

Electrical safety for mobile power supply units

using "Protective separation with insulation
monitoring and switch-off" as protective arrangement

- **Improved protection for people and equipment**

when electrical equipment is supplied from mobile power generators

- **No limit to the cable length or number of consumers**

- **No earth rod**

is required. There is no longer any need to drive rods into hard surfaces such as rock or concrete

- **No specialist electricians**

as required to calibrate the protective arrangement - you save time and staff costs !

- **Ready for immediate use**

examples include rescue operations such as fire brigade and ambulance, on building sites, in pipe construction and many other applications.

- **Prompt switch-off when a hazard occurs**

because insulation faults are already detected in the development phase.

- **Simple functional test**

when starting up, by pressing the test button.

- **Recommended by DVGW e.V.**

in Note GW308

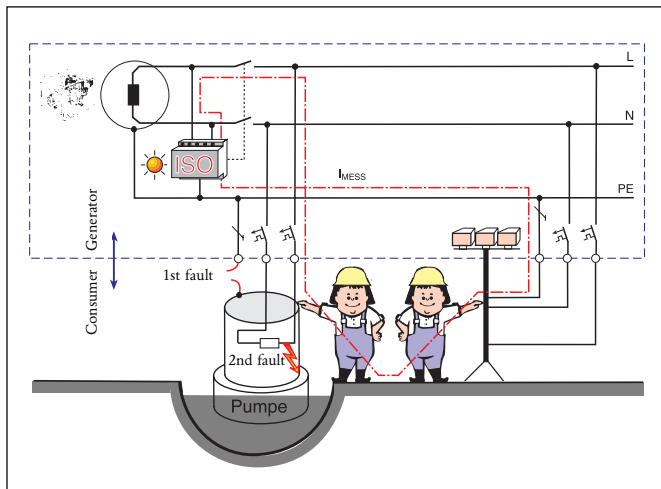


Electrical hazards involved with the operation of mobile power supply units

Mobile power supply units are taken for granted as an auxiliary resource for the equipment when work is carried out at different locations. They are used to supply electrical equipment for rescue and emergency assistance work, in the service applications, in agriculture and forestry, in the private applications, and in many other cases as well.

In every application, and no matter how much haste is called for, it is essential to ensure that people are protected against hazards from electrical current.

For this reason, many mobile power supply units are equipped with "Protective Separation" as a protective arrangement before they ever leave base. This arrangement is effective provided that only one consumer is connected. But as soon as a second consumer is connected, there is already an increased hazard if insulation faults are not detected in good time (they may be caused, for example, by moisture or dirt).



The circuit breakers which are used in practice may well protect the equipment, but not the people - because the triggering current is beyond the level required for effective personal protection. RCDs are also ruled out at this point, since an earthing system has to be installed and calibrated all over again in order for them to function.

Recommended by experts

The protective measure "Protective separation with insulation monitoring" complies with DIN VDE 0100-551:1997-08 Chapter ZB (IEC364-5-551), DIN VDE 0100-410:1997-01 (IEC364-4-41) and is furthermore recommended by the German Association of the Gas and Water Industry in its Note WG308.

The protective arrangement which meets the practical requirements

The solution is provided by the practical protective arrangement known as "Protective separation with insulation monitoring and switch-off". When this arrangement is designed and implemented using BENDER safety distributors, several important advantages are obtained:

- As soon as the insulation resistance falls below $100\Omega/V$, switch-off is effected within $< 1s$. This ensures effective protection of people even when low fault currents occur.
- Immediate readiness for use is guaranteed, because there are no time-consuming tasks such as driving in an earth rod or calibrating the protective arrangement.
- With this protective arrangement, the cable lengths and number of consumers are unlimited.

Safety distributors Series VG 10

All the components are integrated in a robust enclosure. The connection is made via a shock-proof-plug: suitable for generators with a nominal output current up to 16A.



Safety distributors Series VG20

All the components are integrated in a robust enclosure. Connection is made by direct mounting on the generator. Suitable for single-phase and three-phase generators.



Safety distributors Series VG 0 ... VG4

Safety distributors are available in different versions and can be used for various applications.



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