

ISOMETER® iso685

For maximum system availability and productivity.



Innovative Insulation Monitoring for Every Need

Do you want to save costs and further increase the safety level of your system? The versions of the insulation monitoring device iso685 provide you with the right equipment for every application and take advantage of easy operation with high reliability and innovative methods of measurement.

Insulation monitoring devices continuously monitor the insulation of a system against earth. The iso685 is state-of-the-art with its voltage, frequency and capacitance measurement. Furthermore, all versions have permanent coupled monitoring, a buffered real-time clock with history memory and the isoGraph for representation of the insulation resistance over time. The device is particularly easy to configure through

its pre-set measurement profiles for different applications. All device models have a commissioning wizard as standard. Using digital inputs and outputs there are many possibilities for controlling the iso685 and for fault outputs. Since the operating concept of all variants is the same, the cost for training on the devices is greatly reduced.

Early detection increases the operational reliability and the planning of maintenance

- Insulation fault analysis with scalable history memory
- Insulation fault detection without powering down

Other advantages

- High adaptability to systems with different properties
- Simple and efficient communication interface

Cost benefits

- No additional devices required
- Intuitive commissioning of a system
- Comprehensively configurable
- Easy to operate
- Multilingual user interface
- Fast and competent assistance when service required

Features:

- isoGraph
- Webserver
- perm. Connection monitoring
- Modbus TCP
- Messung U/f/C
- Profiles

Areas of application

- Power supplies for complex production processes
- Control circuits in safety applications
- Variable-speed drives in rolling mills, conveyor systems
- Offline loads (pumps, motors)



Standardised insulation monitoring in coupled systems

The version iso685-D-B is suitable for use in coupled systems. With an internal power disconnect switch the iso685-D-B can actively and independently separate itself from the system to be monitored. This allows multiple insulation monitoring devices in coupled systems to operate without influencing each other through closed coupling switches.

This function is called Bender ISONet and is used in the product standard IEC 61557-8:2014, which describes the optional function REDC (Remote Enabling and Disabling Command) and is implemented via the Ethernet bus. Every iso685-D-B working in the ISONet operation are connected to each other via Ethernet and control the measurement sequence automatically. This allows up to 20 ISONet operation coupled IT systems.

Normative background: According to IEC 61557-8 only one insulation monitoring device may be used in an unearthed system (IT system); due to the measurement procedure several insulation monitoring devices may affect each other. There are however applications in which redundant networks each have one insulation monitoring device, but which are operated up to 80% separately. If these systems are interconnected via a coupling switch, then there are several insulation monitoring devices in one IT system.

Installation version with the operating panel in the control cabinet door

All versions available have the same characteristics as versions without display in combination with a remote display for installation in control cabinet doors. Two different installation versions allow a flexible integration of the devices into the front of a control cabinet. The display unit FP200 is mounted on retaining brackets in the front and connected via an RJ45 connection cable (part of delivery) with the iso685-S or iso685-S-B basic devices that do not have their own displays. The indicator of the device is therefore located in the control cabinet front, without having to route the system connection with up to 1,000 V in the control cabinet front.

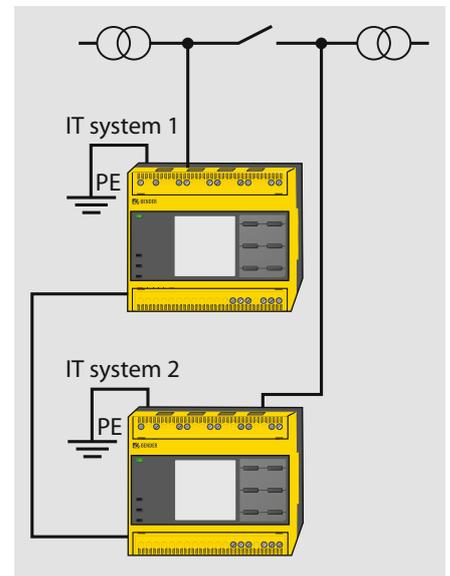
Fit for retrofit: For retrofit applications there is the possibility to install the basic device iso685S or iso685-S-B on the back of the control cabinet door mounted FP200. This allows the replacement of existing IRDH375 installations to be done easily.

Increased climatic and mechanical requirements

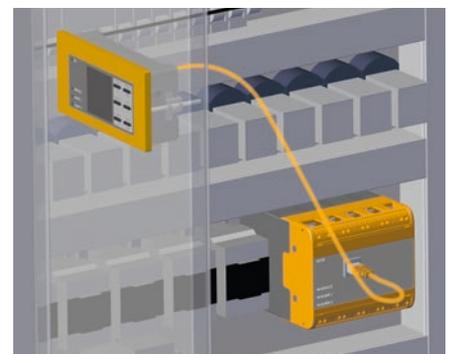
The versions marked with the suffix W are suitable for extreme operating temperatures from -40°C to $+70^{\circ}\text{C}$, and for operation with a climatic classification of 3K5 and a mechanical classification of 3M7.

Railway applications

The version isoRW685W-D was specifically tailored for rolling stock railway applications. Therefore, it is additionally tested according to DIN EN 50155 and is also suitable for operating temperatures from -40°C to $+70^{\circ}\text{C}$, but operation at a climatic class of 3K7 and a mechanical class of 3M7. Thus, the isoRW685W-D corresponds 100% to the necessary requirements for use in railway applications regarding EMC, temperature, climatic class and the mechanical stress.



Schematic circuit diagram of a coupled IT system with iso685-D-B





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