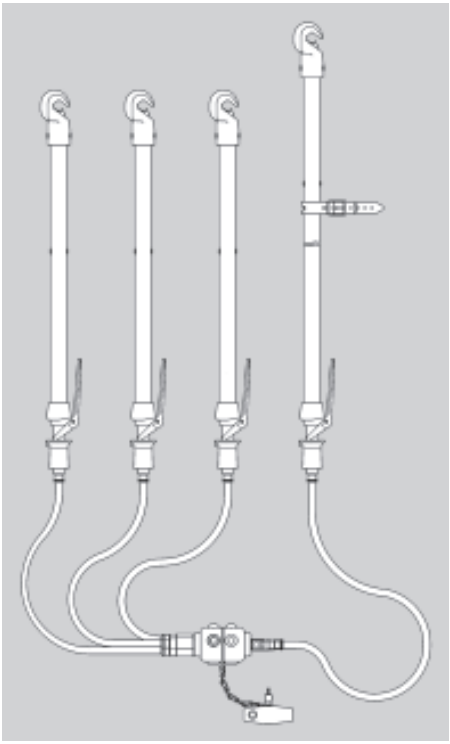
INSTRUCTION FOR USE

GA39GB-10.08



Short circuiting devices for
low voltage overhead lines

1. Models/usage

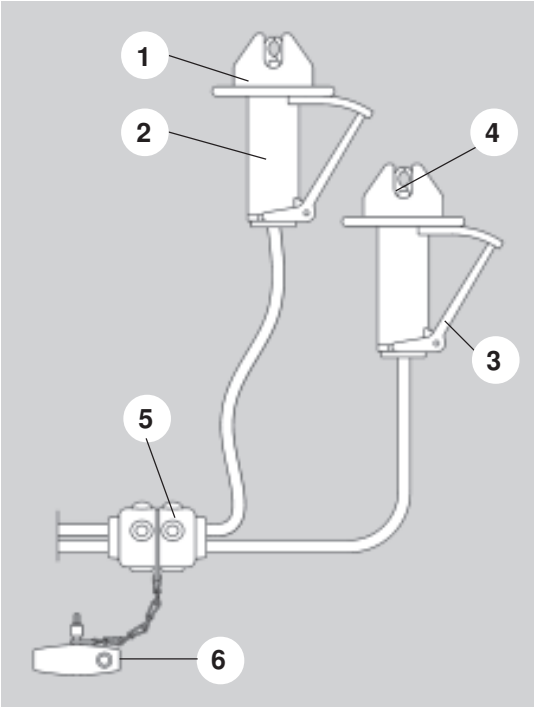
1.1 Short circuiting device with fast action tongs

Usage in urban networks with neutral conductor at the bottom side for aluminium and copper lines Ø 3-14 mm and 10 mm² re-120 mm² rm.

Insert required number of short circuiting cables into connection cluster (5) and tighten with socket wrench (6).

To short circuit, hold fast action tong (1) at the handle (2) and press hand lever (3) towards housing. After conductor was taken up by the slot (4), release hand lever (3), then the fast action tong will contact the conductor automatically by means of spring tension.

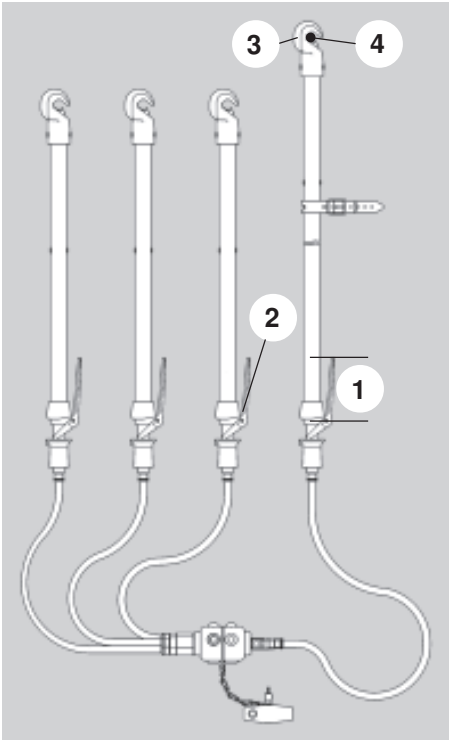
In case there are more cables as required for short circuiting at a compressed connection cluster, it is recommended to the conductor as well.



