



INSTRUCTION FOR USE

Device for emergency power supply to bare low voltage overhead lines (AC 1000 V)

GA231GB-01.17

1. Device for emergency power supply to bare low voltage overhead lines (AC 1000 V)



Please read this instruction for use prior to use of the device for emergency power supply, especially the safety hints! Keep the instruction for use to obtain information when necessary.

Please also observe the enclosed installation instruction of the manufacturer of the plug connectors for connection to the emergency power generator!

In case the device for emergency power supply is made available to another person, hand over the Instruction for use together with the above mentioned installation instruction.

Due to the multitude of variations, your device for emergency power supply may differ from the following pictures.

1.1 General

By means of the emergency power devices for use on bare low voltage overhead lines, it is possible to feed power from a mobile emergency power generator into the overhead line at all weather conditions.

The device for emergency power supply is approved for use in low voltage networks (AC 1000 V) only. The feeder stick of the emergency power device is an operating rod following standard DIN VDE 0680-3.

1.2 Assembly

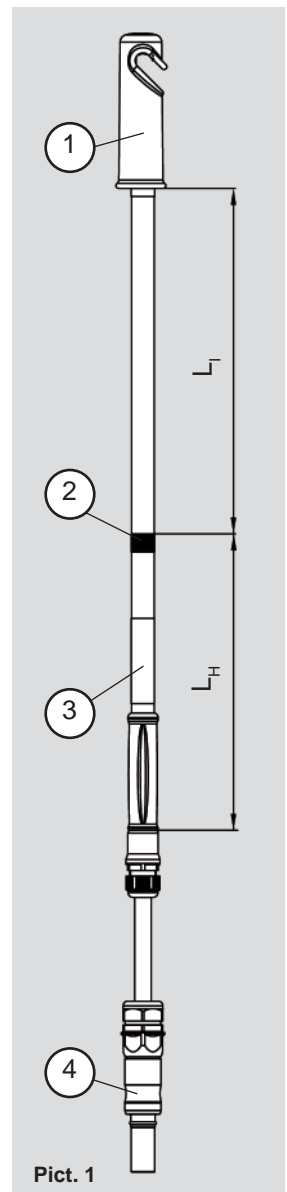
The emergency power device consists of:

- a) Feeder stick with
 - operating head (1), a phase connection clamp insulated against manual contact. The construction of the phase connection clamp enables removal of foreign layers (dirt and corrosion) from the contact areas of the overhead lines.
 - insulating part (LI) between the black ring (2) and the insulated phase connection clamp. It gives the user the necessary electrical clearance and sufficient insulation towards the live installation part. The length of the insulating part is at least 300 mm.
 - handle section (LH). The handle section (LH) is the complete area underneath the black ring. It ends with a hand grip and is at least 115 mm long.
 - label (3) with information about rated voltage and rated current.
- b) connection element (4) towards the emergency power generator.



1.3 Safety hints

- a) The emergency power device is to be used exclusively on portable emergency power generators according to DIN VDE 0100 part 200 with external star point. This is to be connected to the earthing system.
- b) The device for emergency power supply may be exposed to all weather conditions.
- c) The emergency power device is to be used only for the rated current marked on the type label!
- d) The emergency power device must not be used for earthing and short circuiting!
- e) The emergency power device is to be used only for the duration of emergency power supply! It is not suitable for permanent operation!
- f) The device for emergency power supply is to be installed and disconnected by trained electrically skilled persons only!
- g) For live working use the complete available personal protection equipment.
- h) Only use the device for emergency power supply from a safe position and be sure to stand clear of live installation parts in order not to be endangered by them. Pay attention to cover all neighbouring live installation parts before connection of the emergency power device.
- i) Only use the emergency power device on electric installation parts which are disconnected and on which absence of voltage was verified!
- k) Please note that disconnected installation parts may have considerable residual voltages!
- l) Ensure that connections on the emergency power device are protected against unauthorised access!



