



TECHNICAL SPECIFICATION

NCEM C62-040

October 2023

Pothead

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1 Application field

This section applies to the pothead boxes to be purchased by CEM for installation in the 230/400 V low voltage network.

2 Rated values

- Rated voltage: 1 kV
- Rated current: 250 A
- Number of phases (incoming and outgoing): 3

3 Location

The potheads, when they exist, shall be installed in an appropriate and easily accessible location, to be fixed by CEM, inside or outside the buildings.

If the building is located in a low-lying flooding area (as defined by MSAR Government), the installation height of the pothead should meet the requirements defined in Annex 12 of NCEM C14-100.

Among the situations in which there is no justification to install a pothead are the following:

- a) Buildings which are supplied directly from a transformer substation or distribution switchboard;
- b) Single-family housing.

Potheads may not be installed in places where there is a risk of fire or explosion.

The potheads when mounted on combustible materials, such as wood, shall be separated from them by a fire resistant base.

Figure 1 illustrates the typical electrical layout connections in the pothead.

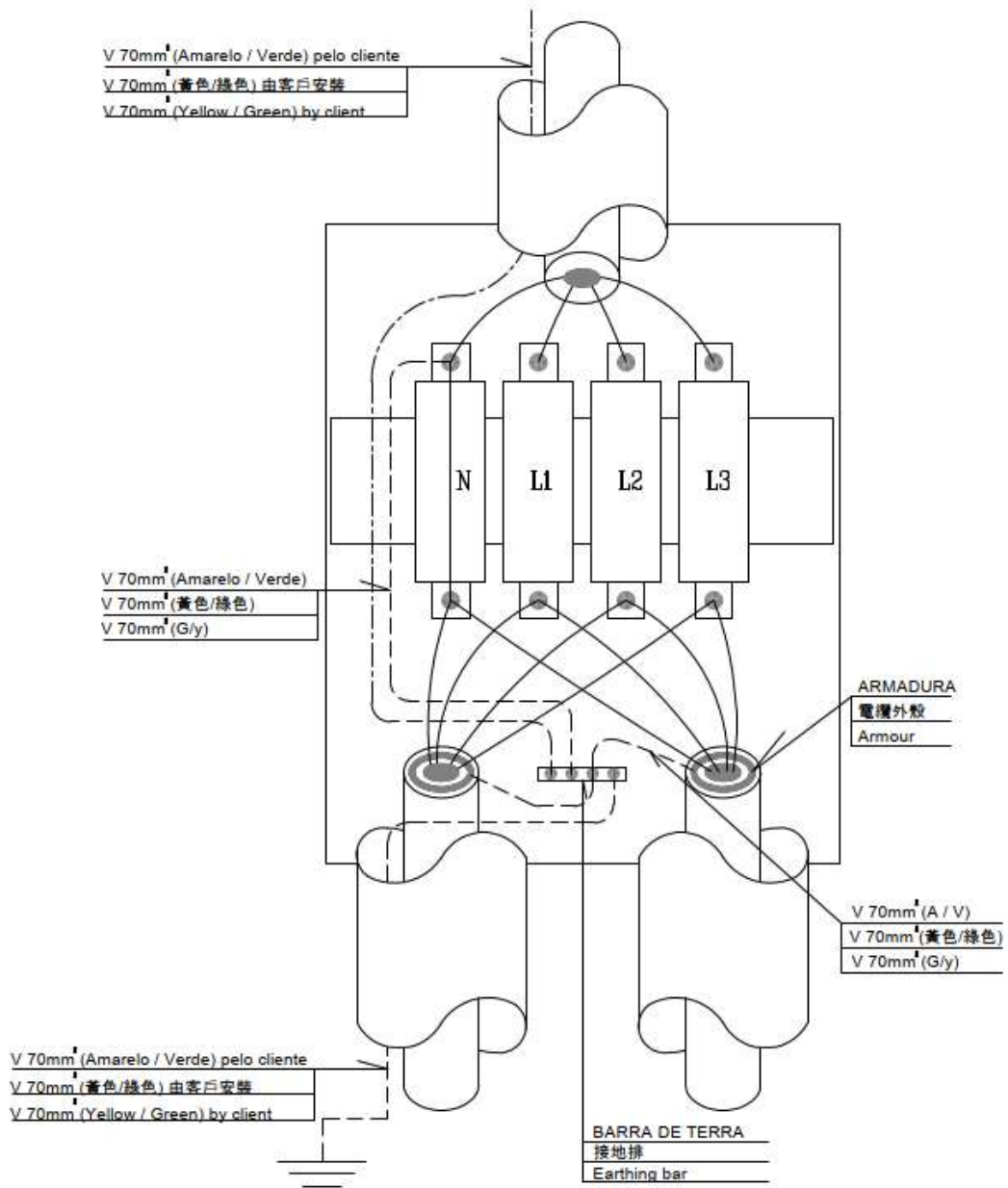


Figure 1 – Typical electrical layout connections in the pothead

4 Constructive characteristics

4.1 Generalities

The potheads allow two incoming conduits of the distribution network and one outgoing. They also allow the installation of the overcurrent protection and the electrode connector (see attached figure).

4.2 Description

- Materials

The potheads are made of polyester reinforced with fiberglass and are self-extinguishing and resistant to chemical agents, corrosion and ultraviolet rays.

- Interior accessibility

Potheads are equipped with a cover and a locking device, according to the attached figure.

- Degree of protection

For outdoor mounting, the potheads should have a degree of protection not less than IP43 and IK07 as defined in IEC 60529 and IEC 62262 respectively.

- Ventilation

Potheads allow the ventilation by natural convection without prejudice of the degree of protection.

- Incoming conduits and outgoing conduit

Potheads are provided for two incoming conduits and one outgoing conduit. The incoming and outgoing will be on opposite horizontal faces.

4.3 Electrical equipment

- Connectors

The connectors for copper conductors should be tinned copper.

