



- Directly 500V line voltage, up to 21kV with adapter
- 2-level monitoring relays plus additional Status Relay
- Analogue output proportional to meter reading
- “Megger” – safe to 1.4kVDC when aux power is OFF
- IDV signal-injection does not support corrosion
- Immune to earth capacitance and voltage surges
- For use in land, marine and sub-sea installations

### Specifications

Auxiliary Supply: 115, 230, 400, 440VAC or 24VDC

#### KPM161E and KPM161F

Network line voltage: 0-500V (40/400Hz)

Scale range: 0 - 1 - 10MΩ

Adjustments:

WARNING Trip level: 0 to 1MΩ

Delay: 1 to 30 secs

ALARM Trip level: 0 to 1MΩ

Delay: 0.1 to 3 secs

#### KPM163E and KPM163F

Network line voltage: 0-500V (40/400Hz) Up to 3.6kV with voltage adapter

Scale range: 0 - 10 - 100MΩ

Adjustments:

WARNING Trip level: 0 to 10MΩ

Delay: 1 to 30 secs

ALARM Trip level: 0 to 10MΩ

Delay: 0.1 to 3 secs

#### KPM165E and KPM165F

Network line voltage: Up to 21kV with voltage adapter

Scale range: 15 - 12000MΩ

Adjustments:

WARNING Trip level: 15MΩ to 12GΩ

Delay: 1 to 30 secs

ALARM Trip level: 15MΩ to 12GΩ

Delay: 0.1 to 3 secs

#### General

Analogue output loop resistance: 500Ω max

Relays contact rating

AC: 100VA - 250V/2A max.

DC: 50W - 100V/1A max.

Weight: 0.62kg

Temperature: -20 to +70°C

Front protection: IP41 (IP65 optional)

### Application

The digitally controlled Series KPM16X monitors insulation level between a non-grounded (IT) AC mains and its protective earth, regardless the mains is live or non-live (standby).

An AC or DC auxiliary voltage is required for the unit, if powered from a separate source the network can also be monitored during standby conditions. Only **ONE** KPM16X can be connected to the same IT-system. The ohmmeter and the triple-zone status LEDs at a glance gives the clear safety message; **HEALTHY / WARNING / ALARM**.

### General

**IDV MEASURING PRINCIPLE** - Insulation is measured between the complete galvanically interconnected AC network and its protective earth. The unit is injecting a sequentially coded measuring signal to the monitored system. The signal flows to ground via the path of the insulation fault, the level of flow expresses the insulation resistance. The measuring accuracy is not influenced by any normal kind of load attached to the AC network.

**MEGGER SAFE** - When auxiliary power is **OFF** the unit is automatically protected against “megger” test voltage up to 1.4kVDC, and incorrect measurements caused by the units input impedance is avoided.

**OUTPUTS** - The unit has C/O relay outputs for Warning, Alarm and Status. The Alarm and Status relays are fail to safety configured. A trip LED flashes when the trip level is passed, the relay trips after elapsed delay. The timer resets if the fault is removed during countdown. Trip levels and delays are settable on unit rear. All F versions have an isolated analogue output proportional to meter reading.

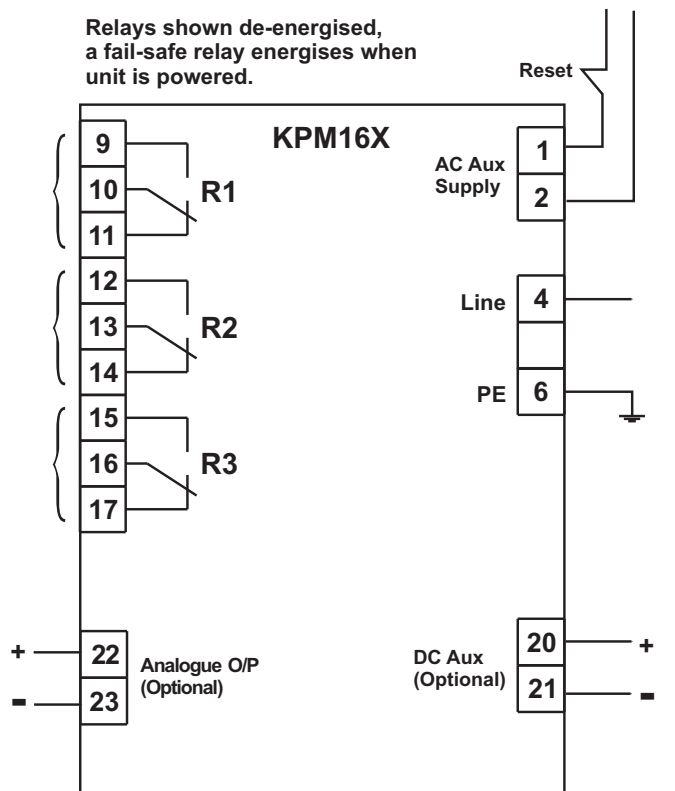
### Description

**KPM161E and KPM161F** Scale range **0-1/10MΩ**. Direct input up to 500V line voltage. This unit is used for hospital, industrial and marine installations.

**KPM163E and KPM163F** Scale range **0-10/100MΩ**. Voltage range up to 3,6kV. Direct input up to 500V line voltage. For 1.4kV or 3,6kV input KPM163 is to be connected via Voltage Adapter CH1.4 or CH3.6. This unit is used for marine, ROV and offshore installations. Start of monitoring function is delayed when auxiliary power is switched on (default 2 secs delay).

**KPM165E and KPM165F** Scale range **15MΩ to 12.000MΩ**. Voltage range up to 21kV. KPM165 is to be connected via an AN or AR voltage adapter for 7,6kV (AN7 or AR7), 14kV (AN14 or AR14) or 21kV (AR21 or AN21). This unit is used for marine, offshore, seabed and down hole installations. Start of monitoring function is delayed when auxiliary power is switched on (default 20 secs delay). In this way false tripping during power up, caused by initial charging of network spread capacitance, is avoided. The start delay can be pre-programmed to allow operation into any level of spread capacitance.

Relays shown de-energised, a fail-safe relay energises when unit is powered.



### Relay

	WARNING	ALARM	FAIL SAFE	LATCH
R1	✓			
R2		✓	✓	*
R3		✓	✓	

\* Latch on KPM165 only.

### Analogue

Add to type designation of KPM161F, KPM163F or KPM165F appropriate suffix from table below to designate output required:

**O/P2** 0 - 20mA

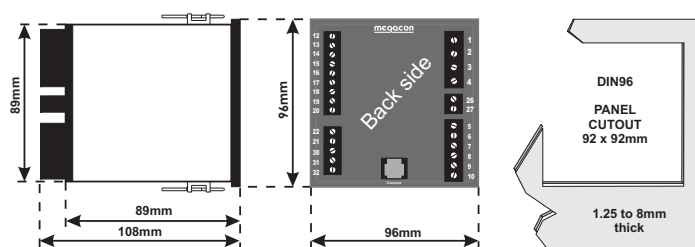
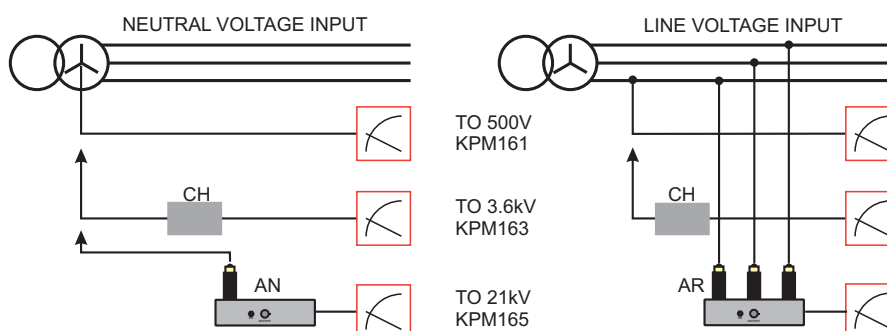
**O/P3** 4 - 20mA

**O/P8** 0 - 10V

**NOTE:** Details in individual connection diagram supplied with unit may differ from the general diagram shown on the left.

### Safety

When a voltage-adaptor (CH, AN or AR) is used the signal to terminals 4 and 6 on KPM163 and KPM165 is limited to a safe level, avoiding any dangerous voltage exposure to personnel.



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

### ORDERING INFORMATION

Product type: KPM163F  
 Auxiliary supply:  
 Network voltage:  
 Analogue output:  
 Example: KPM163FO/P3, 230VAC aux, 440V

