Instructions for Use

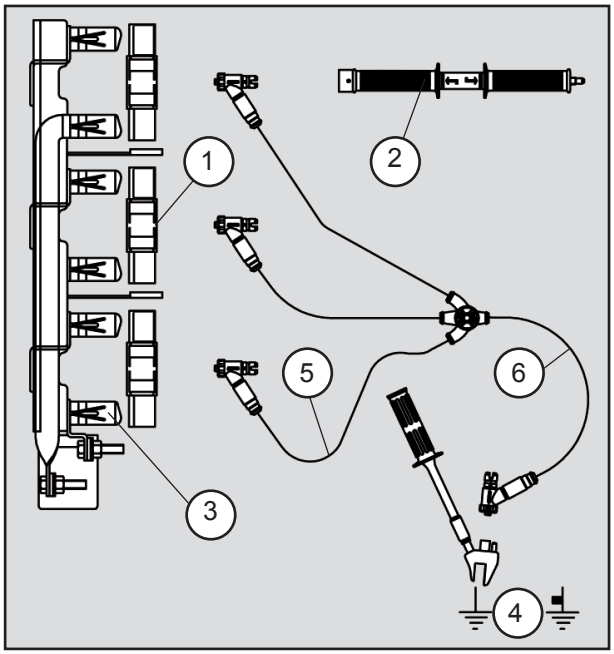
Fully-insulated earthing and short-circuiting device for low voltage

GA132GB-10.13

1. Fully-insulated earthing and short-circuiting device for low voltage

1.1 General

Fully-insulated earthing and short-circuting devices are devices designed to short circuit parts of electric installations which have been disconnected and on which absence of voltage has been verified. The fully-insulated earthing and short-circuiting device (E&S/C device) is admitted for use in low voltage only!



1.2 Safety hints

- In order to avoid risks, both EN 50110-1 and local accident prevention regulations must be observed when using E&S/C devices!
- E&S/C devices may only be used within the framework of the 5 safety rules!
- E&S/C devices may only be used on de-energised parts of electrical installations (3) that have been tested for absence of voltage!
- E&S/C devices must not be used to transmit current!
- Disconnected installation parts may have considerable residual voltages. Phase connection elements such as cartridges (1), fuse inserts, or other adaptors must be brought close or connected to the phase connection only by means of the earthing handle (2)!
- E&S/C devices and their connection elements, after they have been charged by a short circuit, must not be re-used!

1.3 Storage, maintenance and inspection

The purpose of E&S/C devices is to provide protection and safety; they must therefore be treated with care. E&S/C devices must be stored in dry and clean premises. Examine the E&S/C devices regularly to make sure they are in faultless condition. The frequency and nature of these inspections depends on the specific conditions of application and storage. A guideline for such inspections can also be found in Section 1.4 "*Prior to each use*". We recommend conducting these inspections at annual intervals until you have gained sufficient knowledge to permit an extension of the intervals.

1.4 Prior to each use

Before using the E&S/C devices, examine them each time to make sure they are in faultless condition. Particular attention should be paid to the following:

Visual inspection: Check

- that the device is complete
- the connection elements (1,4) for any damages
- that the contact surfaces of the connection elements (1,4) are clean
- the short circuiting (2) and earthing (3) leads for corrosion or broken wires
- the lead insulation for cracks or discolouration caused by overheating
- the labels, especially the cross section details and rated values

Manual examination: Check

- to make sure all moving parts are smooth running
- to make sure all detachable connections are firmly tightened

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Caution: If you detect any faults during one or more of these checks, take the device out of circulation.

1.5 Intended usage

- E&S/C devices must always be connected to the earthing system first. When removing the devices, they must be disconnected from the earthing system as the last step.
- E&S/C devices may only be used in electrical installations with the short circuit currents and times for which they have been designed.
- Connecting parts and points may only be joined to conductors with the shape and dimensions for which they have been designed. The same applies when joining connection elements to connection points.
- Full short circuit capacity is guaranteed only when contact areas between connection elements and connection points are metallic bare, and the connection elements have been installed with expertise!
- The length of the leads of E&S/C devices between two connection points may not be less than 1.2 times the distance between the connection points.
  The leads should not, however, be too long as they will bang if a short circuit occurs.

1.6 Rated values

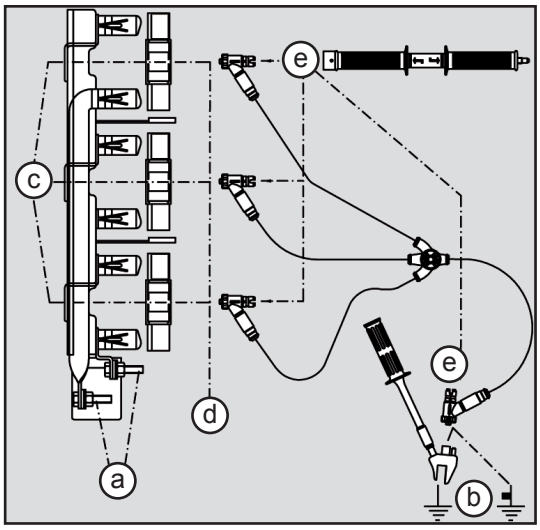
Our E&S/C devices are suitable for temperatures ranging between -25 °C up to +70 °C.
Rated values for current and duration are maximum values.
For this reason it is imperative to observe the values in table 1!

Cross section	Highest admissible short circuit current in kA for the duration of	
[mm²]	1 s	≤ 0.5 s
16	3.2	4.5
25	4.9	7.0
35	6.9	10.0

Table 1 – *Rated currents in [kA] for copper leads, depending on duration of current flow*

2. To Earth and short circuit

a) Verify absence of voltage.
b) Connect the earthing clamp or earthing socket to the earthing installation or PEN bar.
c) Connect the phase connection elements, for instance cartridges, fuse inserts, or other adaptors with the correct side by using the earthing handle.
d) Test the absence of voltage on the connection points.
e) Connect the E&S/C device by using the earthing handle, first to the earth, then to the phase side.
f) For un-earthing first remove the short circuiting cables by using the earthing handle, afterwards the earthing cable. Finally remove the phase and earthing elements.



3. Disposal

Disposal of the E&S/C device must comply with local regulations. ARCUS Schiffmann accepts no liability for incorrect disposal. Please do not hesitate to contact ARCUS Schiffmann if you require clarification about any of the materials used.

4. Product liability and warranty

These instructions for use have been prepared with the greatest possible care and were reviewed prior to publication.Warranty liability will only be accepted upon proof of compliance with the instructions for use in terms of storage, assembly, operation, maintenance and care.The General Terms and Conditions of Sale and Delivery for Electrical Products and Services apply.

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