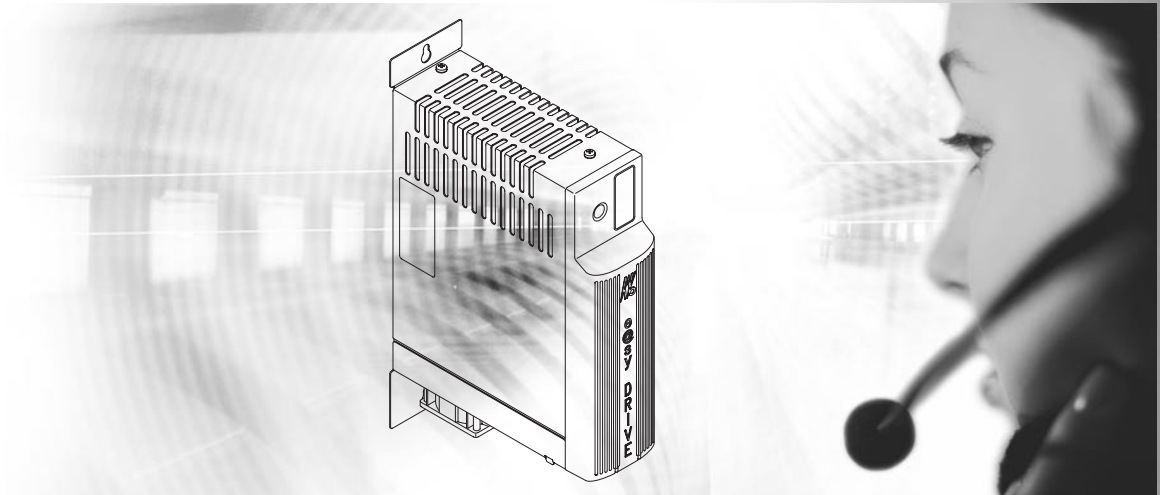


Operating Instructions

4427, 4428, 4429.



Always on the safe side.



KaVo.Drive Systems

KaVo Elektrotechnisches Werk GmbH
Wangener Straße 78
D-88299 Leutkirch
Tel.: 0 75 61 / 86-0 • Fax: 0 75 61 / 86-371



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4427, 4428, 4429.

A 1 User information

A 1.1 Meaning of the pictograms



Situation which may lead to danger, damage to material or operating faults in the event of failure to follow the instructions.



Important information for operator and engineer.

A 1.2 Important information



The User Manual must be read by the user/operator prior to commissioning, in order to avoid incorrect operation and other damage. Duplication and distribution of the User Manual (UM) require prior consent from KaVo.

All technical data, information and properties of the product described in this UM correspond to the state on going to press.

Modifications and improvements to the product on the basis of new technical developments are possible.

This does not imply any right to retrofitting of existing devices.

KaVo cannot be held responsible for damage arising through:

- external influences (poor quality of the media or poor installation)
- use of incorrect information
- improper use
- improperly performed repairs.

Repair and maintenance work - except for the activities described in this User Manual - may be performed only by qualified specialists.

In the event of modifications by third parties, the approvals shall become null and void. KaVo recommends using only original spare parts for operation and for repair.

4427, 4428, 4429.

A 1.3 Precautions

Safe operation and protection of the device is ensured only by proper use, in accordance with the User Manual, with the tools approved for this purpose. The following should also be observed:

- Industrial safety regulations
- Accident prevention regulations

Before installation and commissioning of this device, please read this safety and warning information carefully and observe all warning signs mounted on the device.



- *The power modules 4427, 4428 un 4429 supply the inverter types 4424, 4425 and 4426 which are controlling dangerously rotating mechanical parts. If these operating instructions are not followed, severe damage to property, injuries and even death may result.*
- *Safe operation of this device depends on the proper installation, handling and operation of the device.*
- *Only appropriately qualified personnel may put this device into operation, maintain it and work on it. Connection, commissioning and rectification of faults may be performed only by specialists.*
- *The device has no mains switch. When working on the open device, it must be completely disconnected from the mains beforehand.*
- *The device must only be used for purpose the manufacturer has designed it for. Unauthorized manipulation and connection of other devices the manufacturer has not permitted can cause fire, electrical shock and njury.*
- *After power-off the power module goes into oprations automatically.*

