



- Up to 6,6kV with HV adapter
- Continuous supervision of measuring loop continuity
- 2-level insulation relays and loop continuity relay
- Immune to earth capacitance and voltage surges
- For use in land, marine, offshore, sub-sea and ocean floor Installations
- Analogue output proportional to meter reading (F-version)
- Intelligent Setting Assistance - eases functional test

**Specifications**

General	
Auxiliary Supply:	100-120, 200-240, 380-415 or 440-460VAC, 40-70Hz (Fuse 0.5A)
Optional Voltage:	12-24VDC (Fuse 2A)
Contact rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.
Analogue Output:	Up to 20mA, max 500R
F-versions	Up to 10V, min 100kohm (other on request)
Temperature:	-20 to +70°C
Weight:	0.62kgs
Front protection:	IP54 (IP65 optional)

**INTELLIGENT SETTING ASSISTANCE**

KPM26x has a built-in Assistance tool for setting/verification of the trip levels and the analogue output.

When either the **Warning** or **Alarm** potmeter on the rear is operated by user, the meter goes into **Assistance Mode** and meter reading and analogue output will reflect the potmeter setting.

**How to set alarm levels:**

Firstly adjust potmeter fully clockwise (see that meter goes to the top), then adjust potmeter down to required **Warning** or **Alarm** setpoint. Without any movement of potmeters, the meter will revert to normal Insulation Monitoring Mode after approximately 10 seconds.



**How to test analogue output signal:**

Adjust any trip level potmeter to activate Assistance Mode. **Example:** On a 4-20mA output, adjust potmeter fully anti clockwise for 4mA and fully clockwise for 20mA.

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.

The KPM26x range is designed to comply with specification AODC035 "Code of Practice for the Safe Use of Electricity Under Water" issued by IMCA.

The unit meets IEC60092-504 and the relevant environmental and EMC tests specified in IEC60068/60092 and IEC61000/60533 respectively, to comply with the requirements of the major Classification Societies.

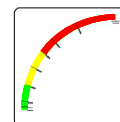
**Application**

The prime purpose of the digitally controlled KPM26x is basically identical to the "traditional" KPM16x Insulation Guard range. An auxiliary Measuring Input Loop Continuity Monitoring Facility has been added to notify the operator if a measuring loop disruption may cause the meter to read a too high insulation level.

The unit has C/O relay outputs for Warning, Alarm and loop failure. The Alarm relay is fail to safety configured. A trip LED flashes when the trip level is passed, the relay trips when the delay has elapsed. The timer resets if the fault is removed during countdown. Trip levels and delays are settable on unit rear.

Only **ONE** KPM26x can be connected to each IT-system. The ohmmeter and the triple-zone status LEDs give at a glance the clear safety message:

- **ALARM** (red zone)
- **WARNING** (yellow zone)
- **HEALTHY** (green zone)



**General**

**IDV MEASURING PRINCIPLE**

Insulation is measured between the complete galvanically interconnected AC network and its protective earth. 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, the processing time for KPM26x is approximately 400mS.

**MEASURING LOOP ALARM**

A sensing resistor is mounted at the furthest end of the monitored loop in a separate **Loop Resistance Sensor Module (LRSM-1,4 or LRSM-5)**. There are no restrictions on distance from the sensing resistor to the KPM26x unit. There is a fixed delay of 60 seconds on the loop failure alarm.

The Loop alarm will notify the operator by activating LED **LOOP FAILURE** and trip relay 3. A disruption in the input measuring loop may cause the guard to falsely read a too high insulation level. The Measuring Input Loop Continuity Monitoring Facility is of special importance during lasting standby conditions (motors, lanterns etc).

**MEGGER SAFE**

When auxiliary power is **OFF** the unit input is automatically protected against "megger" test voltages up to 1.4kVDC, and incorrect measurements caused by the unit's input impedance is avoided.

**OUTPUTS**

All F versions have an isolated **analogue output** proportional to meter reading. If output is used for remote meter reading, we recommend 0-1mA for the slave indicator.

**SAFETY**

When a voltage adapter CHx is used the signal to terminals 4 and 6 on KPM261x and KPM263x is limited to a safe level, avoiding any dangerous voltage exposure to personnel.

## Description

### KPM261E & KPM261F - KPM261G & KPM261GF

Scale range: 0-1000K $\Omega$  -  $\infty$  (>10M $\Omega$ )

This unit is used for hospital, industrial, marine and offshore installations. Start of monitoring function is delayed when auxiliary power is switched on (default 5 secs delay).

Direct connection up to 500V line voltage.

## Relay Operation

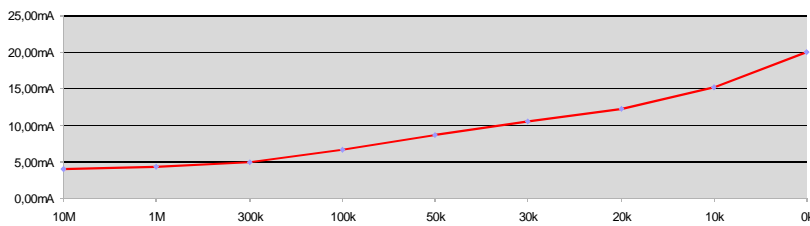
Scale range: 0-1000k $\Omega$  -  $\infty$  (>6M $\Omega$ )

	Warning	Alarm	Loop Failure	Fail Safe	Latch
R1	✓				
R2		✓		✓	*✓
R3			✓	✓	*✓

Model	Latch	Output	Adjustments	Trip level	Delay
KPM261E	-	-	WARNING:	0-1M $\Omega$	0-30secs
KPM261F	-	X	ALARM:	0-1M $\Omega$	0,1-3secs
KPM261G*	X	-			
KPM261GF*	X	X			

