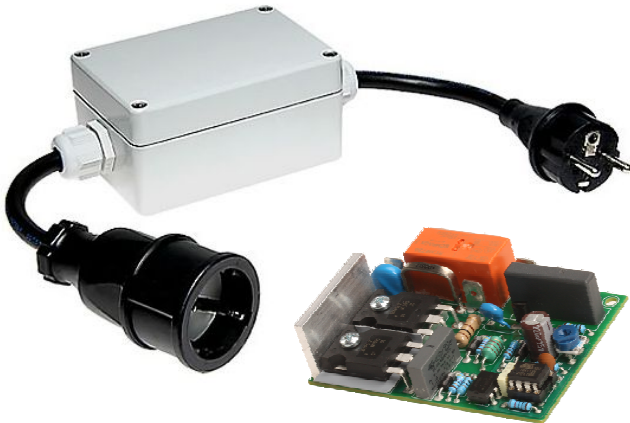


Initial current limiter

Operating instructions



Dear customer,
thank you very much for buying this product.

This product meets the demands of the valid european and national guidance.
The CE-compliance was proven.

To conserve the delivery conditions of the product and ensure a safe operation,
you must read this operating instructions before start-up. Please consider all
operation and security references!

Shipment

- Single-phase Initial current limiter
- Operating instruction

The security references must be observed!

This operating instruction belongs to the product and contains important
references for start-up and operation. Please pay attention hereupon, also
when passing the product to a third party. Make sure that you don't loose this
operating instruction and store it at a secure place.

Declaration of conformity

We, Klinger & Born GmbH, In den Schlangenäckern 5, 64395 Brensbach
declare in sole responsibility, that the product

Initial current limiter

which this declaration corresponds to, is conform with the following engineer
standards or normativ documents:

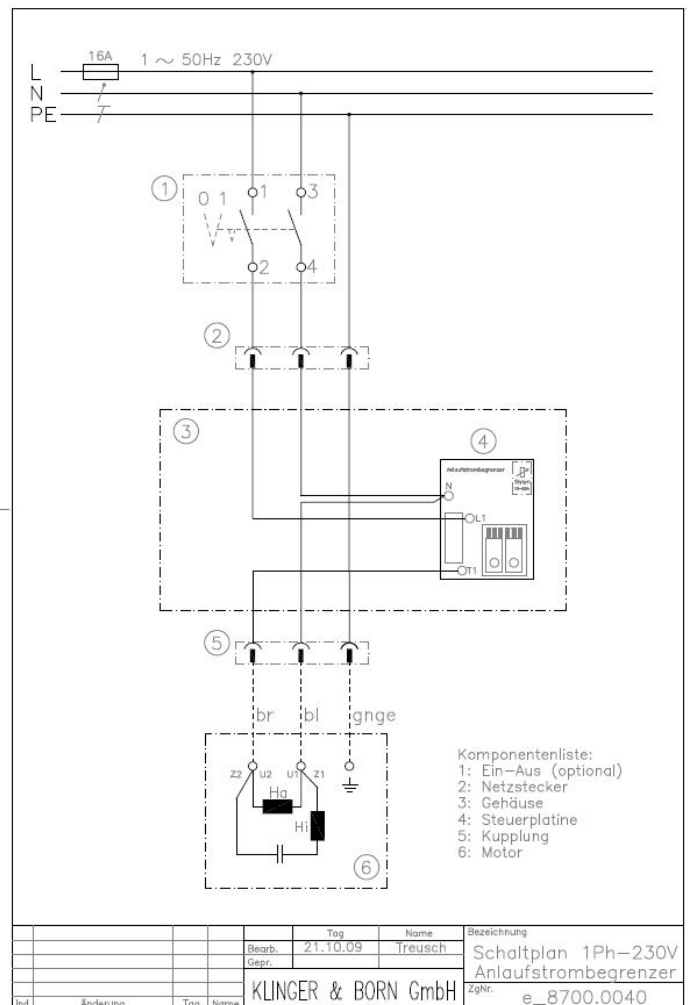
DIN EN 60947-4-2
DIN VDE 0620-1

The terms of these directive(s) apply: Niederspannungsrichtlinie 2006/95/EG
EG-EMV-Richtlinie 2004/108/EG

For any questions contact our technical consultants:

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Mo to Fr 8.00am to 4.15pm



Safety indications

Damages caused by non-observance of this operating instruction lead to warranty void. For subsequent damage we disclaim liability.

- For security and licencing reasons (CE) unauthorised remodelling and/or modifying the product is not allowed. Don't disassemble the product.
- This product is not suitable for children. Children cannot estimate the risks using electric devices. When children are present act with particular caution.
- Don't start with the operation of the device when leads or the switch have visible damages.