Pict. 1

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1.3 Safety hints (continued)

- m) Only hold the feeder stick at the grey hand grip during use!
- n) During operation, precipitation and humidity may cause dangerous leakage currents in the area of the insulating part (LI) of the feeder stick. Before removal of the emergency power device examine whether it is clean and dry! It may be necessary to wear insulating body protection equipment before touching the emergency power device!
- o) During installation and operation of the emergency power device at the place of use, be sure to avoid tensile forces at the connections of the emergency power device! Use a traction-relief for the supply-side connection elements. Pulled out and live connection elements are hazardous!
- p) Emergency power devices are to be dry when stored.
- q) For use of the emergency power device, in order to prevent dangers, observe the:
DIN VDE 0100 – Low-voltage electrical installations,
EN 50110-1 - Operation of electrical installations,
DIN VDE 0110 – Insulation co-ordination for electrical equipment within low-voltage systems,
DIN VDE 0660 - Switchgear,
DGUV Regulation 1 – Principles of prevention,
DGUV Regulation 4 – Regulation for accident prevention – Electrical installations and equipment,
DGUV Rule 103-011 – Live working on electrical installations and equipment,
and internal company instructions where applicable!

1.4 Unpacking and examination

Packing of the emergency power device is designed to protect it from damages caused by normal impact and transport.

Unpack and examine the emergency power device as follows:

- Unpack the emergency power device and make sure you have received all parts listed on the packing list.
- Examine the device for damages from transportation.
In case packing is damaged and you have to expect damage or loss of supplied parts, this is to be noted on the delivery documents, otherwise insurance will not pay ! If shipment is packed orderly and parts are damaged or missing, please contact ARCUS Schiffmann.

1.5 Storage, transport, maintenance and inspection

Storage and transport:

The emergency power device is to be treated with care. Make sure that the device is protected against damages during transport. Emergency power devices must be stored dry.

Maintenance and inspection:

Examine the emergency power 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 1.6 "*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.

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1.6 Prior to each use

Before using the emergency power devices, make sure it is in faultless condition.

Particular attention should be paid to the following:

Visual inspection: Check that

- the emergency power device is complete,
- the phase connection clamp and the connection element towards the generator are free of damages,
- the contact elements of the phase connection clamp and of the connection element towards the generator are clean,
- the O-ring at the connection element towards the generator is free of damages,
- the sheath of the connection line is free of cracks and deformation due to overheating,
- markings are readable, especially the information about rated voltage and rated current

Manual examination: Check that

- all detachable connections are firmly tightened,
- all moving parts are smooth running.



Caution:

If you detect any faults during one or more of these checks, at first take the emergency power device out of circulation.

1.7 Intended usage

General:

- First connect the emergency power device to earth. When removing the devices, disconnect them from the earthing system as last step.
- Emergency power devices must only be used in electric installations with the rated currents for which they have been designed.
- It must be made sure that in case of a short circuit the emergency power generator will switch off after latest 5 s.
- Connection elements must only be connected to load and supply side when shaped for their form and dimensions.
- Power supply of the emergency power device is secured only when the contact areas between connection elements and connection points are metallic bare and when the connection elements have been installed appropriately.

On overhead lines:

In low voltage networks with overhead lines, mainly with roof stands, the device for emergency power supply mostly needs to be operated from the same position towards all conductors of the system. In order to reach the furthest conductor, one needs to direct the device for emergency power supply with its insulating part (black ring) through the overhead line system. To secure safe operation also under this condition, practical use has made it advisable to keep a distance between the hand of the user and the nearest live part of minimum the length of the insulating part (LI).

1.8 Technische Daten

Environmental temperature range: -25 °C up to +55 °C

Rated voltage: AC 1000 V

Rated current: 165 A

Usage on the supply side:

The emergency power device is suitable at the supply side for use on bare overhead lines made of aluminium or copper with cross sections 16 mm² round solid up to 120 round stranded, and Ø 5-15 mm.

