Megger

GIS*monitor*

On-line partial discharge monitoring for GIS systems

Cabinet assembly and installation instructions

ENGLISH

Power Diagnostix

This manual supersedes all previous issues of this manual. Ensure that you are using the most recent issue of this document.

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On-line partial discharge monitoring for GIS systems

LANGUAGE | EN

CABINET ASSEMBLY AND INSTALLATION INSTRUCTIONS

Contents

1 General

Installation of all cables from sensors to cabinets shall be done according to the cable list provided by Power Diagnostix. All cables shall be clearly marked with the sensor name and mounted according to the applicable standards.

For indoor use the black coaxial cable RG58 is used, for outdoor use RG142 double screened coaxial cables are provided.

2 Installation of IPU and FCU units

The black IPU/FCU unit with Ingress Protections Class IP52 is used indoor, whereas the grey units with Ingress Protections Class IP65 are for outdoor use. If an IPU unit is necessary, the IPU and FCU units are delivered in a connected state. Depending on the sensor position, they are connected via T-junction, N-N adapter, or with help of an N-N adapter and a 90° connector to the sensor.

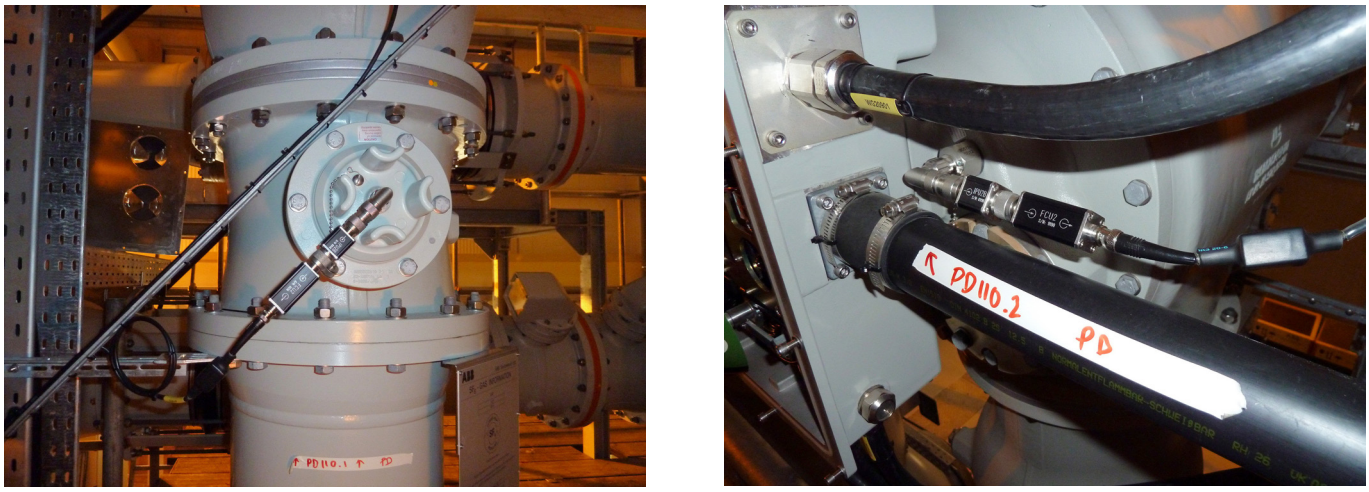


Figure 1: Horizontal sensor connection with use of N-N-Adapter and 90° angle connection at an ABB indoor GIS

Figure 2: Vertical sensor, mounted with only an N-N adapter at an ABB outdoor GIS

Figure 3: Sensor mounted with T-junction and short circuit adapter at a Siemens indoor GIS

Attention: All screw connections should be fixed hand tight. Do not use any tools!

Crimping of all cables on the sensor side shall be done according to the cable assembly instructions. TNC is used for FCU2/IP65, BNC for FCU2/IP52.

