INSULATION RELAY FOR NON-GROUNDED AC SYSTEMS

KRM161E

- **Direct connection up to 690V line voltage, up to 1,4kV with HV adapter for both single or three phase systems**
- **Monitoring during both live and standby conditions**
- **For use in industrial, marine, offshore installations**
- **”Easy view” status presentation**
- **Immune to earth capacitance and voltage surges**
- **Analogue output proportional to meter reading**
- **Adjustable alarm setpoint**

Specifications

Aux. Supply:	100-120, 200-240, 380-415, or 440-460VAC, 40-70Hz (Fuse 0,5A)
Supply tolerance:	+/- 10%
Power consumption:	1.6VA
Contact rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.
Measurement category:	CAT III
Output: (Non-isolated, term. 13 have PE reference)	0-1mA = 10Mohm-0ohm, (max 500R)
Trip adjustment:	KRM161E: 0-1000kohm
Temperature:	-20 to +70ºC
Humidity, relative:	0-80%
Operating altitude:	< 2000m above sea level
Location:	Indoor
Pollution degree:	3
Weight:	0.3kgs
Front protection:	P20
Dimensions:	L: 70mm, H: 90mm, D: 58mm
Mounting:	35mm Rail Mount EN 60715
Safety:	EN 61010-1, EN 61010-2-030 CAT III
EMC:	EN 61000-6-2, EN61000-6-4 EN 61326-2-4
Terminal type:	Terminal Clamp and Screw
Wire max/min:	AWG14 - AWG24
Screw Torque:	0.5Nm/4.5 lb-inch

Description

The digitally controlled KRM161E uses the Megacon “IDV” insulation measuring principle and monitors insulation level between a non-grounded (IT) mains and its protective earth.

Unit is AC powered. Only **ONE** KRM161E can be connected to each IT-system. The status LED gives the clear safety message:

ALARM : Red LED
NORMAL : Green LED

IDV MEASURING PRINCIPLE

Insulation is measured between the AC network and its protective earth. The unit injects a DC measuring signal into the monitored system. The signal flows to ground via the path of the insulation fault, the level of flow indicates the insulation resistance. The measuring accuracy is not influenced by any normal kind of load attached to the AC network.

OUTPUTS

Unit is fitted with a **non-isolated** 0-1mA output for local/remote meter reading (optional slave instrument). Alarm relay is a potential free contact. Relay is fail-safe and change state when powered.

A status LED indicator on the KRM161E informs the service engineer whether or not the equipment is in an **Alarm** or **Normal** state at any time.

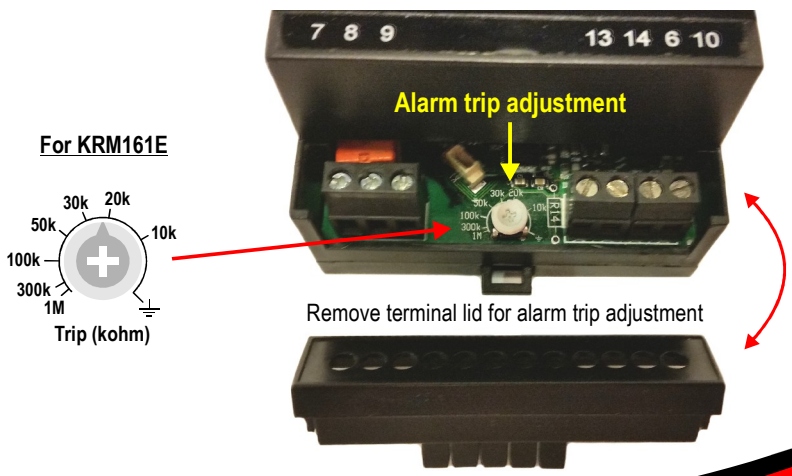
TRIP LEVEL

Trip level are settable under the terminal lid. When the adjustable trip setting is exceeded by the monitored line-earth resistance, the fail-safe relay changes state following a fixed 3 secs. delay period, indicating an alarm condition.

Start of monitoring function is delayed when auxiliary power is switched on (default 5 secs).