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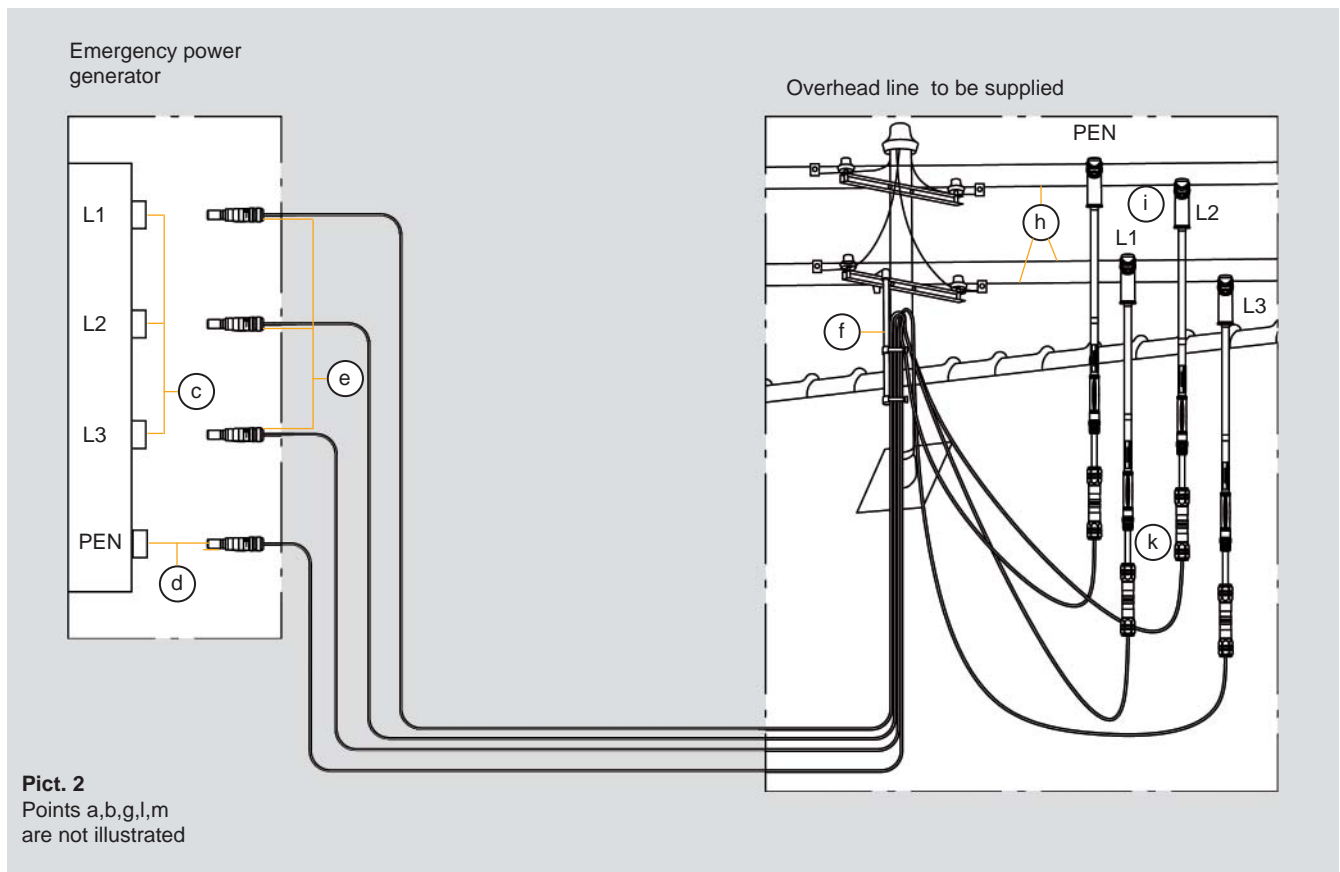
Usage on the load side:

The emergency power device is to be connected only to mobile emergency power generators according to DIN VDE 0100 part 200 with external star point. The star point must be connected to the earth installation.

2. Installation of the emergency power device to the overhead line

For use of the emergency power device it is a must to observe the regulations for use of the emergency power generator and those of the supply side of the low voltage installation!