3 Installation of PDMAR indoor cabinets

1. Depending on the site specific conditions, it may be appropriate to fix the monitoring cabinets on the floor.

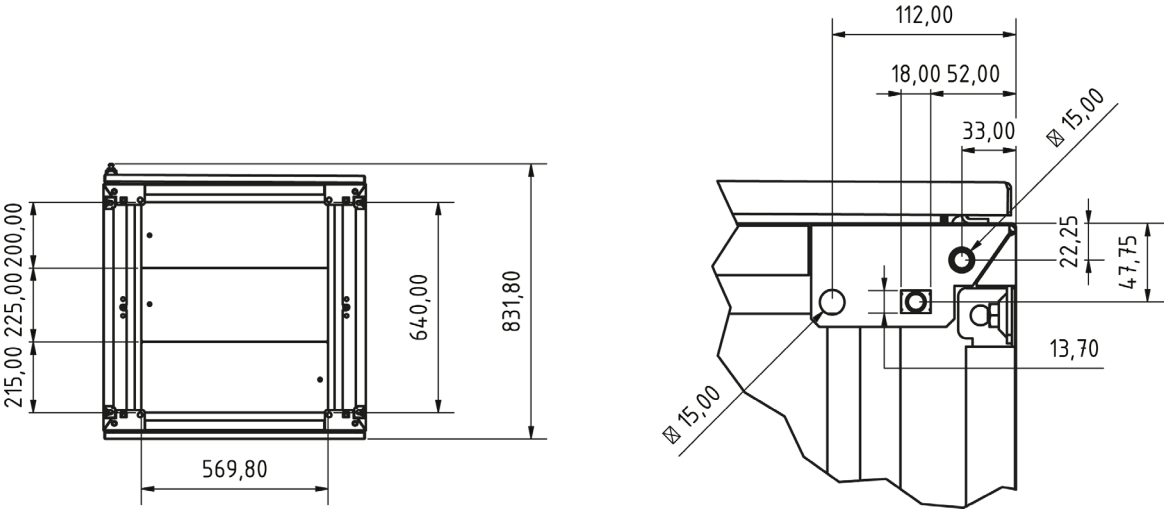


Figure 4: Base plate and fixing holes of the monitoring cabinet

2. Open the two locks at the top and bottom of the frame and swing the frame to the side.

Figure 5: Lock at the top of the frame

3. Mounting of ferrite cores in the socket area

Figure 6: Socket area

4. Cable feed-in under the cabinet. For moving the cabinet's ground plate, please loose the two fixing screws at both sides of the plate.

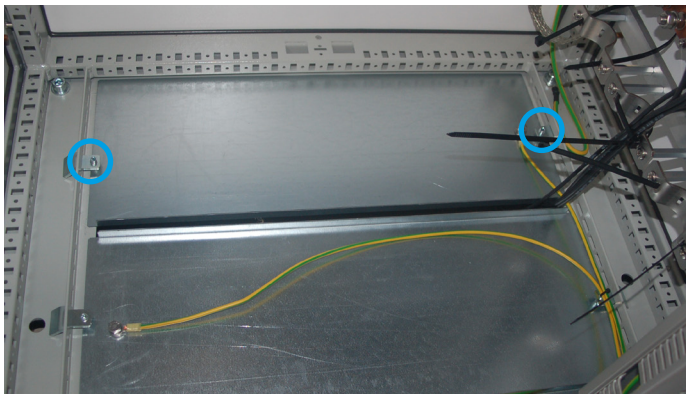


Figure 7: Base plate with fixing screws

5. Crimping BNC connector (on RG58 or RG142, depending on sensor type) according to cable assembly instructions and connecting them to the patch board according to the cable list.
6. Fixing of cables with cable ties.

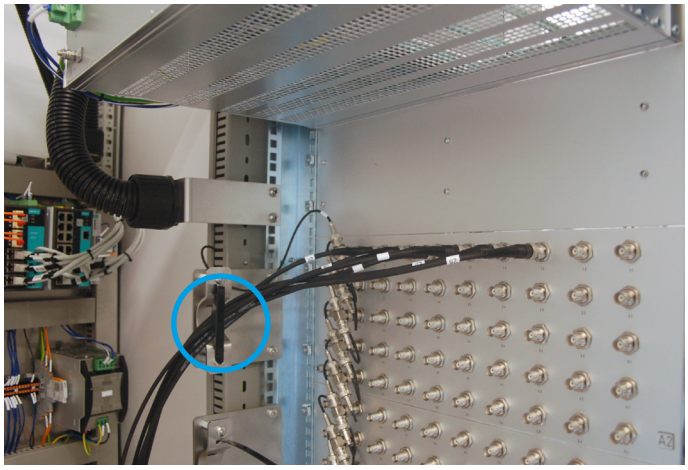


Figure 8: Connecting cables to patch board an fixing them with pre-installed cable ties

