

# eQ-3 ESB1 Inrush Current Limiter Instruction Manual



## Operating manual eQ-3 Inrush Current Limiter ESB1

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## Package contents

eQ-3 Inrush Current Limiter  
User manual

## Information about this manual

Read this manual carefully before starting to use the device. Keep the manual so you can refer to it at a later date if you need to. If you hand over the device to other persons for use, please hand over this manual as well.

### Symbols used:



**Attention!** This indicates a hazard.




**Please note:** This section contains important additional information.


## Hazard information





Do not open the device. It does not contain any parts that can be maintained by the user. If you have any


doubts, have the device checked by an expert.


 For safety and licensing reasons (CE), unauthorized change and/or modification of the device is not permitted. Do not use the device if there are signs of damage to the housing, control elements or connecting sockets, for example. If you have any doubts, have the device checked by an expert.


 The device may only be operated in dry and dust-free environment and must be protected from the effects of moisture, vibrations, solar or other methods of heat radiation, cold and mechanical loads.

 The device is not a toy; do not allow children to play with it. Do not leave packaging material lying around. Plastic films/bags, pieces of polystyrene, etc. can be dangerous in the hands of a child.


 We do not assume any liability for damage to property or personal injury caused by improper use or the failure to observe the hazard information. In such cases, any claim under warranty is extinguished! For consequential damages, we assume no liability!

 The device may only be used for fixed installations. The device must be securely attached within a fixed installation.

 The device is part of the building installation. The relevant national standards and directives must be taken into consideration during planning and set-up. The device has been designed solely for operation on a 230 V/50 Hz AC supply. Only qualified electricians (to VDE 0100) are permitted to carry out work on the 230 V mains. Applicable accident prevention regulations must be complied with whilst such work is being carried out. To avoid electric shocks from the device, please disconnect the mains voltage (trip the miniature circuit-breaker). Non-compliance with the installation instructions can cause fire or introduce other hazards.

 Exceeding this capacity could lead to the destruction of the device, fires or electric shocks. Please take the technical data (in particular the maximum permissible capacity and the type of load to be connected) into account before connecting a load. All load data relates to ohmic loads. Do not exceed the capacity specified for the device.

 The device may only be operated within residential buildings.


 Using the device for any purpose other than that described in this operating manual does not fall within the scope of intended use and shall invalidate any warranty or liability.

## Function


Devices with electronic power supply units (e.g. TV or high voltage LED light sources) as well as loads (e.g. fluorescent lamps or energy-saving lamps) can generate inrush currents with more than 100 A. If these loads are switched via a relay, for example via the relay of a switch actuator, it can lead to premature wear of the device. Under unfavourable conditions, high inrush currents can cause the relay contacts to stick together and lead to failure of the circuit.


Via an integrated resistor, the inrush current limiter ESB1 reduces potentially occurring high inrush currents so far that the relay contacts of e.g. actuators are effectively protected.

If the inrush current limiter is for example used in connection with conventional incandescent lamps, the lifetime of an incandescent lamp can be extended while at the same time the switching relay of an actuator is protected.


 The inrush current limiter is not suitable for fast periodic switching. The pause time between a switching operation should be longer than 30 seconds in any case. In case of shorter switching periods there is the danger that the inrush current limiter is not working.

## Start-up

 Please read this entire section before starting to install the device.

 Please note! Only to be installed by persons with the relevant electro-technical knowledge and experience!\*

Important note!

 When selecting a mounting location, make sure that a touch protection is guaranteed. The circuit must be

installed in a closed system.

### **Incorrect installation can put**

- your own life at risk;
- and the lives of other users of the electrical system.

Incorrect installation also means that you are running the risk of serious damage to property, e.g. because of a fire.

You may be personally liable in the event of injuries or damage to property.

Contact an electrical installer!

\*Specialist knowledge required for installation:

The following specialist knowledge is particularly important during installation:

- The “5 safety rules” to be used:  
Disconnect from mains; Safeguard from switching on again; Check that system is deenergised; Earth and short circuit; Cover or cordon off neighbouring live parts;
- Select suitable tool, measuring equipment and, if necessary, personal safety equipment;
- Evaluation of measuring results;
- Selection of electrical installation material for safeguarding shut-off conditions;
- IP protection types;
- Installation of electrical installation material;
- Type of supply network (TN system, IT system, TT system) and the resulting connecting conditions (classical zero balancing, protective earthing, required additional measures etc.).

