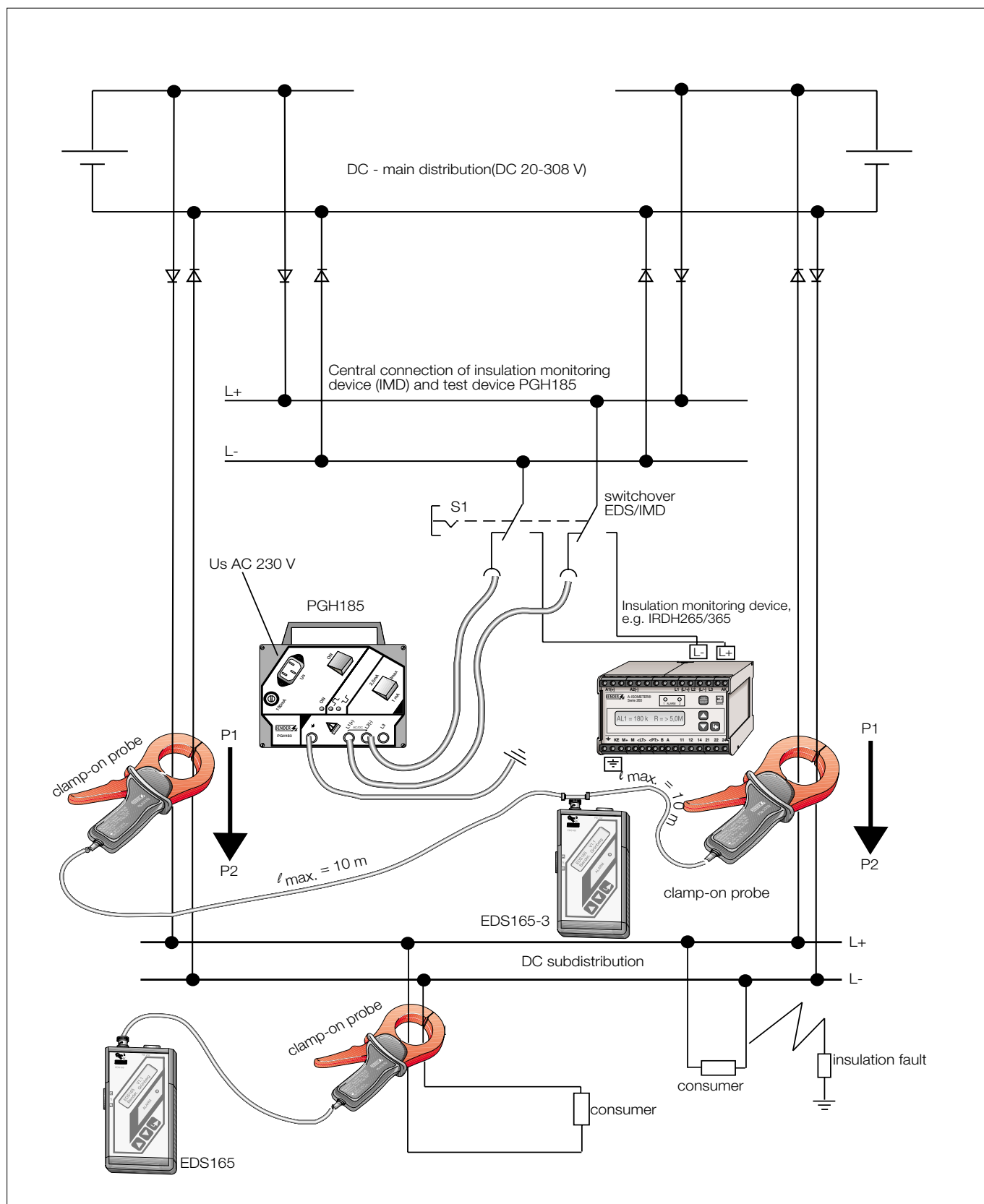


## EDS3065 in diode-decoupled systems



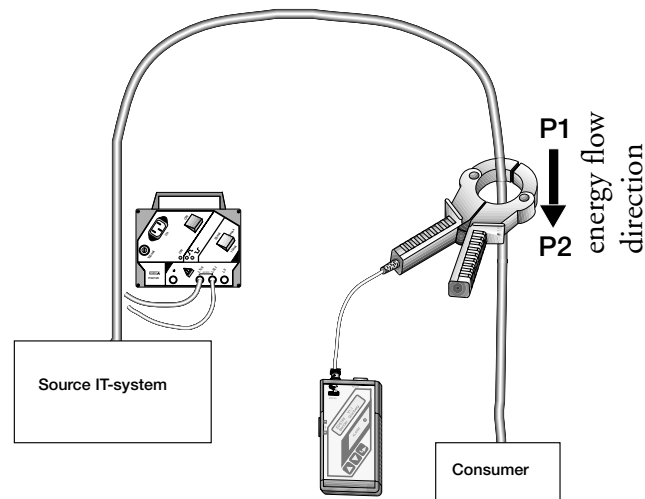
## EDS3065 in diode-decoupled systems

In some applications DC systems are diode decoupled. Between these decoupled circuits compensating currents may occur. The quantity of the currents and its direction depend on the system voltage, the characteristics of the diodes and the kind of consumers installed in the system.

When the portable insulation fault location device EDS3065 is used in diode-decoupled systems, the aforementioned compensating (or circulating) currents will disturb the EDS3065 and will cause measuring faults. Therefore BENDER recommends the use of the EDS3065 in diode-decoupled system only according to the drawing on the previous page.

Additionally please consider the following:

- Always use two identical clamp-on probes. **Caution:** Do not forget to set the correct clamp-on probe in the corresponding menu of the EDS165.
- Use only 50Ω coaxial cable and a T-adaptor to connect both of the clamp-on probes to the evaluating device EDS165.
- Do not exceed the max. length of the coaxial cable of 10 m per clamp-on probe.
- Using two clamp-on probes according the BENDER drawing will reduce the sensitivity of the EDS3065 by about 10 %.
- Always use the clamp-on probe in a way, that the energy flow direction corresponds to the marking on the clamp-on probes (P1 => P2).



## **EDS3065** **in diode-decoupled systems**

### **How to find insulation faults:**

- The central insulation monitoring device (IMD) has indicated an insulation fault which is detectable by the EDS3065. Please refer to chapter „Points to be considered before use“ in the EDS3065 manual TGH1266E.
- Read the current insulation resistance from the insulation monitors indication, e.g. the LC display when the IRDH265/365 is used. If the indicated value of the insulation resistance is lower than the max. detectable insulation fault of the EDS3065, then switch with S1 from the insulation monitor to the EDS 3065.
