 A max.
Current limit	yes (10 A typical)
Short circuit protection	yes
Overvoltage protection	yes (≤ 14.5 V)*
Startup current limitation	< 50 A
Internal fuse	G5 x 20, T4A (IEC 127-2/ V)
Protection class	I according DIN EN 61140 (VDE 0140-1) [4]
Protection standard	IP 20
Noise emission	according DIN EN 55011 [5], DIN EN 55022 class B [7], DIN EN 50083-2 [2]
Immunity	DIN EN 61000-6-1 [8]/ DIN EN 61000-6-2 [9]]

Environmental conditions

Temperature range	-10 ... +55 °C
Relative humidity	≤ 80 % (not condensing)
Mounting method	vertical
Mounting location	splash-proof and drip-proof

Miscellaneous

Dimensions (l x w x h)	46 x 262 x 167 mm
Weight	about 1,200 g

Delivery contents

1x power cord (5150.01/ .10 only)
1x Connector plug (5152.01 only)
1x DIN rail clip
1x mounting accessories
2x dummy connector
1x ground-mount kit (5150.10, 5152.01 only)

* To reset device interrupt the mains voltage 2 minutes

8. Bibliography

- [1] DIN EN 60728-11; VDE 0855-1:2011-06:2011-06: Cable networks for television signals, sound signals and interactive services - Part 11: Safety (IEC 60728-11:2010); German version EN 60728-11:2010
- [2] DIN EN 50083-2; VDE 0855-200:2012-08:2012-08: Cable networks for television signals, sound signals and interactive services - Part 2: Electromagnetic compatibility for equipment; German version EN 50083-2:2012
- [3] DIN EN 60320-1; VDE 0625-1:2008-05:2008-05: Appliance couplers for household and similar general purposes - Part 1: General requirements (IEC 60320-1:2001 + A1:2007); German version EN 60320-1:2001 + A1:2007
- [4] DIN EN 61140; VDE 0140-1: Protection against electric shock - Common aspects for installation and equipment (IEC 61140:2001 + A1:2004, modified); German version EN 61140:2002 + A1:2006
- [5] DIN EN 55011; VDE 0875-11:2011-04:2011-04: Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement (IEC/CISPR 11:2009, modified + A1:2010); German version EN 55011:2009 + A1:2010
- [6] DIN EN 60065; VDE 0860:2011-10:2011-10 : Audio, video and similar electronic apparatus - Safety requirements (IEC 60065:2001, modified + A1:2005, modified + A2:2010, modified); German version EN 60065:2002 + A1:2006 + Cor. :2007 + A11:2008 + A2:2010 + A12:2011
- [7] DIN EN 55022; VDE 0878-22:2011-12:2011-12: Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 22:2008, modified); German version EN 55022:2010
- [8] DIN EN 61000-6-1; VDE 0839-6-1:2007-10:2007-10: Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:2005); German version EN 61000-6-1:2007
- [9] DIN EN 61000-6-2; VDE 0839-6-2:2006-03:2006-03: Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005

9. History

Version	Date	Modification	Author
1.00	06.06.2012	basic document	Häußer
1.01	13.06.2013	common edition of the HELIOS family	Häußer

Options available upon request! Subjects to changes due to technical progress.

CE Declaration of Conformity

Manufacturer: BLANKOM Antennentechnik GmbH
Hermann – Petersilge – Straße 1
07422 Bad Blankenburg
Germany

Product Name: Power supply module (9 amps)

Type Name: HELIOS, HELIOS-P1, HELIOS-48

Type N°: 5150.01, 5150.10, 5152.01

BLANKOM Antennentechnik GmbH confirms that the mentioned products meet the guideline(s) of the Council for the approximation of legislation of the member states.

Electromagnetic compatibility (2004/ 108/ EC)

The following standards are met:

DIN EN 50083-2: 2007-04 (EN 50083-2:2006-06)

Low voltage guideline (2006/ 95/ EC)

The following standards are met:

DIN EN 60950-1: 2006-04 (EN 60950-1:2006-11)
Information technology equipment -Safety-

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Restriction of hazardous substances (2011/ 65/ EC)

The following standards are met:

DIN EN 50581: 2013-02 (EN 50581:2012)

Bad Blankenburg, Germany, 2013-06-13



Dr. Piero Kirchner
(Managing Director)