

TRACKWATCH Insulation Monitoring Device

Device type	IR145Y-49213		
Insulation coordination acc. to IEC 60664-1:			
Rated insulation voltage	AC 250 V		
Rated impulse withstand voltage/contamination level	4 kV/3		
Voltage range			
Nominal voltage range Un	DC up to 290V/AC 15...400Hz, up to 300V *1)		
	-		
Supply voltage U _S	AC 90...132 V *1)		
Operating range U _S	-		
Max. selfconsumption	3 VA		
Response values			
Response value R _{an1}	1 kΩ to 200 kΩ *1)		
Response value R _{an2}	-		
Response time at RF= 0.5 x R _{an} and C _E = 1 μF	3 s to 5 s		
Max. admissible system leakage capacitance C _E	20 μF		
Measuring circuit			
Measuring voltage U _m	13 V		
Measuring current Im	max. 0.47 mA / 0.11 mA		
Internal DC resistance R _i	120 kΩ / 28 kΩ		
Impedance Zi at 50 Hz	94 kΩ / 22 kΩ		
Max. admissible stray DC voltage	138 V resp. 300 V		
Outputs			
Current output at measuring instrument SKMP *4)	-		
Max. load	-		
Contact circuit			
Switching components	2 change-over contacts		
Contact class acc. to DIN IEC 60255 part 0-20	IIB		
Rated contact voltage	AC 250 V / DC 300 V		
Admissible number of operations	12000 cycles		
Making capacity	UC 5 A		
Breaking capacity			
AC 230 V and cos phi = 0.4	2 A		
DC 220 V and L/R = 0,04 s	0.2 A		
Tests of the Electromagnetic Compatibility (EMC) acc. to EC directives, test data see chapter „Standards“	Yes		
General data			
Ambient temperature, during operation	-25° C to +70° C		
Storage temperature range	-40° C to +70° C		
Climatic class acc. to IEC 60721 (except condensation and formation of ice)	3K5		
Operation class	continuous operation		
Mounting	any position		
Connection	modular terminals		
Cross sectional area of connecting cable, single wire	0.2...4 mm ²		
Cross sectional area of connecting cable, flexible	0.2...2.5 mm ²		
Protection class acc. to DIN EN 60529			
Built-in components	IP 30		
Terminals / with terminal covers	IP 20		
Type of enclosure / dimension diagram	XM 45		
Screw fixing	Yes		
DIN rail mounting acc. to	DIN EN 50022		
Flammability class	UL94V-0		
Data sheet No.	103001		
Weight max.	350 g		

*1) see device description "ordering details"

*2) see device description "measuring circuit"

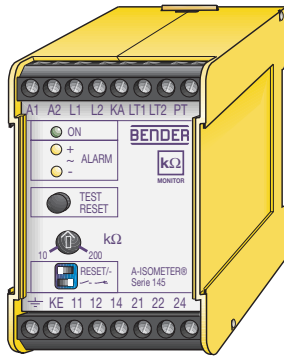
*3) see device description "response values"

*4) SKMP = scale centre point

A-ISOMETER® IR145Y-49213

TRACKWATCH
Insulation Monitoring Device

Insulation monitoring device for IT AC systems
with DC components and for IT DC systems



Product description

Modern control voltage systems frequently contain DC components and high system leakage capacitances due to interference suppression arrangements. These circumstances must be taken into account when selecting the insulation monitoring device.

The A-ISOMETER IR145Y guarantees reliable insulation monitoring of modern systems. Pure AC systems, pure DC systems as well as AC/DC systems can be monitored.

Device characteristics:

- Insulation monitoring of IT AC, DC and AC/DC systems
- Voltage range up to AC 300V and DC 290 V
- automatic adaptation to the given system conditions
- Connection monitoring
- adjustable response value 1 ... 200 kΩ
- Power On and alarm LED with fault localization
- combined test and reset button
- two change-over contacts
- N/O or N/C operation, selectable
- fault memory, selectable

Application in modern control voltage systems

- Industrial control systems
- Automotive industry
- Machine control systems
- Control systems in power plants and power supply companies
- Computer systems
- mobile generators
- Elevator controls
- Lighting and battery systems

Ordering details

Type	Supply voltage U_s	Art. No.
IR145Y-49213	AC 90 - 132 V*	B 9103 6020 ²⁾

* This information represents absolute values for the supply voltage, to which the working range is not applicable.

- 1) For use in industrial areas
- 2) Suitable for household and industrial use

Standards

The IR145Y series complies with the standards DIN 57413 T8 / VDE 0413 T8, IEC 61557-8, EN 61557-8 and ASTM F1669M-96.

The chapter on "Standards" contains details about these standards and certifications.

When installing the device, the safety instructions supplied with the equipment must be observed !