- Connect the test device PGH185 according to the drawing on page 1 to the electrical system. It is important to use the recommended connecting points for the EDS185.
- Now prepare the evaluating device EDS165:
  - connect the two identical clamp-on probes (PSA3054 or PSA3012) with the coaxial cables and the T-adaptor.
  - set the operating mode selector switch to position IΔn
  - set following parameters:
    - menu 2: memory off
    - menu 3: buzzer on
    - menu 4: set sensor to the used clamp-on probe
    - menu 5: frequency 50 Hz
- Start of the EDS3065:

embrace the PE conductor of the PGH185 with one of the connected clamp-on probes. If the test current IΔn indicated on the LC display of the EDS165 is higher than 10 mA, a successful insulation fault location is possible. Remove the clamp-on probe from the PE conductor.

Now embrace the L+ and L- conductors with the clamp-on probe but not the PE conductor.
- Fault location in the system:

Embrace the conductors (not the PE) of the redundant lines to the consumers with a clamp-on probe each. Consider to embrace the correct corresponding redundant lines. Consider the energy flow direction (P1 => P2) of the clamp-on probes.

Embrace systematically and one after the other all parallel lines to the consumers with the clamp-on probes. Insulation faults behind a clamp-on probe will be indicated on the EDS165 display.

**Caution:** an alarm will be indicated about 30 seconds after embracing the conductors with the clamp-on probe.

During insulation fault location please refer to the safety instructions and operating instructions in the owners manual TGH1266E.

## **EDS3065** **in diode-decoupled systems**

### **Ordering details**

Type	Description	Ref. No.
EDS3065	Case with PGH185, EDS165, PSA3012, PSA3054, measuring accessories and battery charger	91 082 004
EDS3065-13	Case with PGH185, EDS165, PSA3012, PSA3054, measuring accessories and battery charger	91 082 005
EDS165 accessory	EDS165 accessory for diode-decoupled DC systems. Contains 2 x 8 m BNC cable, 1 BNC T-adaptor and 2 BNC/BNC adaptors	91 082 007
PSA3012	clamp-on probe	980 748
PSA3054	clamp-on probe	980 698