- ⚠ Unplug mains plug before maintenance, adjustments or repairs. Wait until the gyrating mass like saw blades, cutterblocks or drill chucks came to a full stop. Don't open housings before that.
- ⚠ Energised parts may still be energised even they have been disconnected. The reason is the charged capacitor of the motor. Don't touch energised parts before unloading the capacitor.
- Before connecting the device check the external power supply. Faulty connections may lead to damage of the electric parts.
- Supply voltage: Make sure that the data on the rating plate match with the power supply system.
- ⚠ Ensure that electric devices are only connected to external power supplies which are protected against over current. Unplug the device during a longer unattended brake or after stopping the machine.
- ⚠ The adjustment of the initial current may only be done by qualified experts.
- ⚠ Avoid short cycles of operation. High thermal load occurs during short cycles of operation which may damage the motor, the control unit or the electronic control circuit board.
- ⚠ Never open the device before it is unplugged from the power supply system.
- Commercial facilities have to notice the accident prevention regulations of the commercial workmen's compensation board association for electrical installations and equipment.
- In schools, education facilities, hobby and self help workshops this product may only be operated when qualified staff if on-site.
- Handle the product with care. Hits, beats or falling down damage it.
- Never operate the product directly after it was carried from a cold into a warm room. Condensate may damage it. Wait until the product has reached room temperature before it is connected with mains voltage. This may take hours.
- Don't touch the product with humid or wet hands.
- Make sure that the insulation of the entire product is neither damaged nor destroyed.

Before using the product make sure that it isn't damaged. If you determine a damage the product must not be connected to the mains voltage! Danger to life!

- If you don't use the product for a longer time, unplug it from mains voltage.
- Avoid the following ambient conditions at the installation site or during transport:
 - Wetness or to high humidity
 - Extrem cold or heat
 - Dust or flammable gas, vapours or solvent
 - Strong vibrations
 - Strong magnetic fields like close to machines or speakers

Features

- Continuously adjustable current limitation and start time
- Bypass relays ensure loss-free operation
- Softstart at every start even mains voltage is on
- Optimum protection on triggering fuse at start-up
- Automatic load detection

Applications

- Asynchronous motors , chippers, saws, fans, angle grinder, stone cutting-off machines, and much more (without control electronic)

Attention:

The initial current limiter limits the current by reducing the output voltage. Therefore a control electronic or a electromechanical device at the load side cannot be connected.

Drives with heavy start-up or motors with little torque (eg. compressors, pumps, compactors) may not be operated with initial current limiters. The reason is that due to the desired current limitation the motor doesn't generate enough torque during the start-up phase.

Ausführungen

Description	Use	Characteristics	Part n°
Aluminum housing with integrated starting current limitation (especially suitable for universalengines)	Universal motor (brush motor)	Voltage regulator	0098.7776
Aluminum housing with integrated starting current limitation for the Use with asynchronousEngines)	1Ph asynchronous motor with operating capacitor	Inrush Schuko 16-40 A	0098.7775
		Inrush CEE 16-40 A	0098.7773
PCB version	Universal motor (brush motor)	Voltage regulator	8700.0044
	1Ph asynchronous motor with operating capacitor	Inrush 16-40 A	8700.0043
Inrush 10-25 A		8700.0040	

Technical data

Operating voltage	230 V/50 Hz (sinusoidal)
Switching power max.	3600 W / 16 A
Initial current limitation	10-25 A / 16-40 A adjustable, depends on type
Start time max.	30 s at 50 Hz (time-out)
Start delay	Approx. 500 ms
Load detection	Min. 1 KW
Internal consumption	0.6 W
Dimension control board	75x54x25 mm (LxWxH)
Power semiconductor	2 thyristors 25 A/1200 V
Ambient temperature	-15° C ... +50° C
Connections	Flat plug 6.3x0.8 (PCB model)
Cable length for models with aluminium housings	2 m mains lead with plug 1 m lead with coupling

Frequency of operating (per hour):

Initial current	Start time		
	10 s	20 s	30 s
16 A	30	15	10
20 A	25	12	8
25 A	20	10	6

Adjustment instructions

Factory-provided the initial current limiter is adjusted to 15 A initial current (except Model-No. 0098.7776 - see next section). If this is not sufficient for your application it is possible to change this adjustment. Therefore read the safety instructions and disconnect the initial current limiter from the external power supply. After that the switch can be opened. If the motor doesn't start with the adjusted current within 30 seconds a safety function shuts down the motor. To reset this safety shut down the device has to be disconnected from the mains voltage.

With the potentiometer on the control board it is now possible to adjust the desired initial current.

Adjustment-brief instruction for Model-N0. 0098.7776

The voltage control is adjusted to the smallest possible output current. Depending on the connected motor this adjustment may be to low. The motor doesn't start or is just humming. In this case the adjustment has to be adapted. After you have opened the cap turn the potentiometer (blue, at the side) clock-wise slowly until the motor starts correct. The adjustment must only be done by a educated professional

Attention:

With connected mains plug the PCB is energised!

Maintenance and cleaning

The product is maintenance free for customers. Never disassemble it. There are no parts inside the product that need to be maintained. Furthermore permission (CE) and warranty expire.

Before cleaning unplug the initial current limiter from the external power supply.

- After that you can clean the product with a clean, dry, soft and fluff free cloth. For heavy dirt you can slightly wetting the cloth with tepid water.
- Never use solvent-containing detergents. The plastic housing and the label may get damaged.

Wait until the initial current limiter is totally dry again before you connect it to the power supply. Otherwise you risk a perilous electric shock.

Removal

- Ensure that you dispose the product according to the applied legal regulations.