

Combinova Power Line Reference Impedance Network

The Combinova Power Line Reference Impedance Network creates the power environment as required to make measurements to the revised flicker standard. The impedance network is in accordance with IEC 61000-3-11, Figure 1.

Specifications:

- **Power Handling Capability:** up to 75 Amperes per phase.
- **Peak Currents:** 250 Amperes for no more than ½ cycle.
- **Voltage:** 230 volts phase to neutral, 398 phase-to-phase.
- **Impedance Requirements:**
- **Tolerance:** IEC 61000-3-11 requires a tolerance +/- 8%. This includes the AC source. Components are accurate enough so the overall impedance tolerance falls within the +/- 8%, when used with Combinova and several other AC sources.
- **Total Phase Impedances:** 0.80 X j0.050 Ohms at 50 Hz including the AC source. Inductance: L=0.159mH. Other impedances available.
- **Neutral Impedance:** 0.053 X j0.033 Ohms at 50 Hz. Inductance: L=0.106mH.
- **Physical Description:** The impedance box is built into a 19" rack on wheels. The overall dimensions of the impedance box is 860 mm x 553 mm x 500 mm. (height x width x depth) 33.8 x 21.8 x 19.7 inches. All impedances have a continuous load capacity of 75 A/phase.
- **Cooling:** Each phase impedance is mounted on a separate cooling profile to assure proper cooling. To make sure that each phase impedance is properly cooled, each has a separate air duct and separate temperature controlled cooling fan to assure the temperature remains no more than 25-30 degrees centigrade above room temperature, even at full load. This assures the temperature coefficient of the impedance components will not affect the accuracy of the measurement. For each phase there is an over-temperature alarm indicator on the front panel to give an alarm well before any damaging temperatures are reached. (This is an added safety feature in the event of a fan malfunction or actual overload.)
- **Input and Output Terminals:** The power connections are in the form of terminal blocks for ring terminals with a specified continuous current capacity of 108 Amperes. The terminals are arranged so the three-phase unit can be used for a single-phase measurement.