

Insulation fault test device PGH471/PGH473

for existing installations
incorporating an insulation monitoring device



Insulation fault test device PGH471

Device features

- Test current: PGH471: max. 25/10 mA;
PGH473: max. 2.5/1 mA
- Power On LED
- Alarm LED RS-485 active
- Two alarm LEDs for positive and negative test cycle
- Alarm relay with one voltage-free N/O contact to signal that insulation fault location is running
- Start/Stop button to activate resp. deactivate insulation fault location

Approvals



Product description

The insulation fault test device of the PGH47... series is designed to generate a test current signal for insulation fault location. The variants differ in the value of the maximum permissible test current. It is intended to be used in systems incorporating an insulation monitoring device.

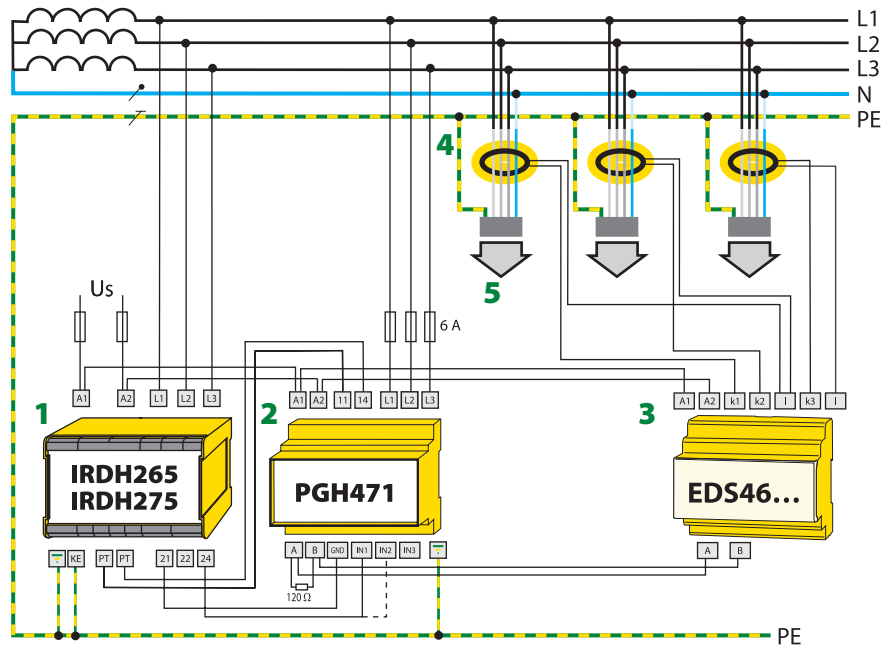
Application

Insulation fault test device for Insulation fault location systems
PGH471: IT main circuits – PGH473: IT control circuits

Function

The PGH47... generates a test current signal depending on the existing system voltage. Depending on the selected input, you can either start a permanent insulation fault location process or one pass only. When the test current has been activated, the alarm LEDs indicate the current mode of the test cycle either positive or negative.

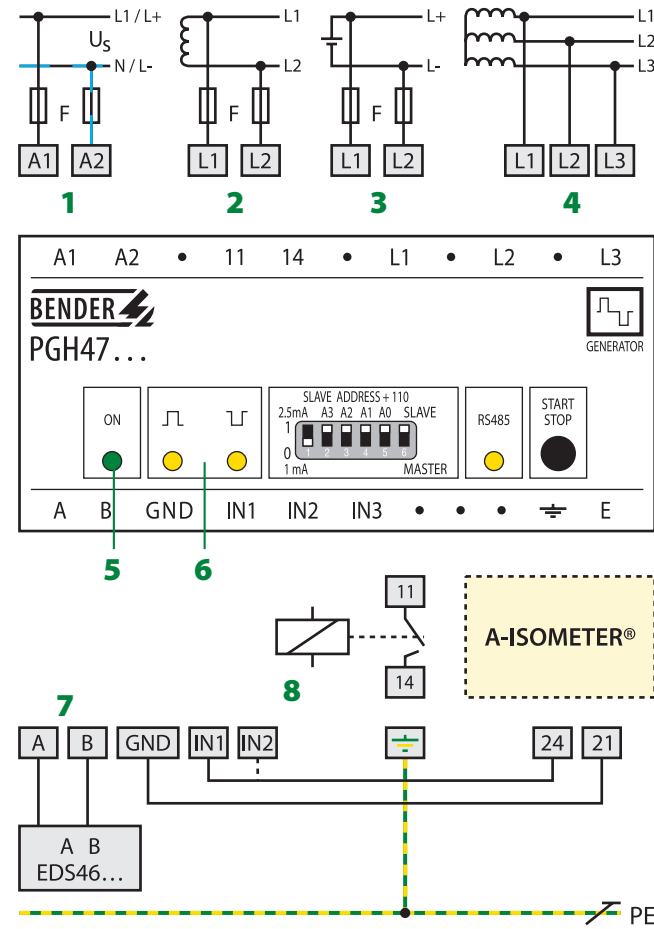
Insulation fault test device PGH471/PGH473 in the EDS46... system (typical circuit)