Definitions

- Danger** In the context of this Operating Instructios and of the warnings mounted on the device, this means that death, serious injury or considerable damage to property may occur if the corresponding precautions are not taken.
- Note** In the context of this Operating Instructios, a note constitutes important information which is of particular importance for the understanding and the operation of the device.
- Qualified Staff** Is in the meaning of this manual personnel that is familiar with installation, mounting, commissioning and operation of the product and the possible hazard.
- Caution** In the context of the Operating Instructios and of the warning signs mounted on the device, this means that slight injury or damage to property may occur if the corresponding precautions are not taken.
- Warning** In the context of the Operating Instructios and of the warning signs mounted on the device, this means that death, serious injury and considerable damage to property may occur if the corresponding precautions are not taken.

4427, 4428, 4429.

A 1.4 Purpose and potential applications

The power module 4427 is designed for connection to the inverter type e@syDrive® 4424 only.

The power module 4428 is designed for connection to the inverter type e@syDrive® 4425 only.

The power module 4429 is designed for connection to the inverter type e@syDrive® 4425 and 4426.

A 1.5 Technical data

A 1.5.1 Power Module 4427 (1002.5621)

The Power Module is designed for the supply of inverter type e@syDrive® 4424.

Dimensions	75 mm width, 337,5 mm height, 215 mm depth, for installation in cabinet
Ambient temperature	0 ... 40°C
Humidity	less 90 %, no condensation
Weight	1,9 kg
Standards	tested acc. EN 50178, and EN 60950 CSA tested acc. UL 508C
protection art	Enclosure type IP20 acc. to DIN 40050
Electrical supply	100 - 240 V~, 50/60 Hz
Output power	max. 270 VA (continous operation)
Output voltage	54 V DC Safe disconnection from electrical current in accordance with EN 50178 and EN 60950)
Output current	max. 5 A DC (continous operation)

A 1.5.2 Power Module 4428 (1001.2770)

The Power Module is designed for the supply of inverter type e@syDrive® 4425

Dimensions	75 mm width, 337,5 mm height, 215 mm depth, for installation in cabinet
Ambient temperature	0 ... 40°C
Humidity	less 90 %, no condensation
Weight	1,9 kg
Standards	tested acc. EN 50178, and EN 60950 CSA tested acc. UL 508C
protection art	Enclosure type IP20 acc. to DIN 40050
Electrical supply	100 - 240 V~, 50/60 Hz
Output power	max. 350 VA (continous operation)
Output voltage	70 V DC (Safe disconnection from electrical current in accordance with EN 50178 and EN 60950)
Output current	max. 5 A DC (continous operation)

A 1.5.3 Power Module 4429 (1001.2515)

The Power Module is designed for the supply of inverter type e@syDrive® 4425 and 4426.

Dimensions	75 mm width, 337,5 mm height, 215 mm depth, for installation in cabinet
Ambient temperature	0 ... 50°C
Humidity	less 90 %, no condensation
Weight	3,2 kg
Standards	tested acc. EN 50178, and EN 60950 CSA tested acc. UL 508C
protection art	Enclosure type IP20 acc. to DIN 40050
Transformer	temperature class B
Electrical supply	100 - 240 V~, 50/60 Hz
Output power	max. 1.000 VA (continous operation)
Output voltage	70 V DC (Safe disconnection from electrical current in accordance with EN 50178 and EN 60950)
Output current	max. 14 A DC (continous operation)

4427, 4428, 4429.

A 2 Scope of delivery

- Power Module type 4427 Mat.-No. 1.002.5621

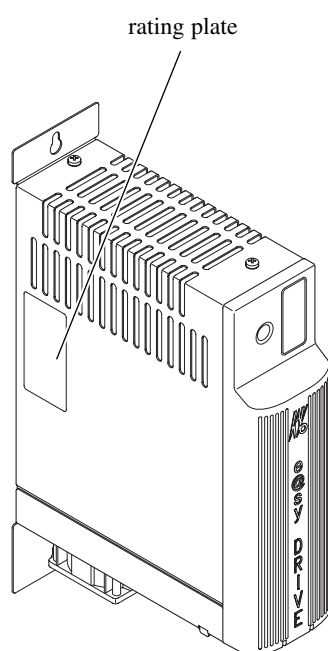
or

- Power Module type 4428 Mat.-No. 1.001.2770

or

- Power Module type 4429 Mat.-No. 1.002.2515

- Instructions for use and assembly Mat.-No. 1.003.1905



4427, 4428, 4429.