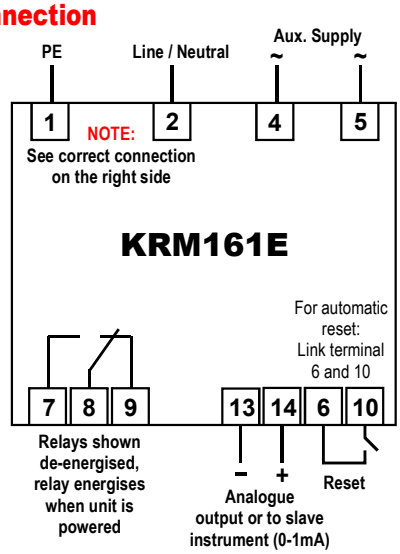
Output table (example for 0-1mA)

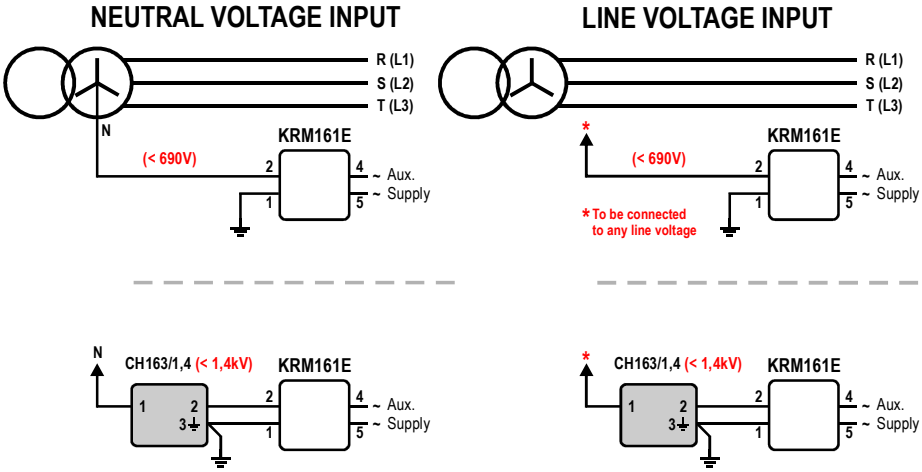
KRM161E Value (scale)	mA output
0kΩ	1mA
10kΩ	0.71mA
20kΩ	0.52mA
30kΩ	0.41mA
50kΩ	0.29mA
100kΩ	0.16mA
300kΩ	0.06mA
1MΩ	0.02mA
Open (6MΩ)	0mA



KRM161E

Connection





SAFETY
KRM161E is Megger safe (short time) but will give false reading when megging. Therefore the input terminal must be disconnected before megging the network.

! The instrument will detect earth fault on all phases independent of which phase is connected to terminal 2.

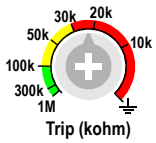
Range and recommended settings

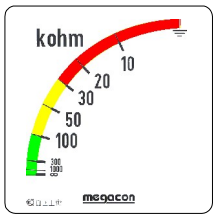
KRM161E - Scale range: 0-1000kΩ - ∞ (>6MΩ)

Coloured sectors show recommended areas of settings:

- Indicates alarm trip zone
- Indicates warning trip zone
- Indicates healthy zone

Alarm trip adjustment
Trip level are settable under the terminal lid. (See image on page 1)

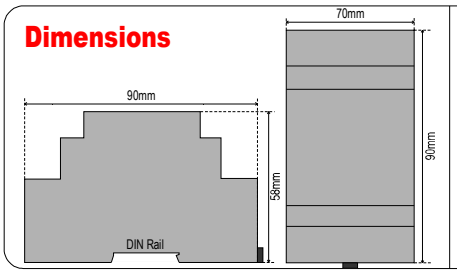




High Voltage Adaptors up to 1,4kVAC for KRM161E series

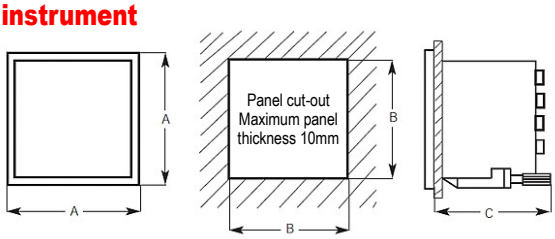
CH163/1,4 up to 1.4kVAC
(for KRM161E series)

Dimensions



Dimensions for optional slave instrument

	A	B	C
DIN72	72 x 72mm	68 x 68mm	64mm
DIN96	96 x 96mm	92 x 92mm	64mm



The MEGACON policy is one of continuous improvement, consequently equipment supplied may vary in detail from this publication.

ORDERING EXAMPLE:

Type:	KRM161E
Aux. Supply:	200-240VAC
Network Voltage:	690VAC
Analogue O/P:	0-1mA
Range:	0-1000kohm

IS range