- | | |
|---|-----------------------------------|
| 1 - A-ISOMETER® IRDH265/IRDH275 | 4 - Measuring current transformer |
| 2 - Insulation fault test device PGH471 | 5 - Subcircuits to the loads |
| 3 - Insulation fault evaluator EDS46... | |

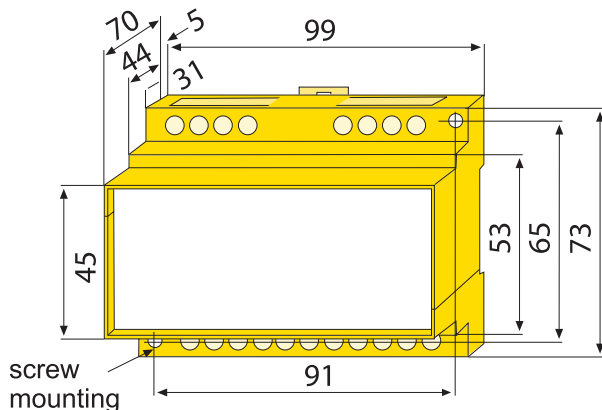
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Wiring diagram



- 1 - U_s see nameplate, 6 A fuse recommended:
Supply voltage U_s in the IT system requires two fuses.
- 2 - IT system AC
- 3 - IT system DC
- 4 - IT system 3AC
- 5 - Power On LED
- 6 - LEDs test pulse
- 7 - Connection BMS bus
- 8 - Alarm relay

Dimension diagram X470 Dimensions in mm



Technical data insulation fault test device PGH47...

Insulation coordination acc. to IEC 60664-1

Rated insulation voltage	AC 500 V
Rated impulse voltage/pollution degree	4 kV/3

Voltage ranges

Nominal system voltage U_n PGH473 AC, 3(N)AC 45...400 Hz, 20...265 V/DC 20...308 V	
Nominal system voltage U_n PGH471 AC, 3(N)AC 45...400 Hz, 20...575 V/DC 20...500 V	
Supply voltage U_s	see ordering information
Operating range of U_s	0.85...1.15 x U_s
Power consumption	≤ 3 VA

Measuring circuit

Test current	≤ PGH473 2.5 mA/1 mA; PGH471 25 mA/10 mA
Test pulse/pause	2 s/4 s

Switching elements

Switching elements	1 N/O contact
Rated contact voltage	AC 250 V/DC 300 V
Making capacity	AC/DC 5 A
Breaking capacity	2 A, AC 230 V, cos phi = 0.4 – 0.2 A, DC 220 V, L/R = 0.04 s

General Data

Shock resistance IEC 60068-2-27 (during operation)	15 g/10 ms
Bumping IEC 60068-2-29 (during transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6 (during operation)	1 g/10...150 Hz
Vibration resistance IEC 60068-2-6 (during transport)	2 g/10...150 Hz
Ambient temperature (during operation)	-10 °C...+55 °C
Ambient temperature (during storage)	-40 °C...+70 °C
Climatic class acc. to DIN IEC 60721-3-3	3K5
Operating mode	continuous operation
Mounting	any position
Connection	screw terminals
Connection properties rigid/flexible	0.2...4 mm ² /0.2...2.5 mm ²
Degree of protection, internal components (IEC 60529)	IP30
Degree of protection, terminals (IEC 60529)	IP20
Screw mounting	2 x M4
DIN rail mounting acc. to	DIN EN 60715/IEC 60715
Flammability class	UL94V-0
Product standards	DIN EN 61557-9: 2000-08 EN 61557-9: 1999-11, IEC 61557-9: 1999-09
Operating manual	PGH470 TGH1243/PGH473 TGH1321
Weight	≤ 350 g

Ordering information

Type	Supply-voltage U_s	Nominal system-voltage U_n	BMS bus address range	Art. No.
PGH471	AC 230 V	AC 20...575 V/DC 20... 504 V*	111...119	B 9501 8004
PGH471-13	AC 90...132 V*	AC 20...575 V/DC 20... 504 V*	111...119	B 9501 8005
PGH471-21	DC 10.5...80 V*	AC 20...575 V/DC 20... 504 V*	111...119	B 9501 8006
PGH471-23	DC 77...286 V*	AC 20...575 V/DC 20... 504 V*	111...119	B 9501 8007
PGH471E	AC 230 V	AC 20...575 V/DC 20... 504 V*	121...150	B 9501 8008
PGH473	AC 230 V	AC 20...265 V/DC 20...308 V*	111...119	B 9501 8009
PGH473-13	AC 90...132 V*	AC 20...265 V/DC 20...308 V*	111...119	B 9501 8010
PGH473-21	DC 10.5...80 V*	AC 20...265 V/DC 20...308 V*	111...119	B 9501 8011
PGH473E	AC 230 V	AC 20...265 V/DC 20...308 V*	121...150	B 9501 8015
PGH473E-21	DC 10.5...80 V*	AC 20...265 V/DC 20...308 V*	121...150	B 9501 8016

* absolute values