A 3 Rating plate



- ① Power Modul Type
- ② Serial number
- ③ Test label
- ④ Input
- ⑤ Power output
- ⑥ Mat. No. (REF)

4427, 4428, 4429.

A 4 Scope of models

Power modul types	4427	4428	4429
Enclosure type (IP20)	REF 1.002.5621	REF 1.001.2770	REF 1.002.2515
Input	100-240V , 50/60 Hz	100-240V , 50/60 Hz	100-240V , 50/60 Hz
Power output	54 V DC, 5 A, 270 W	70 V DC, 5 A, 350 W	70V DC, 14 A, 1000 W
Matching inverter types	4424-D25 (REF 1.001.9109) 4424-D33R (REF 1.001.9110) 4424-D33T (REF 1.002.0752) 4424-A33 (REF 1.001.9291) 4424-A33S (REF 1.003.1489)	4425 (REF 1.001.2768)	4425 (REF 1.001.2768) 4426 (REF 1.002.2513)

4427, 4428, 4429.

B 1 Mounting and Installation

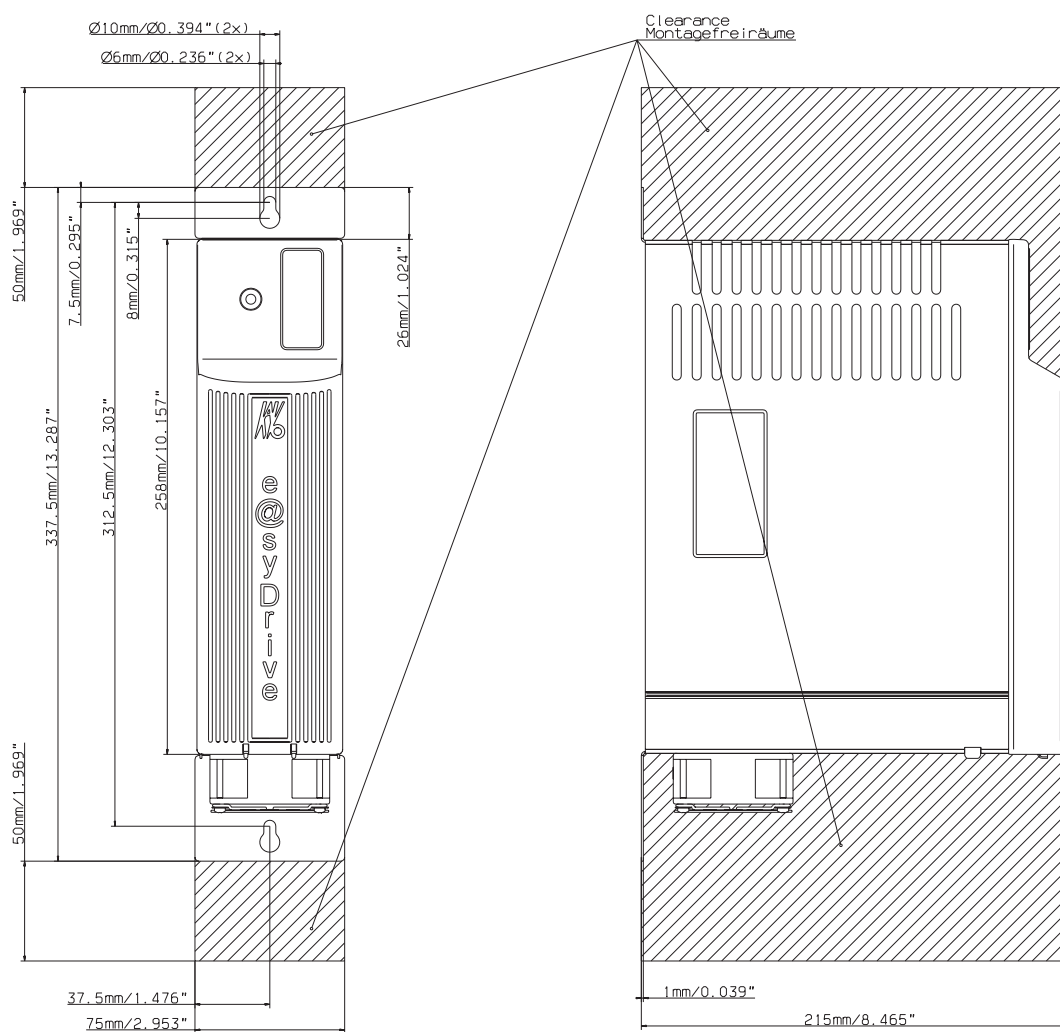
B 1.1 Mounting

- The power modules 4427, 4428 and 4429 are designed for mounting in cabinet:
- Use 2 screws for mounting on switch board (M5).