- a) Examine the emergency power devices for their faultless condition before each use. (see also paragraph 1.6 "Prior to each use").
- b) Open the circuit breaker/ disconnecter at the generator.
- c) Verify absence of voltage on the generator.
- d) Connect the PEN-connection line to the generator.
- e) Connect the connection lines L1, L2, and L3 to the generator.
- f) Connect connection lines L1, L2, L3 and PEN strain-free to the pole. We recommend to use our insulated strain-relief sleeve (see paragraph 5 "Available accessories and spare parts").
- g) On the supply side cover live neighbouring parts with suitable material.
- h) Verify absence of voltage on the overhead lines.
- i) Connect the feeder sticks to the overhead lines.
- k) Connect the connection lines to the connection element of the emergency power devices, begin with the PEN connection.
- l) Test the direction of the rotating field and correct it if necessary.
- m) Finish by taking the generator into operation, following the internal instructions.



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3. Dismounting of the emergency power device

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- The diagram illustrates a power distribution system. On the left, an 'Emergency power generator' is shown with four output terminals: L1, L2, L3, and PEN. Each terminal is connected to a cable with a plug-like connector. A label 'p' is placed near the L2 connector. These cables run horizontally to the right. On the right, an 'Overhead line to be supplied' is shown. It features three main vertical conductors labeled L1, L2, and L3, and a PEN conductor. Various connection points and components are labeled with letters in circles: 's' is at the top of the PEN conductor; 'r' is at the top of the L2 conductor; 't' is at the top of the L1 conductor; 'q' is on the L1 conductor; and 's' is on the L2 conductor. The horizontal cables from the generator connect to the bottom of these vertical conductors. A label 'n,o' is present near the bottom of the L1 conductor, indicating points not illustrated.
- Pict. 3**
Points n,o are not illustrated

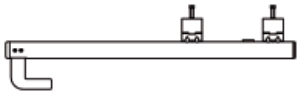
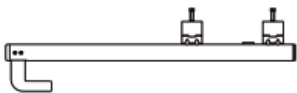
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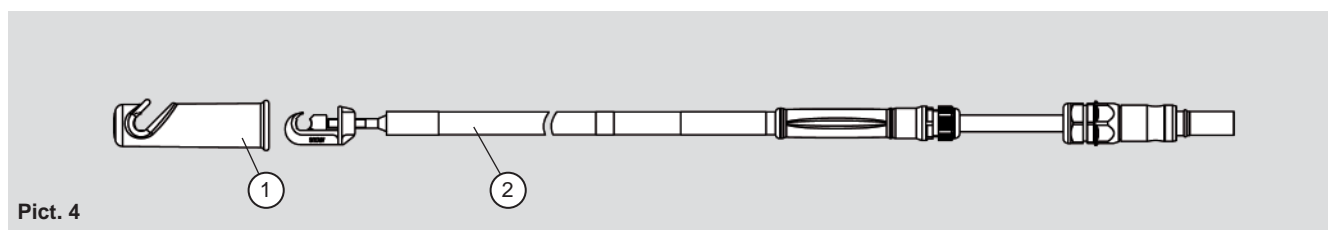
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Accessory	Picture	Type no.
Strain-relief sleeve for lines with rubber-sheath Ø 36-44 mm for strain-relief connection to pole		517 036
Strain-relief sleeve for lines with rubber-sheath Ø 32-36 mm for strain-relief connection to pole		517 045

Spare Part	Picture	Type no.
Spare cap for feeder stick		517 035 11

6. Exchange of spare cap (type no. 517 035 11)

Pull cap (1) from feeder stick (2) with some effort. Plug spare cap onto feeder stick until it clicks into place.



7. Disposal

Disposal of the emergency power 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.

8. 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.

Attention:

Please note that tampering and modifications on the product on your own lead to safety hazards and to extinction of product liability.

Valid are the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry.

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9. CE-Conformity Declaration

Your emergency power device fulfils the requirements of the EU-Directive:
Low Voltage Directive 2014/35/EG

Conformity of the emergency power device with the above mentioned directive is confirmed by the CE-marking
on your emergency power device.

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