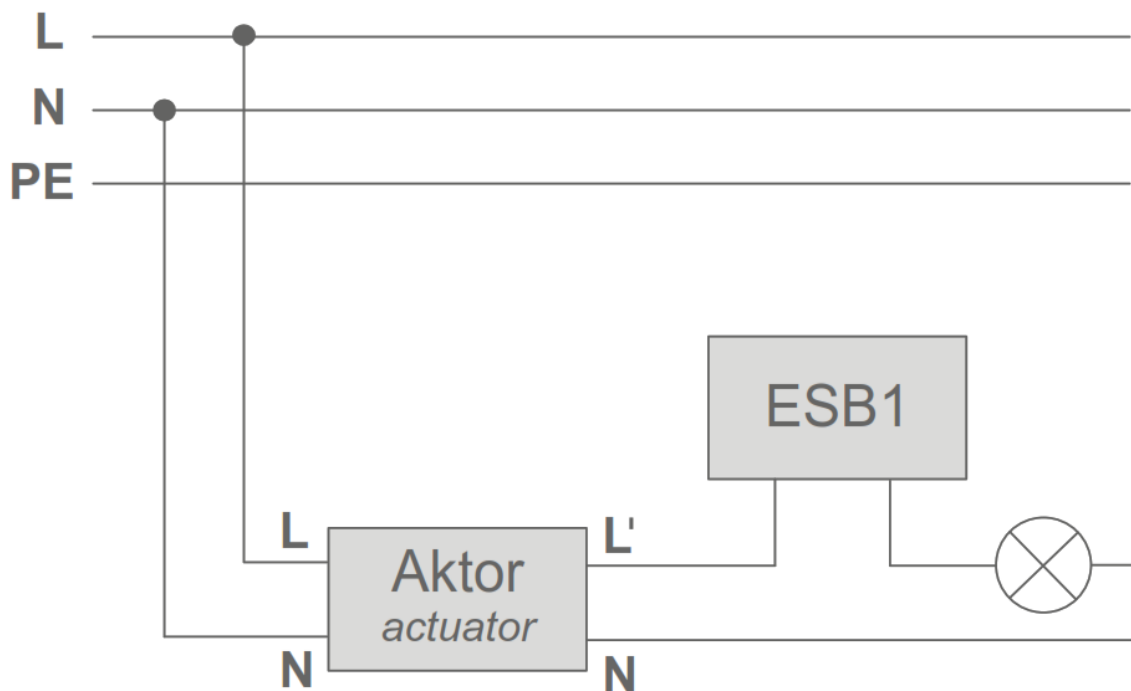


Installation may only take place in normal commercial switch boxes (device boxes) in accordance with DIN 49073-1 or surface-mounting boxes in accordance with DIN 60670-1 (e.g. Abox 025 or Abox 040).

Please note that the inrush current limiter may only be switched in series to a load and not parallel to the power supply.

To install the inrush current limiter, please proceed as follows:

- Switch off the fuse of the power circuit.
- Remove the actuator from the flush-mounted or surface-mounted box.
- Loosen the output terminal of the actuator (connecting terminal for L') and then pull the wire out of the terminal.
- Connect one of the two wires of the inrush current limiter to the connecting terminal for L'.
- Connect the other wire of the inrush current limiter using a suitable terminal with the phase conductor from the connecting terminal for L' of the actuator.
- Reinsert the inrush current limiter and the actuator back into the flush-mounted or surface-mounted box.
- Close the flush-mounting or surface-mount box using an appropriate cover.
- Switch the fuse of the power circuit back on again.



Here disconnect the phase conductor, that provides power supply for the load, at a suitable place. Then connect the wire to the actuator with a wire of the inrush current limiter and the wire to the consumers with the other wire of the inrush current limiter.

**i** When exceeding the maximum permissible connected load of 200 W or in case of a short-circuit of the load, the integrated safety fuse of the inrush current limiter is tripped and the inrush current limiter must be replaced.

## Maintenance and cleaning

**i** The product does not require any maintenance.  
Enlist the help of an expert to carry out any maintenance or repairs.

## Technical specifications

Device short description:	ESB1
Supply voltage:	230 V/50 Hz
Maximum inrush current:	90 A/1 ms
Load:	200 VA max.
Installation:	only in normal commercial switch boxes (device boxes) in accordance with DIN 49073-1 or junction boxes (surface-mounting boxes) in accordance with DIN 60670-1
Degree of protection:	IP20
Ambient temperature:	5 to 35 °C
Dimensions (W x H x D):	30 x 10 x 30 mm
Weight (incl. housing):	15 g

**Subject to technical changes.**




The CE sign is a free trading sign addressed exclusively to the authorities and does not include any warranty of any properties.

**Instructions for disposal**



Do not dispose of the device with regular domestic waste! Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with the Waste Electrical and Electronic Equipment Directive.

**Documents / Resources**

	<p><a href="#">eQ-3 ESB1 Inrush Current Limiter</a> [pdf] Instruction Manual</p> <p>ESB1 Inrush Current Limiter, ESB1, Inrush Current Limiter, Current Limiter</p>
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