⚠ *Link the earthing connector of the mains input clamp with the switch box ground conductor. Here, the appropriate regulations must be observed!*

Information for cooling

i *To ensure sufficient cooling of the device keep below shown clearance when mouting!*



4427, 4428, 4429.

B 1.2 Electrical installation



Installation of the Power Module has to comply with valid safety regulations. If no power lead with plug is used an electrical disconnecter must be installed between main supply and power Module. A 16 A circuit breaker with trip curve B is to be used.

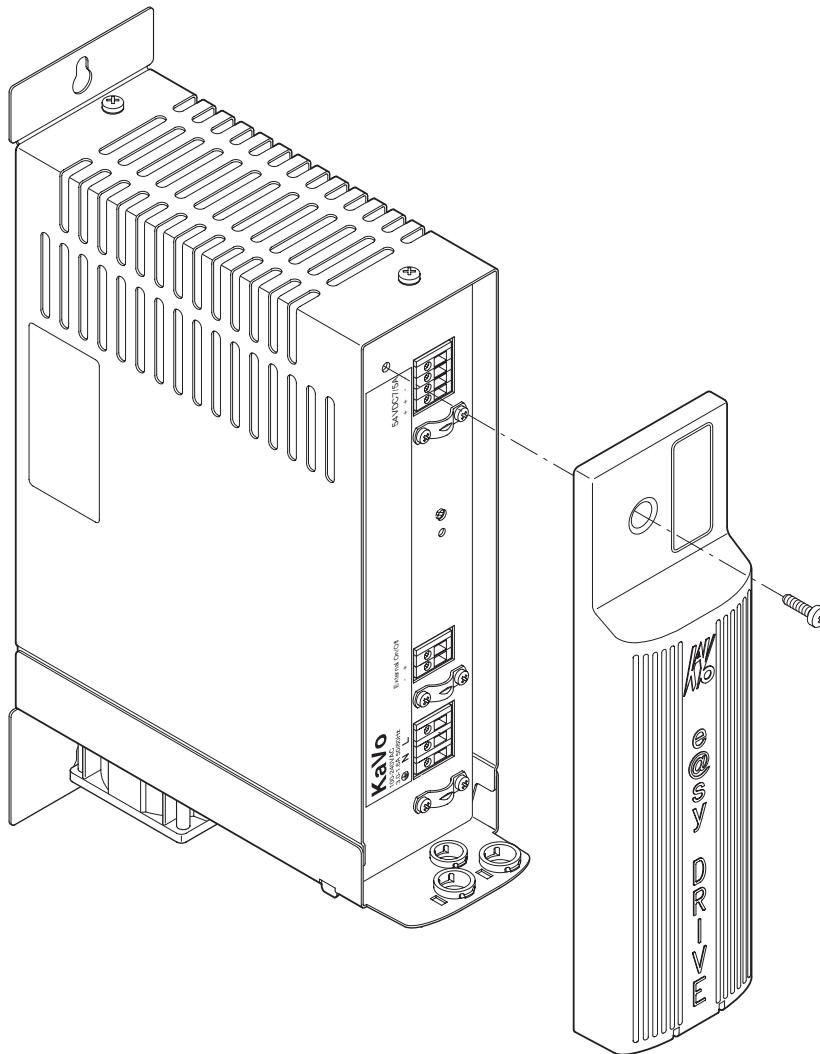
B 1.3 Wiring guidelines to comply with EMC standards

The Power Modules have been tested according to EMC product standard EN 61800-3 (variable-speed drives).



