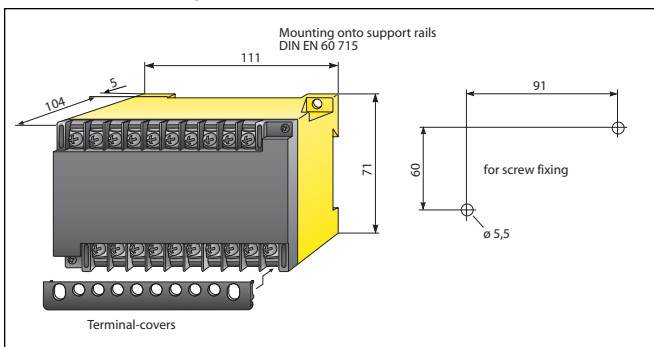




- insulation monitor for unearthed 1 and 3 phase AC networks
- impulse voltage and electrical disturbance proof according to VDE and IEC
- built-in test button
- built-in analogue ohmmeter
- steplessly adjustable response value
- principle of measurement: superimposed measuring DC voltage
- output relay with one change over contact in N/O operation

Dimension diagram



Product description

The A-ISOMETER®s E207 (M) and D207 (M) monitor the insulation resistance of unearthed single and threephase AC networks (IT networks) to earth.

The supply voltage for the device can be taken from the network to be monitored.

In order to avoid complex network conditions, DC supplied components should be isolated from the network to be monitored. The pre-set response values apply to the pure AC system only.

Function

A DC measuring voltage is superimposed on the network by the device. The positive pole is connected to the system via coupling elements. The negative pole is connected to earth by means of an electronic circuitry. The measuring circuit is closed by an insulation fault between network and earth.

When the pre-set response value is reached, the output relay K1 will energize (N/O operation) and the built-in alarm LED signals <earth fault>. After elimination of the earth fault, the device will be reset automatically.

Please note

In order to check the proper connection of the device, it is recommended to carry out a functional test using a genuine earth fault, e.g. via a suitable resistance, before starting the operation.

Please check correct mains voltage!

Only one insulation monitor may be used in each interconnected system. When the insulation and voltage tests are to be carried out, the device must be isolated from the system for the test period.

The terminals E and KE have to be connected separately to the conductor (PE) with one lead each.

Each device is supplied with terminal covers for protection against electric shock. If these covers are not used, other suitable protection measures must be observed in accordance with the accident prevention regulations.

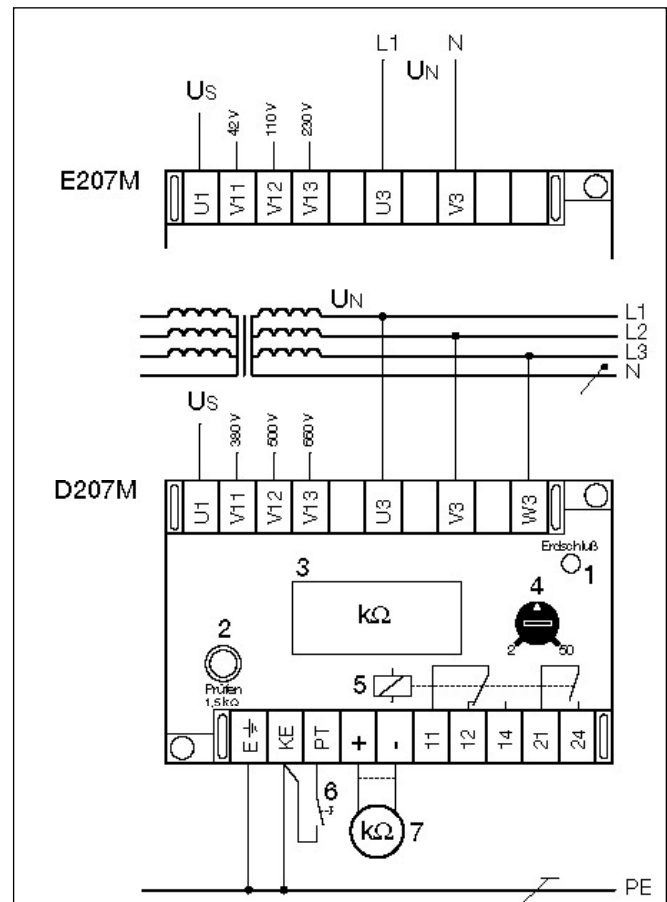
Standards

The A-ISOMETER®s E207 (M) and D207 (M) correspond to DIN VDE 0413, part 2.

