

Safety and User Information

Congratulations to the ownership of this high quality product. A long life expectancy is assured if used in the described manner and correct application. As with all technical products, a hazard to health or equipment can exist if improperly used, an unauthorized removal of necessary covers, an incorrect installation or an incorrect operation is present. Follow these instructions and adhere to the generally accepted rules of technology. Installation and setting-up should only be carried out by qualified personal (IEC 60364 / VDE 0105).

Packing

Please check carefully the equipment immediately after receipt, for transport damage as deformation, breakage or loose parts. Any damage should be reported without delay to the transport carrier, even if no apparent damage to external packing is visible.

Storage

Permitted Storage Temperature	-40°C...+85°C
Permitted Humidity	30%...80% relative humidity Residual humidity is not permitted.
Extended Storage	Equipment containing capacitors: should be connected to the mains supply for at least 5 minutes every two years.

Installation and Operation

This equipment is protected against improper use. The contact with electrical components and terminals should be avoided. The product description, the technical information in our main catalogue and the marking on the equipment are to be observed. The installation must be carried out according to the prevailing local conditions, prevailing safety standards (e.g. VDE 0100), national accident preventions (e.g. UVV-VBG 4; BGV A3 respectively) and the generally accepted rules of technology.

Maintenance and Servicing

This equipment usually requires no special maintenance, however (depending on the protection index) it must be protected against aggressive chemicals, moisture, dust and radiation. Servicing is only permitted under the terms and conditions of these operating instructions. Nevertheless should a failure occur, please return the equipment to us for repair. Please give us the following information: Type of fault, accompanying symptoms (operating conditions), your own speculation upon the cause of the failure, previous unusual conditions, etc.

Disposal

Please observe the current regulations and dispose according to type of material, e.g. as electronic scrap (printed circuit boards), plastics (housing), steel, copper, etc.

Amendments

We have produced this documentation with the utmost care; however no guarantee in terms of correctness and completeness can be given. The adoption of this information in an application must be individually checked. The technical details describe the product features without guaranteeing these. This product is subject to changes that serve the technical advancement.

Description and Application

On physical condition, during power-up of certain loads, the automatic circuit breaker or the motor circuit switch could shut off. The Inrush Current Limiter prevents this. It can power-up and supply a load up to max. 16A. The Inrush Current Limiter is inserted in the load line. It has an intrinsic resistance (limiting resistance) of typ. 7.8 Ω, which is in series connection with the load. Therefore it can flow an inrush current of max. 29.5A at 230Vac (because of the impedances of mains and loads, the real inrush current is usually lower). Normally the switch-on peaks are decreased after some periods and the build-in power-relay bridges the intrinsic resistance of the Inrush Current Limiter. Now the load is directly connected with the mains. The Inrush Current Limiter operates mainly current-leaded and partly time-leaded, i.e. the load current is continuously controlled. Below a minimum load of typ. 20W, open-circuit is detected and the limiting resistance is switched in the circuit permanently. On higher wattage the limiting resistance is bridged; in this case the inrush current cannot be limited. The period of inrush current limiting is max. 300ms; depending on the load it will be reduced to min. 60ms. At the power-up moment of the Inrush Current Limiter there is a defined limiting time of 150ms.

Standards

The requirements for CE conformity are given and the equipment is CE marked. The ESG 5 and ESG 7 are UL listed according UL 60730-1. ESG 3 and ESG 4 are not UL listed, the construction is identical to the listed devices except for the power cords and connectors.

Operation Information

The adequate cooling of the equipment should not be effected and the air circulation must be guaranteed. Due to the protection index, the use of the equipment is only permitted in dry areas. The inrush current limiter is designed for applications that are turned on and off on the load side of the inrush current limiter. Frequently switch-on in rapid succession has to be avoided since the internal thermal fuse might trip due to overheating.

Connection Information

Before connection the Inrush Current Limiter to mains, check the correct supply voltage (also see the marking on the equipment). The mains plug of the load must be connected via the Inrush Current Limiter with the mains socket. For safe operation a rated voltage not below 99Vac in the moment of turn-on the load is required. More loss of voltage could cause an overload and would result an irreparable damage to the Inrush Current Limiter by activating the internal thermal fuse!
The supply cord of this control cannot be replaced. If the cord is damaged, the control should be discarded.