The connectors for aluminum conductors shall be of tinned aluminum or of an alloy that does not give rise to the appearance of electrolytic corrosion phenomena in the contact between metals. In these connectors, the entire contact zone should be covered with a neutral grease of drop point higher than 105 °C.

The aluminum-copper transition connectors shall be of the bimetallic or alloy type which does not give rise to electrolytic corrosion phenomena in the contact between metals. In these connectors the contact zone should also be covered with neutral grease of drop point higher than 105 °C.

The connectors shall be sufficiently robust not to deform as to the tightening or loosening of the conductors and shall be of adequate size to the nominal sections of the conductors to be used.

The connectors should be located so that the placement of the conductors and their tightening are easy.

The neutral connectors should be located to the left of the fuse of the collective line or entrance-service line to which they correspond.

The earth (ground) connector should be located below the neutral connectors and be electrically connected to the electrode of the pothead.

- Fuses

The cut-off device to be installed shall consist of single pole bases and fuses size 1 (IEC 60269-2), of high breaking capacity and with nominal intensity adequate to the protection of the outgoing conduits.

If, after the fuses have been inserted, the distance between active parts with different polarity is less than 30 mm, a fixed insulating separator with suitable dimensions should be used in such a way as to avoid possible contact between these parts.

These separators should be extended in order to separate the fuse connectors from each other.

- Protection conductors

The main protective conductor and outgoing protective conductors should be placed inside the pothead so that they will not be in contact with the live parts even if the conductors are separated or detached from the connectors.

4.4 Marking

Inside the enclosures of the potheads, the neutral connector shall be identified by the symbol N and the protection earth (ground) connector shall be identified by the symbol $\frac{\perp}{-}$. These markings should not be placed on the bolts, nuts, washers or other removable parts.

The markings should be made in an indelible, unambiguous and easily readable form.

The pothead box must be provided with the following label: "ACCESS TO PH CANNOT BE BLOCKED".