Certifications:



Measuring principle

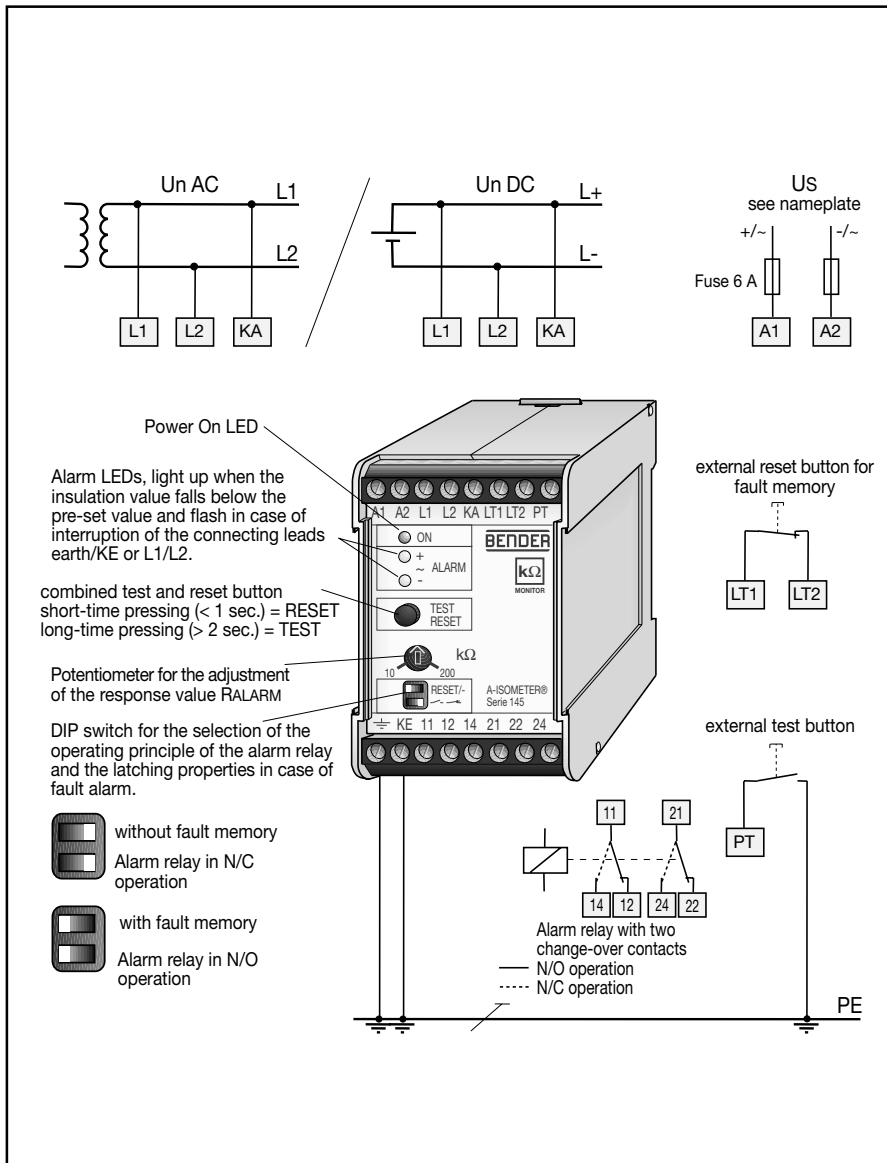


The IR145Y series operates with a variant of the AMP measuring principle.

The chapter on "Measurement technology" contains a detailed description of the measuring principle.

This measuring principle ensures reliable monitoring of modern control voltage systems. The frequency range of the system to be monitored may extend from 15 ... 400 Hz. If frequencies outside the cited range occur, the IRDH265/365.. series of devices must be selected instead.

Wiring diagram

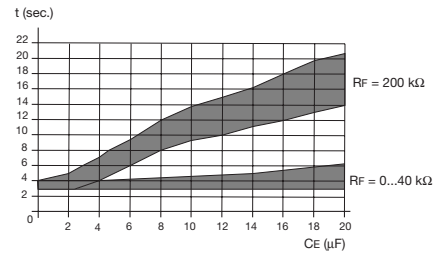


Fault indications

Indication	Alarm LED		Alarm-relay
	+	-	
AC fault	x	x	x
DC fault L+	x		x
DC fault L-		x	x
Interruption ≡/KE resp. L1/L2	o	o	x

o = flashing
x = continuous indication

Measuring time IR145Y-4...



CE System leakage capacitance
RF Insulation fault
t Measuring time

Response value and measuring circuit

Type	Response-value R_{an}	Response-time ¹⁾	Measuring-voltage	Measuring-current	Internal-resistance ²⁾	System-voltage
IR145Y-P49213	10-200kΩ	5 s	13 V	0.11mA	120/94kΩ	DC 0 - 290V and AC 15 - 400Hz 0 - 300V

¹⁾ Response times at 1 µF system leakage capacitance.

²⁾ DC internal resistance/Impedance