7. Installation of fibre optic (FO) cable according to the provided cable list. The length of the FO cable in each cabinet should be at least three meters to allow the splicing of within the cabinet.
8. Installation of all disturbance antennas (DA2) can be done during commissioning by Power Diagnostix.
9. Connect cables for voltage transformer (VT) sync signals according to system overview and schematic drawings that can be found in the cabinet.
10. Power supply is connected according to schematic drawings that can be found in the cabinet. (220–240 V AC, 50/60 Hz; 110–220 V DC – please refer to the order information)

11. Provide proper earthing to each cabinet, at least 10 mm^2 or as per specific site requirements, and connect it to the equipotential bus bar (M10 screw). IV Installation of PDMAR Outdoor Cabinets

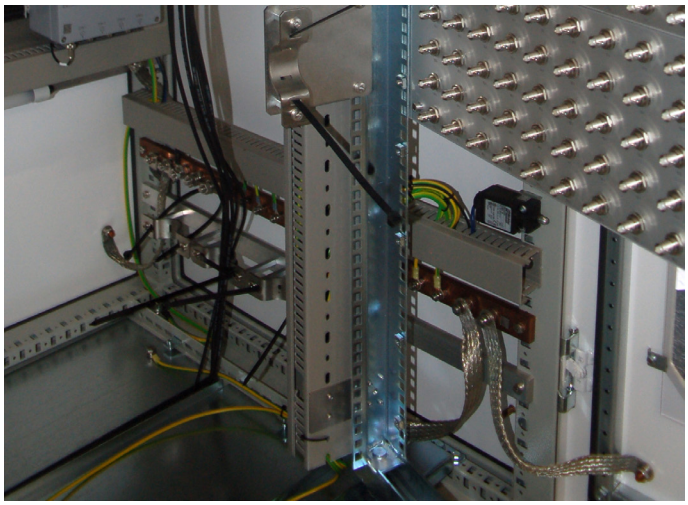


Figure 9: Equipotential bus bar

4 Installation of PDMAR outdoor cabinets

1. Mount cabinet and sun protection (if ordered) to desired location. The fastening set is included with the delivery-

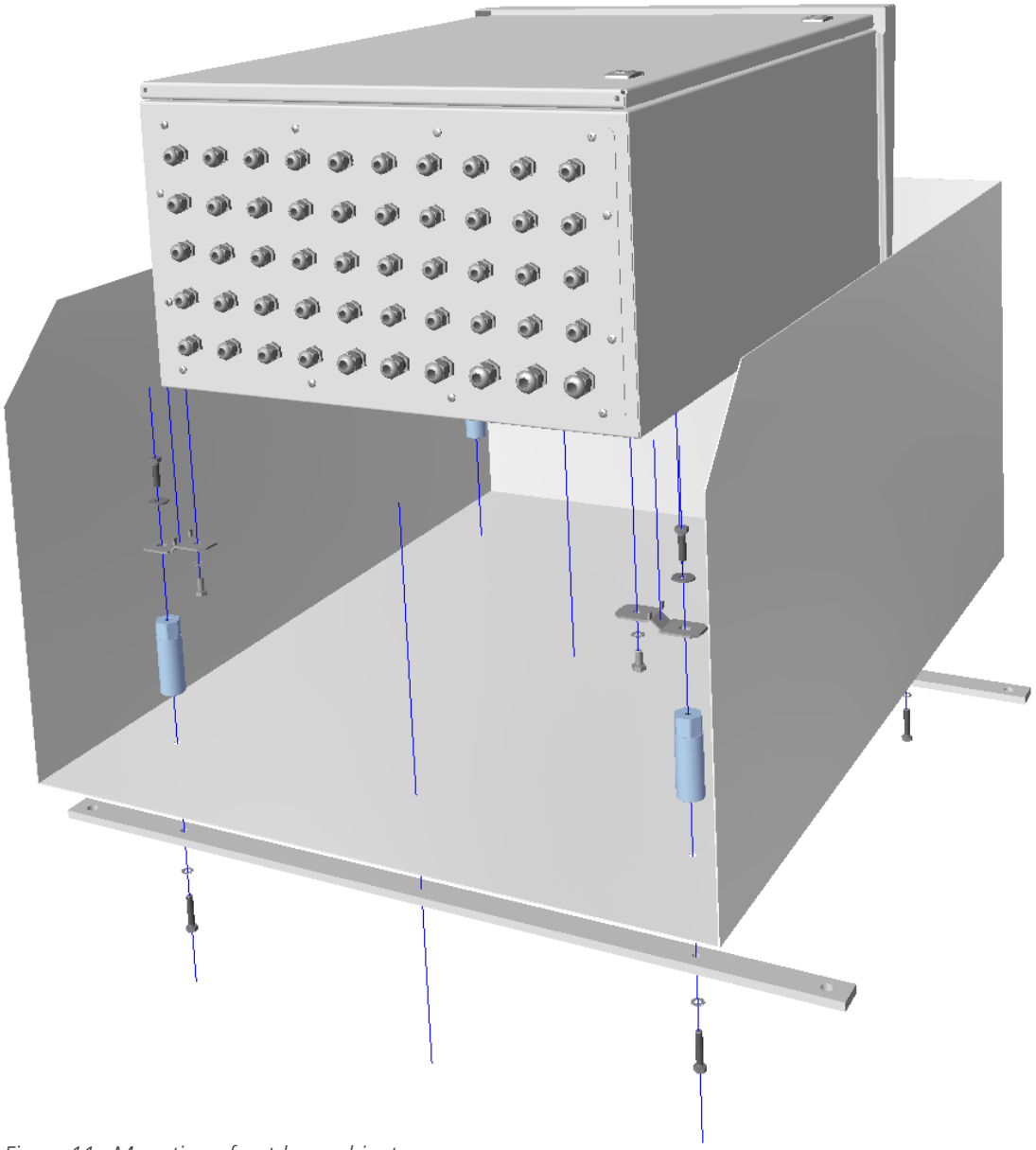
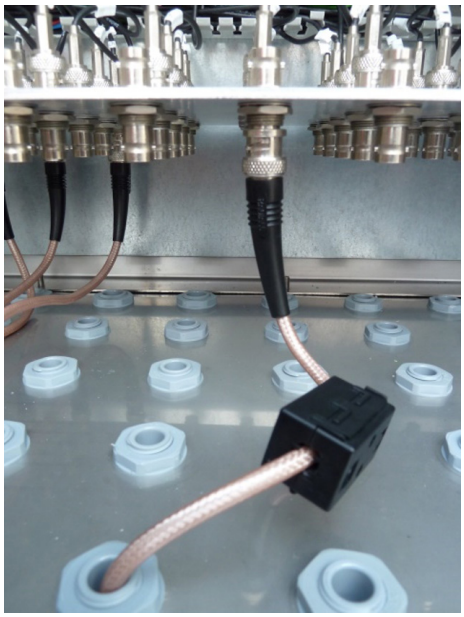


Figure 11: Mounting of outdoor cabinet

2. Cables are fed into the cabinet through bulkhead cable glands at the bottom. Please arrange the cables according to their position on the patch panel.
3. Crimp cables according to cable assembly instructions and clamp a ferrite core on the cable.
4. Close the screw cable feed-through as tight as possible.
5. Connect all cables according to the cable list to the patch panel.



6. Provide proper earthing and connect it to earthing screw (M8) at the bottom left on the outside of the cabinet.

Figure 10: Earthing screw

7. Installation of fibre optic (FO) cable according to provided cable list. The length of the FO cable in each cabinet should be at least three meters to allow the splicing of within the cabinet.
8. Power supply is connected according to schematic drawings that can be found in the cabinet. (220–240 V AC, 50/60 Hz; 110–220 V DC – please refer to the order information)

5 Installation of the PDMCR cabinet

1. Power supply is connected according to schematic drawings that can be found in the cabinet. (220–240 V AC, 50/60 Hz; 110–220 V DC – please refer to order information)
2. Potential free relay contacts are connected according to schematics found in the cabinet.
3. EC 61850 and LAN are connected according to schematics found in the cabinet. Please note that the IEC61850 interface is an optional interface that might not be part of this system design.
4. Installation of fibre optic (FO) cable according to provided cable list. The length of the FO cable in each cabinet should be at least three meters to allow the splicing of within the cabinet.

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