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## **Topic: Low voltage clearance**

### **Standard**

For low voltage connections (< 1100 V), the standardized distances between phases are defined by standards IEC 1439 and IEC 60664-1.

Thus, for a nominal voltage of 1000 V, with an overvoltage category III (impulse voltage of 8000 V) and a pollution degree 3 (industrial environment), the minimum air gap between two conductors is 8 mm.

### **Internal manufacturing rules**

The France Transfo subsidiary of Schneider Electric applies the following rules for the manufacture of its entire range of transformers for voltages < 1.1 kV:

- Distance between phases:
  - o Mini 8 mm
- Distance between phase and ground:
  - o Mini 10 mm with an insulating screen
  - o Mini 21 mm in air

### **Installation**

The use and installation of insulation by the installer must meet mechanical, thermal, and positioning requirements.

This requires ensuring that the dielectric is properly maintained over time; its installation must not allow dust to accumulate; and the distances between phases or between phase and ground must not be reduced by creating a path.

Only materials and their installation in accordance with Schneider Electric's design rules guarantee the transformer's warranty.

Therefore, any additional insulation should be avoided if the air distances are sufficient.