1.2 Short circuiting device with fast action rods

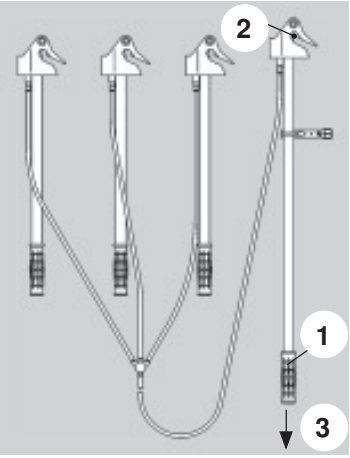
Usage in urban networks with neutral conductor at the top and bottom side for aluminium and copper lines Ø 3-14 mm and 10 mm² re-120 mm² rm.

To short circuit hold fast action rod at the handle (1) and press hand lever (2) towards tube. Release hand lever after clamp (3) is in contact with conductor (4). Contact is made automatically by means of a spring-mounted pressure plate.



1.3 Short circuiting device with fast action rods

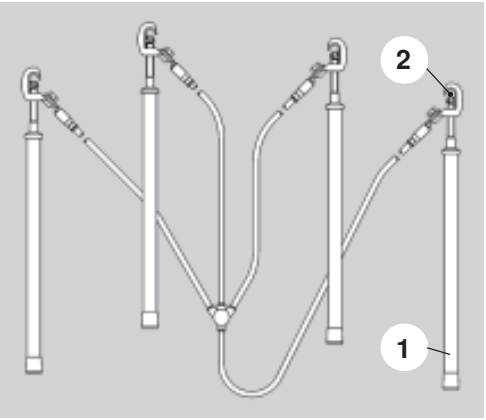
Usage in urban networks with neutral conductor at the top and bottom side for aluminium and copper lines Ø 3-14 mm and 10 mm² re-120 mm² rm.



To short circuit, hold fast action rod at the handle (1), clamp onto conductor (2), and pull downwards until it locks (3). Contact is made by means of spring force.

1.4 Short circuiting device with screw connection rods

Usage in urban networks with neutral conductor at the top and bottom side. For aluminium and copper lines Ø 3-14 mm and 10 mm² re-120 mm² rm.



To short circuit, hold operating rod at the lower side (1), clamp onto conductor (2), and tighten by a clockwise rotating movement.

2. Notes on short circuiting procedure

Usage of devices only under observation of „5 safety rules“, i.e. before short circuiting, the conductor is to be

- de-energised on all poles
- secured against re-energising
- tested for absence of voltage

Insulating parts of short circuiting device offer sufficient protection against residual voltages on de-energised installation parts.

When approaching with contact parts, observe required protection distance between body of operator and switchgear parts with residual voltage.

Always contact first contact part on neutral conductor.Valid safety regulations, especially EN 50110 for operation of electric installations, are to be observed.

Following the most important aspects of these EN-Regulations for urban overhead lines:

- In high voltage installations and certain low voltage installations all parts on which works are planned are to be earthed and short circuited at the working place.

- Earthing and short circuiting devices should be visible from the working place. Otherwise they are to be installed as close as possible towards the working place.

- For work on transformers both primary and secondary side are to be earthed and short circuited, even if the secondary side carries a voltage below 1000 V. This refers analogously to transformers with multiplex windings: all terminations are to be earthed and short circuited.

- In case conductors are to be interrupted or connected during works, and this bears danger caused by potential differences, then appropriate measures are to be taken beforehand at the working place, such as bridging or earthing.

For works on overhead lines up to 1000 V, except overhead lines with protective insulation, all conductors including neutral, connecting wires, and control wires, for instance for street lightning, are to be earthed or at least short circuited in immediate vicinity of the working place.

3. Admissible short-circuit load

Relevant for the short-circuit load of the short circuiting device is the cross section mark on the short circuiting cables.

Each cross section must not be charged higher than listed as follows:

Cross section of short circuiting cable	Highest admissible short-circuit current I_r at a duration of	
	0.5 s	1 s
16 mm²	4500 A	3200 A
25 mm²	7000 A	4900 A
35 mm²	10000 A	6900 A

4. Maintenance

Before each usage the short circuiting device is to be examined for faultless condition (clean contact surfaces free of burnings, smooth running of movable parts, tight bolted and compressed connections, no broken strands in cables).

Short circuiting devices are to be used for one single load with the highest admissible short circuit load as per item 3. After such a load they are to be exchanged against new devices.

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