

HIG97

The insulation monitoring device HIG97 produced by HAKEL for the ISOLGUARD series is designed to monitor the insulation status of three-phase IT power supply systems, where extremely fast evaluation and signalling of the monitored system status is required. HIG97 devices are designed and operated according to standards IEC 61010-1:2010, EN 50522 and IEC 61936-1:2010.

Using an external **TL1200 inductor** to create an artificial centre enables the device to monitor three-phase IT power supply systems up to the maximum operating voltage 3×1000 V AC. So created centre is connected to the terminal of HIG97 insulating monitoring device.

The insulation monitoring device is equipped with display showing the measured insulation resistance values. Further there are parameter setting push-buttons and LED indicator lamps indicating the status of monitored IT power supply system and the device itself. **HIG97 can communicate with a master computer via RS485** industrial bus using protocol based on the PROFIBUS protocol. Built in signalling relays enable to connect equipment for supervising and signalling monitored IT power supply system status. Device includes four signalling relays.

FAULT1 fast-response signalling relay signals current status of monitored IT power supply system.

FAULT1 MEM fast-response signalling relay with memory signals the first fault of monitored IT power supply system. Operator's intervention is required to remove the fault status. This signalling relay will preserve its configuration even if the device is switched off and on again.

FAULT2 slow-response signalling relay signals the status of monitored IT power supply system. In device's parameter menu can be selected relay's function with or without memory. If the function with memory is selected, operator must cancel the signalling manually. Switching the power supply off brings the FAULT2 relay to its basic configuration.

ERR signalling relay signals the function of the device itself. The relay is released if device is on and monitored IT power supply system measurement proceeds.

It is possible to perform both on-site and remote device function test.

No more than one insulation monitoring device may be connected to an IT power supply system.

Basic characteristics

- Fast response insulation monitoring device for **AC systems** with voltage **230 VAC / 500VAC / 1000VAC**
- Fast-response signalling relay of current insulation resistance status
- Fast-response signalling relay of insulation resistance status with memory; the fault status must be cancelled manually by push-button on the device or remote button
- Slow-response signalling relay of insulation resistance status memory; the fault status must be cancelled manually by push-button on the device or remote button
- Device function signalling relay
- **Display of the measured insulation resistance R_{isol} in the range 5 kΩ to 900 kΩ or 200 kΩ to 5 MΩ**
- Connection to RS485 bus, insulation strength 2500 V_{rms} against the internal circuits and network circuits
- Option to set monitored insulation resistance **R_{crit1}** using the display and push-buttons in the **range from 5 kΩ to 300 kΩ**
- Adjustable hysteresis of the insulation resistance limit value in the range 0 - 100 % using the display and push-buttons
- Adjustable response delay **t_{ON1}** of the **FAULT1** fast-response signalling relay in the range **0 - 9.99 sec with a 0.01 sec step**
- Adjustable response delay **t_{ON2}** of the **FAULT2** slow-response signalling relay in the range **0 - 60 sec with a 1 sec step**
- Adjustable response delay **t_{START}** of the **FAULT1** and **FAULT2** signalling relays after activating the device
- Access to the IMD parameter setting with the pushbuttons can be locked/unlocked by a button

combination

- Separate supply voltage also allows to monitor IT power supply systems, which are not under voltage
- Two modules 2M width, total width 4M (72mm) for assembling on DIN rail 35

PARAMETERS

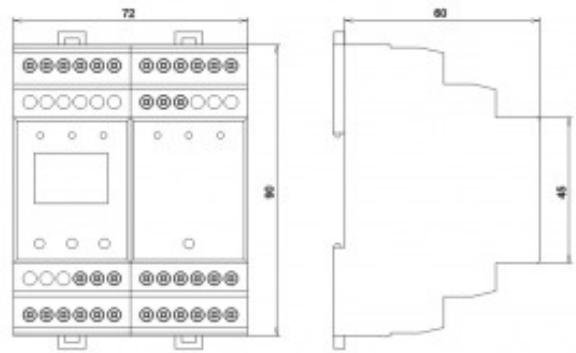
Typ		HIG97
Supply voltage range	U_s	80 až 265 V AC nebo 113 až 430 V DC
Maximum IT power supply system operating voltage (with external inductor)	U_n	volitelně 230 V AC/500 V AC/1000 V AC
Power consumption	P	max. 5 VA
Measuring voltage	U_m	18 V DC
Measuring current	I_m	< 0,48 mA
Internal resistance of the measuring input	Z_i	> 100 k Ω
Displayed value's range	R_{isol}	5 k Ω až 900 k Ω
Fast-response signalling of basic response time	t	< 80 ms
Fast-response of critical insulation resistance	R_{crit1}	nastavitelný 5 k Ω až 300 k Ω
Fast-response signalling of additional delay time	t_{ON1}	nastavitelná 0 až 9,99 s s krokem 0,01 s
Slow-response of critical insulation resistance	R_{crit2}	nastavitelný 5 k Ω až 300 k Ω
Slow-response signalling of basic response time	t	< 3 sec
Slow-response signalling of additional delay time	t_{ON2}	nastavitelná 0 s až 60 s s krokem 1 s
Insulation resistance hysteresis	R_{hyst}	nastavitelná 0 až +100% R_{crit}
FAULT1 MEM fast-response signalling with status memory/Potential-free switching contact: electrical strength to the internal circuits and to the supply circuits		250 V AC / 1A / 3750 V_{rms}
FAULT1 fast-response signalling without status memory/Potential-free switching contact: electrical strength to the internal circuits and to the supply circuits		250 V AC / 1A / 3750 V_{rms}
FAULT2 slow-response signalling/Potential-free switching contact: electrical strength to the internal circuits and to the supply circuits		250 V AC / 1A / 3750 V_{rms}
ERR device function signalling/Potential-free switching contact: electrical strength to the internal circuits and to the supply circuits		250 V AC / 1A / 3750 V_{rms}
Communication line: RS485 type MASTER-SLAVE, 9600 Bd, even count parity / Insulating strength to the internal circuits and to the network circuits		2500 V_{rms}
Degree of protection according to IEC 60529		IP20
Weight	m	290 g
Housing material		PA-UL94 V0
Method of assembly		na lištu DIN 35
Recommended section of the connected conductors	S	1 mm ²
Operating temperature	ϑ	-10°C ~ +60°C
Relative humidity		28 g H ₂ O /kg suchého vzduchu
Atmospheric pressure		86 až 106 kPa
Operating position		libovolná
External magnetic and electric field		max. 400A/m
Overvoltage category / testing voltage		III dle ČSN EN 60 664-1
Pollution degree		2 podle ČSN EN 60 664-1
Operational mode		trvalý
Article number		
HIG97		70 936

HIG97

Product image



Dimension drawing



Installation diagram