Fuse

The equipment is internally protected with a non-resettable thermal fuse. If this fuse is switched off, with the utmost probability an unsuitable mains supply is present (see Connection Information).

Technical Specification

Nominal Voltage	ESG 3: 230Vac ESG 4: 230Vac ESG 5: 115Vac ESG 7: 230Vac
Voltage range	ESG 3: 110...230Vac ± 10% ESG 4: 110...230Vac ± 10% ESG 5: 110...120Vac ± 10% ESG 7: 110...240Vac ± 10%
Nominal Frequency	50Hz...60Hz
Nominal Current	ESG 3: up to 16A eff. * ESG 4: up to 13A eff. * ESG 5: up to 13A eff. * ESG 7: up to 10A eff. * * at max. +40°C ambient temperature
Intrinsic Resistance	ESG 3: 7,8Ω ±5% * ESG 4: 7,8Ω ±5% * ESG 5: 4,4Ω ±5% * ESG 7: 7,8Ω ±5% * * at the power-up moment
Switching Time	bridging after approx. 60ms...300ms (3...15 periods at 50Hz) depending on load
Connections	ESG 3: 2x 1,3m power line cable H05VV-F3G 1mm ² plug and socket: DIN49440;1 ESG 4: 2x 1,3m power line cable H05VV-F3G 1mm ² plug and socket: BS1363 ESG 5: 2x 1,3m power line cable SJT 3x16AWG (1,3mm ²) plug and socket: NEMA5-15 ESG 7: 2x 1,3m power line cable SJT 3x17AWG (1,3mm ²) plug and socket: IEC 60321-1 C13/C14
Construction	encapsulated and resined in an insulating housing
Protection Class	I
Over Voltage Category	II
Pollution Degree	PD 2
Protection Index	housing: IP65 plug/socket (ESG 3/7): IP44 plug/socket (ESG 4/5): IP20
Safety	• build-in, non-exchangeable thermal fuse in the load circuit • temperature controller bridges limiting resistance at overload • resin according UL 94 V-0
Housing Dimensions	Length: 121mm * Width: 66mm * Height: 70mm * * without the two power line cables
Weight	approx. 750g with the two power line cables

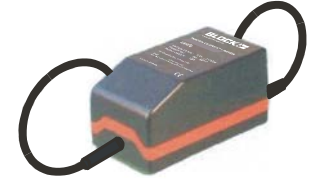
UL Technical Considerations

Purpose of control: Operating Control
Construction of control: In-Line Cord Control
Impulse Voltage: 2500V
Type 1 Action

BLOCK

Block Transformatoren-Elektronik GmbH

Max-Planck-Strasse 36-46
27283 Verden Germany
Phone: +49 4231 678 0 Fax: +49 4231 678 177
www.block.eu sales@block.eu



Gebrauchsanleitung

Einschaltstrombegrenzer

- ESG 3** (Stecker/Kupplung: int. Typ F „Schuko“)
- ESG 4** (Stecker/Kupplung: int. Typ G „BS1363/A“)
- ESG 5** (Stecker/Kupplung: int. Typ B „NEMA5-15“)
- ESG 7** (Stecker/Kupplung: int. Typ IEC 60320-1 C13/C14)

Instruction Manual

Inrush Current Limiter

- ESG 3** (plug/socket: int. Typ F „Schuko“)
- ESG 4** (plug/socket: int. Typ G „BS1363/A“)
- ESG 5** (plug/socket: int. Typ B „NEMA5-15“)
- ESG 7** (plug/socket: int. Typ IEC 60320-1 C13/C14)

(ESG 5 + ESG 7)



ELECTRONIC PROTECTIVE CONTROL
E469452

EN 61000-6-1 UL 60730-1
EN 61000-6-3 CSA E60730-1:13
EN 61000-3-2
EN 61000-3-3
EN 60730-1

Made in Germany

Zeichnung-Nr. / Drawing-No.: Z710903004/h

Teile-Nr. / Part-No.: #005-0247

Änderungen vorbehalten / subject to change without notice

