

# Resistors

Stationary

## Neutral Grounding

### Applications

Energy

Industry

Short circuits between phase and ground can result in irreversible damage to networks and equipments; it is therefore of the utmost importance to be able to control and reduce their effects: Grounding Resistors limit the fault current that arises due to phase-neutral short circuits. Grounding through resistor offers several advantages with respect to alternative methods (such as insulated grounding, direct grounding or grounding through a reactance). The main advantages are: easier detection of fault location, limitation of fault current, no transient over voltages.

Relevant parameters in the design of a Neutral Grounding Resistors may vary greatly: Microelettrica has developed a line of standard products (for the most common requirements) along with tailored projects, each developed and customised according to the required characteristics. Our products range from Low Voltage systems (<1kV) to High Voltage (132kV insulation class), as well as from very low fault current values (tens of Amps) to very high (>10kA).

The essential pieces of information needed to design a Grounding Resistors are:

- Nominal Voltage
- Fault Current
- Fault Duration (10s is customary)



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## Stationary: Neutral Grounding

Other relevant parameters are:

- Protection degree of enclosure; from IP00 - i.e. no enclosure - to IP55, standard solution IP23
- Enclosure finish; our standard is mild galvanised, but different stainless steel (such as AISI304 or AISI316) are also available. Painting in the desired RAL colour is also an option
- Continuous current rating; it may affect significantly the performance of the resistor, especially when high IP degrees are required
- Environment and Elevation; we design resistors for the harshest industrial or natural settings
- Auxiliary components; during our many years of operation we have selected a number of trusted suppliers for a wide choice of ancillary components, such as Current Transformers, Switches, Disconnectors, etc.



**KNORR-BREMSE**



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