



GENERAL INFORMATION

Temporary Grounding Equipment

General

The grounding devices must have a sufficient rating in order to, withstand the short circuit current and low resistance to limit the voltage where, the workers could be exposed. The portable grounding devices are there to protect you from:

- Induced voltage from adjacent lines,
- Fault-current provides from adjacent lines,
- Lightning strikes anywhere on the circuit,
- Switching error,
- Accident-initiated contact with adjacent lines.

Portable grounding device assembly

A grounding portable assembly device consists of:

- Grounding cable,
- Compression grounding ferrules,
- Shrink tubing,
- Grounding clamps,
- Conversion terminals, in some applications,
- Terminal blocks, in some applications.

The grounding clamp is generally connected to:

- Ground point:
 - Ground grid,
 - Ball stud,
 - Cluster bar
 - Ground rod.
- Phase point:
 - Main Conductor (Line),
 - Ball stud,
 - Cluster bar,
 - Pothead connector,
 - Grounding-clamp support stud.



VERY IMPORTANT:

Vital recommendation :

Always use a temporary grounding device, that shall be able to withstand all stresses from fault currents, for which they are designed without causing electrical, mechanical, chemical or thermal danger to the workers.

Selecting ground clamps and cable :

In order for your portable grounding device serves your particular needs, PTS ELECTRIQUE LTÉE offers you the option to assemble the devices according to your specifications, or choose from our huge selection of devices already assembled.

Among the options and criteria to consider :

Clamp :

- The size of the opening that will accept the line conductor. Some clamp designs, serve a wide range of conductor size and even tubular bus bars.
- Published ratings, must withstand maximum-potential system, fault-current magnitude throughout the duration.

Cable :

- The size of cable used, must also withstand maximum-potential system fault-current magnitude and throughout the duration.

Application :

- Whether the device will be used on overhead lines, transmission towers, tubular bus bar or underground distribution, your application will determine the type of clamps and size of cable.



TIPS ON HOW TO ORDER

Knowing the short-circuit current value, ordering a grounding device is done in 5 easy steps throughout the ordering sheet. As the selection comes along, the product number will be created.

1st and 2nd STEP: Selection of clamps

A grounding device has 2 ends. One is PHASE side (P) and the other is EARTH side (T). The first one attaches to a conductor, bus bar or stirrup, the second one usually attaches to ground mat, ground rod etc.

We offer 9 types of clamps and their technical sheets, can be viewed further in this document under « technical information ».

In the case of clamp type #2, you have the option to fix a ball stud on either side of the clamp. In order to select the right side, the clamp's jaw has to be facing you. If you want a ball stud on the left, a « G » will follow the clamp type number. If it's on the right, a « D » will follow and if both sides are requested, then « GD » will follow.

If for some reason you already have your own clamps that you would like to use, PTS Electric Ltee can assemble a grounding device without clamps. The product number will start with either « MF » for threaded lugs or « ML » for plain lugs. Your clamp terminal will determine what kind of lug you'll be needed.

PTS Electric Ltee offers a wide variety of clamps but in the instance where a special clamp would be needed, we can order clamps to your specification. In this particular situation, the grounding device number will start with « E » and the clamp description and/or clamp number will be detailed in the « Note » box.

Let's say that after going through the different types of clamps, your selection is Type #2 with ball stud on left for Phase side and clamp type 8 for earth side.

Then the product number would start with:

P2G-T8-...



3rd and 4th STEP: Selection of cable size

By knowing the short-circuit current value, we can select the right cable size. People tend to order a size too big to make the device more versatile in a wide variety of applications but the reality is, it will cost more and the device itself, will be heavier to handle

If the value given to us indicates that the short-circuit current will be no higher than 27kA, the right cable for your application would be 2/0.

To ease the selection process in step 4, we choose Chance type cable with yellow jacket. We found that this cable is very durable and flexible down to -28°C). When selecting the cable size, automatically the letter « Y » for Yellow will follow.

The same product number will follow with:

P2G-T8-2/0Y...

5TH STEP: Cable length

Cable length is given in foot.

To follow our example, if the length required is 10 feet;

Then our product number will end with:

P2G-T8-2/0Y10

When using a terminal block « T », the number prior is the length for each PHASE cable and the number following it, is the length for EARTH cable. If we have 6 feet each PHASE cable and 10 feet for EARTH cable;

Then our product number would end with:

P2G-T8-2/0Y6T10