

## New ISOMETER® iso685 - Innovation in the area of insulation monitoring

The new insulation monitoring device ISOMETER® iso685-D for unearthed AC, AC/DC and DC power supplies (IT systems) nominal AC/DC 0...690 V and DC 0...1000 V.

With the new insulation monitoring device iso685-D, Bender is focusing on a new innovative series of insulation monitoring devices that are state-of-the-art in relation to reliability, measuring technique, operability and design.

For the first time a high-resolution display is used in a monitoring device from Bender for the indication of the measured values as well as for making device settings. This display makes it possible to indicate the changes in the insulation values over time using a graph, the isoGraph. In this way the insulation value trend can be estimated and corresponding measures initiated.

The integrated data loggers save both the measured values and the device error and alarm messages in their entirety for the recommended device service life (up to 10 years) with exact allocation of date and time. Event-based fault analysis is therefore possible in conjunction with additionally acquired system measured data. Due to the internal resistance of 124 kΩ and a maximum measuring voltage of ± 50 V the measuring current is only ± 400 μA. By means of pre-defined measurement profiles the iso685-D can be very easily adjusted to the system to be monitored. Special profiles for inverter applications already include integrated suppression of interfering system fluctuations. Systems with leakage capacitances of up to 1000 μF can be monitored using the iso685-D.

Continuous monitoring of the protective earth conductor as well as the improved measuring technique, which ensures the insulation faults and the system leakage capacitance are measured more accurately and more quickly, provide additional safety. The iso685 provides continuous coupling monitoring as well as a voltage and frequency measurement on the system to be monitored due to the coupling to all active conductors. Systems up to max. DC 1150 V can be monitored without additional couplers.

A commissioning wizard also simplifies initial commissioning

Three digital inputs, two digital outputs as well as an analogue output are available as interfaces. The digital inputs and outputs can be programmed as required. The RS-485 interface also makes measured values available on the BMS bus for other display devices and the values can be read. Due to the built-in Ethernet interface, Bender service can support you with configuration, troubleshooting and/or fault analysis.

Furthermore, the usage of plug-type terminals ensures efficient installation



## Characteristics of ISOMETER® iso685

- Insulation monitoring for unearthed systems AC, 3(N)AC 0...690 V, DC 0...1000 V
- Nominal voltage extendable via coupling devices
- Two separately adjustable response values 1 k $\Omega$ ...10 M $\Omega$
- Combination of AMPPLUS and other profile-specific measurement methods
- Continuous measurement of the capacitance, voltage and system frequency
- Predefined measurement profiles to meet different requirements
- Automatic adaptation to the system leakage capacitance
- Info button to display devices and network settings
- Self monitoring with automatic alarm message
- History memory with real-time clock (buffer for three days) for storing 1023 alarm messages with date and time
- Current and voltage output 0(4)...20 mA, 0...400  $\mu$ A, 0...10 V, 2...10 V (galvanically separated) analogue to the measured insulation value of the system
- Permanent coupling monitoring of the measuring lines
- Freely configurable digital and analogue inputs and outputs
- Two separate alarm relays with two voltage-free changeover contacts
- N/O or N/C operation selectable
- High-resolution graphic LC display
- IsoGraph function for time-related representation of the insulation resistance
- Remote setting of certain parameters via Internet (option; COMTRAXX® Gateway)
- Worldwide remote diagnosis via Internet (made available by Service only)
- RS-485 interface
- Multilingual

## Applications for ISOMETER® iso685

- AC, DC or AC/DC main circuits
- AC/DC main circuits with directly connected DC components, such as rectifiers, converters, variable-speed drives
- UPS systems, battery systems
- Heaters with phase control
- Systems including switched-mode power supplies
- IT systems with high leakage capacitances