Technical data E207 (M) / D207 (M)

Insulation	E207(M)	D207(M)
Nominal insulation	AC 308 V	AC 660 V
Insulation class / DIN VDE 0110		C
Dielectric test	2000 V	2500 V
Operation class	permanent operation	
Network being monitored	E207 (M)	D207 (M)
Rated mains voltage U_N	AC 50...400 Hz 0...220 V	3 AC 20...400 Hz 0...660 V
Operating range		0...1.1 U_N
Supply voltage	E207 (M)	D207 (M)
Supply voltage	AC 50...60 Hz 220/110/42 V	AC 50...60 Hz 660/500/380 V
Operating range		0.8...1.1 U_S
Self-consumption max.		4 VA
Response values		
Response value R_{AN1}	2...50 k	
Response delay	< 1 sec	
Max. mains leakage capacitance	1 μ F	
Measuring circuit		
Measuring voltage U_M	DC 18 V	
Measuring current I_M	0.65 mA	
Internal DC resistance R_i , acc. to DIN VDE 0413	28 k Ω	
Internal measuring resistance		
Impedance Z_i , 50 Hz, DIN VDE 0413	> 150 k Ω	
Max. admissible stray DC voltage	DC 250 V	
Outputs		
Meter output SKMP	not floating	
Current output (max. load)	400 μ A	
Contact circuit		
Switching components	1 change over contact and 1 n.o. contact	
Switching capacity max.	1100 VA	
Rated contact	220 V	
Permanent current	5 A	
Break capacity		
AC 220 V and $\cos \phi=0.4$	3.8 A	
DC 110 V and $L/R=0$	0.38 A	
Operating principle	N/O operation	
Tests acc. to DIN VDE 0435 / ICE 255		
Impulse voltage test	class III	
Electrical disturbance test	class III	
Vibration test	-	
Environmental conditions		
Ambient temperature, during operation	-10°C...+50°C	
Storage temperature range	-20°C...+60°C	
Climatic class acc. to DIN IEC 60721-3-3	3k5	
General data		
Mounting	E207, D207	as desired
	E207M, D207M	according to meter
Type of connection	terminal screws with self lifting clamp washers, M3.5	
Wire cross section		
single wire	2x (1...1.5mm ²)	
fine braid	2x (0.75...1.5mm ²)	
Rapid mounting	onto supporting rail according to IEC 60715	
Screw mounting	M4	
Protection class acc. to DIN 40050		
Internal components	IP50	
Terminals/with terminals covers	IP10 / IP20	
Type of casing X 200		
Weight approx.	700 g	
Wiring diagram	PA 98	

Wiring diagram



Legend to wiring diagram

- S1G built-in test button
- S2G external test button, if required
- K1 output relay with one change over contact and one n.o. contact in N/O operation
- P1 built-in k Ω meter. If P2 is not used, the terminals + and - have to be bridged.
- R1 potentiometer for the adjustment of the response value
- H1 built-in alarm LED, red, indicating <earthfault>

Ordering details

Type	Rated mains voltage U_N	Supply voltage U_S	Art.-No.
E207	AC	AC	913 550
E207M	0 ... 230 V	230/110/42V *	913 551
D207	3 AC	AC	913 552
D207M	0 ... 660 V	660/500/380V *	913 553

Ordering details for external k Ω -measuring instrument

Type	Size (mm)	Art.-No.
14404 - 875081	144 x 144	986 754
9604 - 875080	96 x 96	986 753
7204 - 875079	72 x 72	986 752
4804 - 875088	48 x 48	986 759