Partial Discharge Filter 3F2200-050.230TE

Technical Data

Rated Voltage	1200 V_{rms} / 2200 V_{rms}
Rated Current	50 A_{rms} [1)]
Rated Frequency	0 .. 200 Hz
Ambient Temperature	max. + 40°C
Partial Discharge Level	≤ 10 pC [2)]
Protection Class	IP00
Terminals	Input: Shielded Cable 1.8/3 kV 1x 35mm²
	Output: Unshielded Line 35 mm², Clamps
Weight	400 kg

Partial discharges occur in media with inhomogeneous field profiles by electron emission of free charge carriers, caused by external influences. A distinction is made in the following appearances of partial discharges:

- Outer partial discharges (corona)
- Internal partial discharges
- surface discharge

The measurement of the partial discharges is carried out with typical measurement receivers in the range of about 100kHz to several MHz. The lower measurement threshold is due to disturbances in shielded measuring stations rarely below 50 pC (pico coulombs).

With the help of the TE filter and a proper test facility design a partial discharge level lower 10pC can be reached. This is for example required, to run a test facility for transformers. The acceptable partial discharge level depends on the power class of the transformer.

1) other nominal currents on request

2) Guaranteed partial discharge level, subject to compliance with the conditions necessary:

I. grounding impedance < 0.4Ω, < 1µH
   - A: resistance measured between PE in cabinet and ground rod < 0.4Ω
   - B: inductance measured between PE in cabinet and ground rod < 1µH
   - C: the grounding has to be realized by using a flat, braided copper wire ground strap
   - D: copper square of the used ground strap must be 50mm^2 at minimum
   - E: more than 6m distance between PE connection of the cabinet and ground rod is not accepted

II. ambient noise < 4pC in zero measurement
   - A: all sub distributions necessary to run the test field has to be active
   - B: the test field has to be ready to operate
   - C: the partial discharge filter and the device under test has to be connected
   - D: Under the conditions declared in A, B and C – system is ready but no test voltage applied – the partial discharge measurement must show < 4pC (ambient noise / zero measurement)

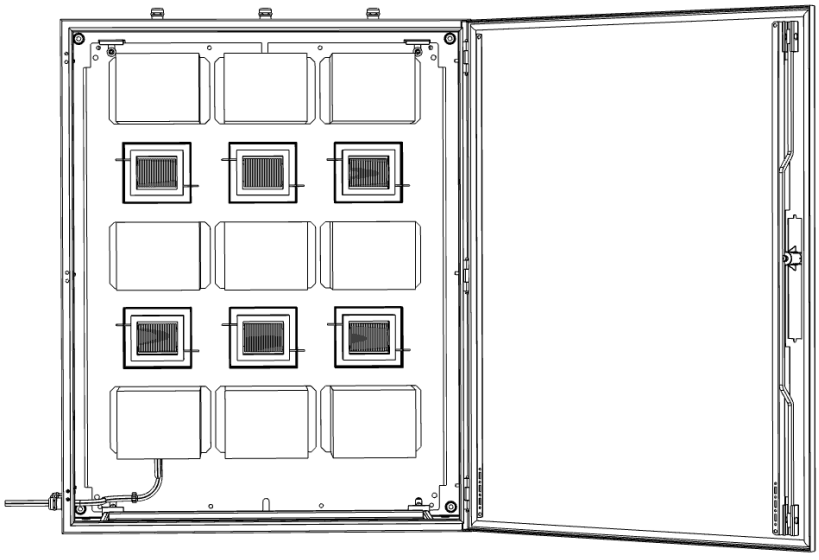
See also mounting instructions

Updated: 07.07.2014	Technical changes and product improvements reserved.

Dimensions in mm		
Height	Width	Depth
1200	800	400

Views

Load Clamps



Source connection,
5m shielded cables

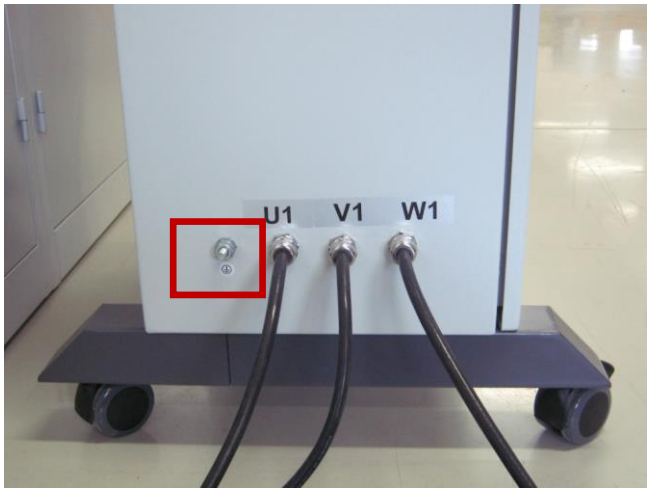
View of Mounting Plate

Updated: 07.07.2014	Technical changes and product improvements reserved.

Prokorment Waterloop 3 NL-2614 XC Delft
+31 (0)15 2121310 info@prokorment.nl www.prokorment.nl

Mounting Instructions

1. PE connection points are provided on input and output side. Please connect the protective earth on both sides, first, with flat braided copper to earth potential in the test cabin.



2. The PD-filter should be connected using the provided shielded cables. Only if the cable screen is properly earthed at the voltage source respectively at the step-up transformer with a “flat connection” and the filter cabinet is earthed at its PE-connection points as well with flat copper, the full filter damping can be guaranteed.

3. When the DUT is connected, the output-wires shall not touch each other, shall not lie on the floor and shall not be winded.

4. The filter’s capacitors don’t discharge. Thus all phases of the filter shall be grounded after every operation before handling the output clamps.

5. Grounding of PE connections: copper square of ground strap $\geq 50mm^2$, length of ground strap < 6m. The following diagram illustrates the grounding: