

SHORT-CIRCUITING (EARTHING) EQUIPMENT VHV 420 kV

for \varnothing conductors 0 - 50 mm

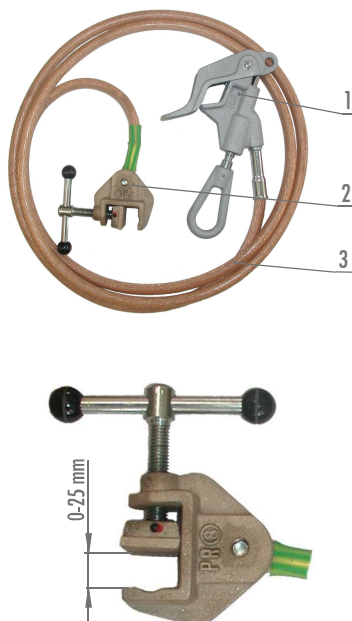
Models

810.420 - 10 (15) H (S)

TYPE 810.420

General Information

The short-circuiting (earthing) equipment is designed for short-circuit making and earthing of the circuit in networks with an earthed node of the nominal voltage of up to 400 kV. The short-circuiting set consists of **one insulating pole**, one supporting pole and three short-circuiting cables ended with conductor and earthing clamps to connect it to the conductor of circular cross section up to 50 mm in diameter. Conductor clamps are connected to universal earthing clamps by Cu cables in transparent isolation. Insulating pole is made of glass-fabric laminate which is suitable for its high electrical and mechanical resistance and stability. Upper part of pole is ended with hook (**model H**) or socket (**model S**) to connect of conductor clamp. Pole consists of three pieces connected by means of connecting element. It fulfills the requirements on the protection equipment for outdoor use. The set is determined for outdoor use under normal climatic conditions. The handle is provided with the protecting ring (hand guard). Short-circuiting set complies with standards ČSN EN 61230 ed.2, IEC 61230, DIN 46235. It is produced in two models for various shorttime withstanding current. It is possible to modify the model at the custom's request.



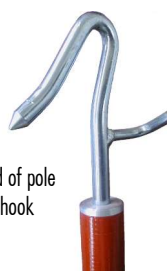
earthing clamp 823.015

connecting element

end of pole
socket



end of pole
hook

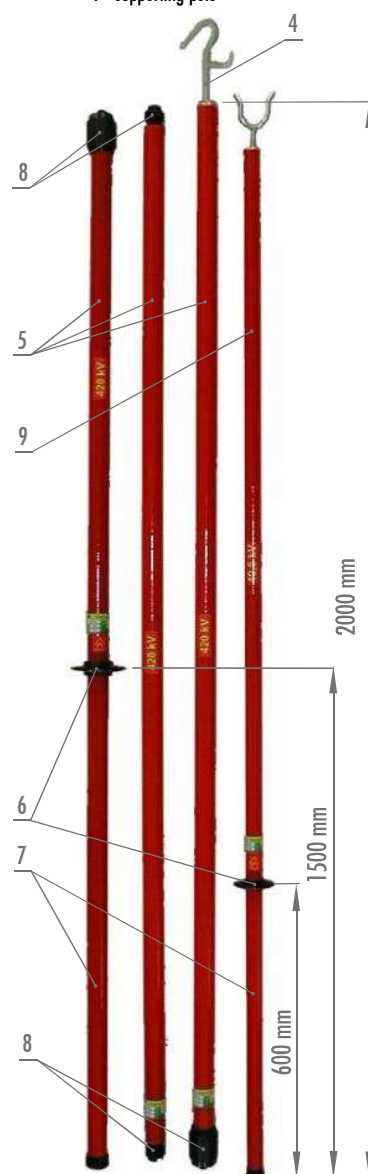


conductor clamp 812.005
for version 810.420 S

conductor clamp 810.020
for version 810.420 H



- 1 - conductor clamp
- 2 - earthing clamp
- 3 - short-circuiting Cu cable
- 4 - hook (version H), socket (version S)
- 5 - insulating pole
- 6 - hand guard
- 7 - handle
- 8 - connecting element
- 9 - supporting pole



Technical Data

Climatic group	normal -25°C to 55°C	Length of supporting pole handle	600 mm
Short-circuited conductor diameter	0 - 50 mm	Supporting pole diameter	39 mm
Rated short-time withstanding current	10 (15) kA/1 s	Pole material	glass-fabric laminate for outdoor use
Length of pole	6000 mm	Cross section of cable	50 (70) mm ²
Length of handle	1500 mm	Length of cable	9000 mm
Pole diameter	47 mm	Tightening of clamps	12 Nm
Length of supporting pole	2000 mm	Weight of equipment	27 (32.5) kg

Example of order: Short-circuiting set 810.420-10 H = set with short-time withstanding current 10 kA/1 s, with hook and clamp 810.020.

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Changes excepted!
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1.0 Directions for use

Before using the set, it is necessary to use a voltage detector to be sure that the traction is without tension.

The short-circuiting equipment is fixed in this way:

- 1) connect all insulating poles by means of connecting element before using, to check of stability of tightening and to perform the visual check of their status
- 2) fix the earthing clamp to the earthing conductor or to the metallic grounded construction
- 3) push this clamp into the socket on the insulating pole to fix the conductor clamp properly (model S) or hang the clamp by the hook (model H)
- 4) rotate the insulating pole (while holding the clamp) until the clamp jaws open according to the diameter of the short-circuited conductor
- 5) put the conductor clamp on the short-circuiting phase conductor of circular cross section
- 6) rotate reverse by the insulating pole to constriction of the clamp
- 7) pull the pole backward from the conductor clamp to release the pole
- 8) fix other two clamps in the same way including the the earthing clamps
- 9) when removing the clamp, proceed reversely

Make sure the clamp is tightened properly. The tightening torque must not exceed 12 Nm.

Warning! The supporting pole shall be used during lifting insulating poles in relation to total weight of the pole, clamp and short-circuiting cable. The upper end of insulating pole shall be supported by supporting pole and the insulating pole is gradually lifted to a vertical position. This handling requires *two persons*.

The short-circuiting set should only be used on electrical facilities with nominal voltage for which it is designed.

The instructions for use should be incorporated into the local operating and safety regulations.

The set may only be used by qualified personnel.

2.0 Instructions for current maintenance

The set must be kept in good technical condition. Make sure that the set is stored in the way to keep it dry and to prevent any mechanical damage. Perform a visual check before each use. At least once a year, it is necessary to perform a thorough check of the whole set, including cleaning and tightening all the connecting points.

For common cleaning of the poles use damp cloth, for more resistance dirt use technical alcohol. Do not use any organic solvents or any substances which may have a decolorizing effect.

!!! The set must be eliminated or proved again its right functionality, when a short-circuiting current has already gone through short-circuiting current !!!

3.0 Testing

The set is type-tested according to valid standards by the authorised laboratory. Each set is separately tested piece by piece before expedition and labeled too. The label includes the test date (quarter/year) and the number of the authorised laboratory.

4.0 Packing

The cables with clamps are supplied in a water-resistant carry bag. The insulating poles are wrapped in a transparent plastic foil. There is enclosed the function description and the directions for use, the Certificate about quality and completeness of product and product test.

5.0 Guarantee

The guarantee period is 24 months long and starts on the day the product is delivered to the customer. It applies to any defects probably caused by the manufacture. The guarantee does not cover any defects resulting from improper use, unprofessional handling, or unsuitable storing.