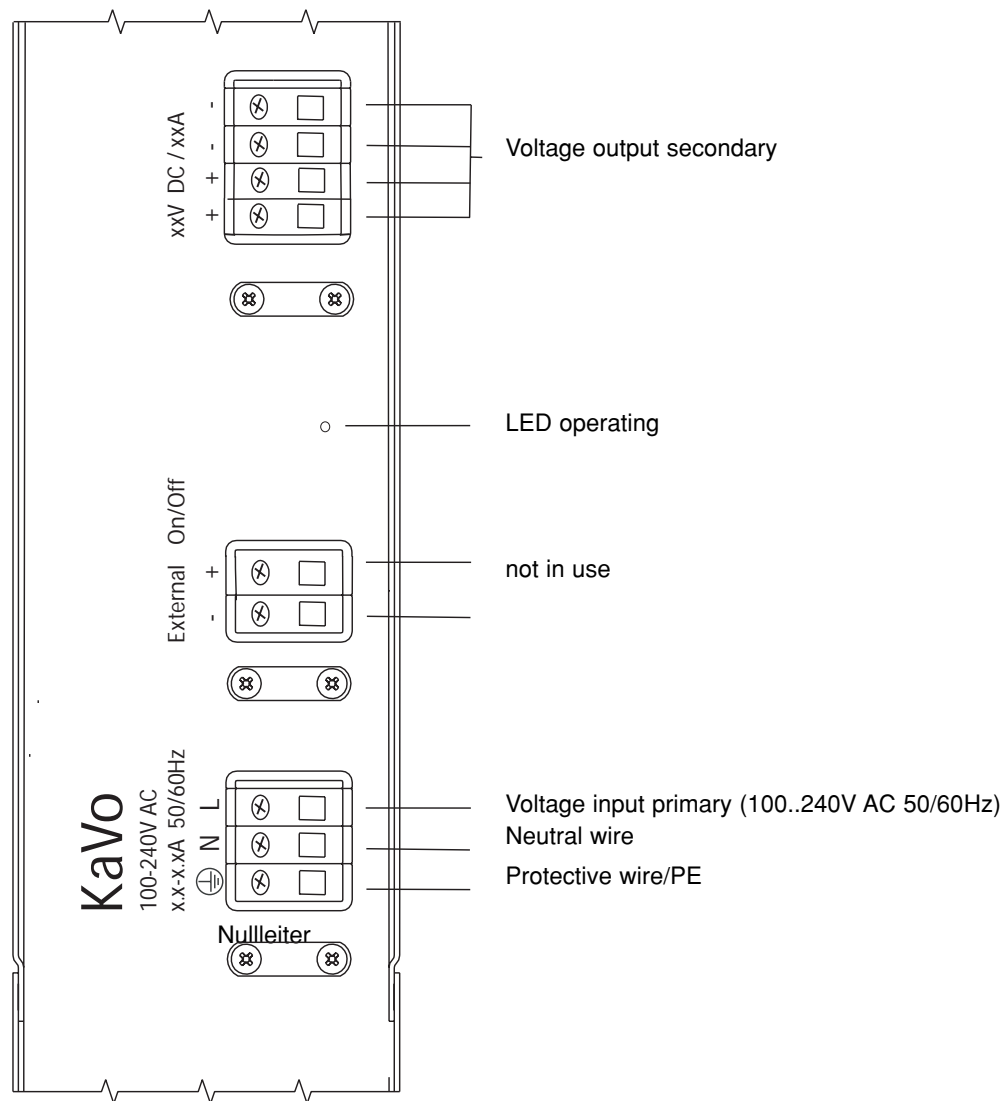
- *The above-mentioned EMC product standard can only be kept with use of shielded motor and control cables. It should be ensured that the cable shields rest over a large area of the inverter housing and are surrounded by the cable clips. A shielded mains cable is not required.*
- *All devices in the mounting cabinet should be connected over a large area to a common earthing point via short earthing cables.*
- *Under no circumstances valid safety regulations must be ignored when installing the power module.*

B 1.4 Access to electrical terminals



4427, 4428, 4429.

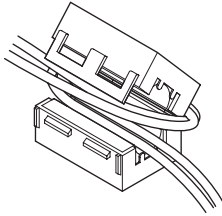
B 1.5 Electrical connections



4427, 4428, 4429.

B 1.6 Installation of an Electro Magnetic Compatability filter

i To comply with the EMC Guidelines, the installation of an EMC-filter is necessary.





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D-88299 LEUTKIRCH.
Telefon 0 75 61/86-0 • Fax 0 75 61/86-371
Internet: www.kavo-drives.com