Coloured sectors show recommended areas of settings:  
■ - Indicates alarm trip zone  
■ - Indicates warning trip zone  
■ - Indicates healthy zone

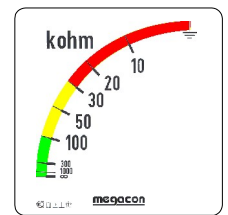
## Output diagram



## Output table (example for 4-20mA)

Value (scale)	mA output
0k $\Omega$	20.00mA
10k $\Omega$	15.22mA
20k $\Omega$	12.32mA
30k $\Omega$	10.61mA
50k $\Omega$	8.68mA
100k $\Omega$	6.69mA
300k $\Omega$	4.98mA
1M $\Omega$	4.28mA
Open (>6M $\Omega$ )	4.00mA

## Range



## Description

### KPM263E - KPM263F - KPM263G & KPM263GF

Scale range: 0-10M $\Omega$  -  $\infty$  (>1000M $\Omega$ )

This unit is used for marine, ROV and offshore installations. Start of monitoring function is delayed when auxiliary power is switched on (default 10 secs delay).

Direct connection up to 500V line voltage. Up to 6,6kV via HV adaptor CH163x or AN6,6 series.

## Relay Operation

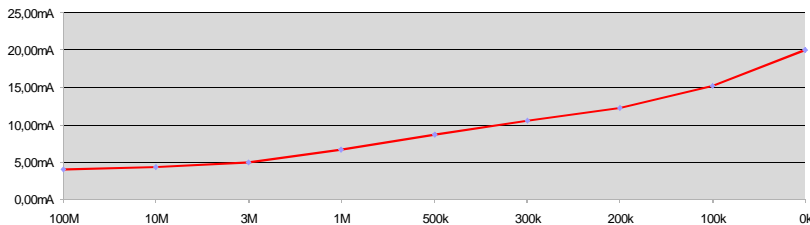
Scale range: 0-10M $\Omega$  -  $\infty$  (>60M $\Omega$ )

	Warning	Alarm	Loop Failure	Fail Safe	Latch
R1	✓				
R2		✓		✓	*✓
R3			✓	✓	*✓

Model	Latch	Output	Adjustments	Trip level	Delay
KPM263E	-	-	WARNING:	0-10M $\Omega$	0-30secs
KPM263F	-	X	ALARM:	0-10M $\Omega$	0,1-3secs
KPM263G*	X	-			
KPM263GF*	X	X			

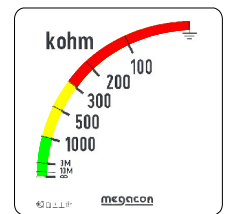
Coloured sectors show recommended areas of settings:  
■ - Indicates alarm trip zone  
■ - Indicates warning trip zone  
■ - Indicates healthy zone

## Output diagram



## Output table (example for 4-20mA)

Value (scale)	mA output
0k $\Omega$	20.00mA
100k $\Omega$	15.18mA
200k $\Omega$	12.30mA
300k $\Omega$	10.59mA
500k $\Omega$	8.67mA
1M $\Omega$	6.69mA
3M $\Omega$	4.98mA
10M $\Omega$	4.28mA
Open (60M $\Omega$ )	4.00mA



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



## Description

### KPM263E2 - KPM263F2 - KPM263G2 & KPM263GF2

Scale range: 0-10MΩ - ∞ (>1000MΩ)

This unit is used for marine, ROV and offshore installations. Start of monitoring function is delayed when auxiliary power is switched on (default 10 secs delay).

Direct connection up to 500V line voltage. Up to 6,6kV via HV adaptor CH163x or AN6,6 series.

## Relay Operation

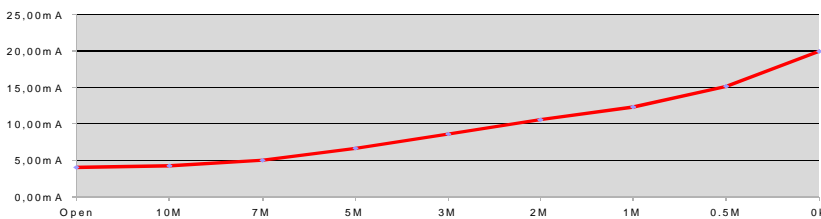
Scale range: 0-10MΩ - ∞ (>60MΩ)

	Warning	Alarm	Loop Failure	Fail Safe	Latch
R1	✓				
R2		✓		✓	*✓
R3			✓	✓	*✓

Model	Latch	Output	Adjustments	Trip level	Delay
KPM263E2	-	-	WARNING:	0-1MΩ	0-30secs
KPM263F2	-	X	ALARM:	0-1MΩ	0,1-3secs
KPM263G2*	X	-			
KPM263GF2*	X	X			

Coloured sectors show recommended areas of settings:  
■ - Indicates alarm trip zone  
■ - Indicates warning trip zone  
■ - Indicates healthy zone

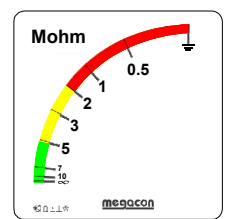
## Output diagram



## Output table (example for 4-20mA)

Value (scale)	mA output
0kΩ	20.00mA
0.5MΩ	15.18mA
1MΩ	12.30mA
2MΩ	10.59mA
3MΩ	8.67mA
5MΩ	6.69mA
7MΩ	4.98mA
10MΩ	4.28mA
Open (60MΩ)	4.00mA

## Range



## High Voltage Adaptors up to 5kVAC for KPM263x series



CH163/1,4 up to 1.4kVAC  
(for KPM263x series)



CH163/3,6 up to 3.6kVAC  
(for KPM263x series)



CH163/5 up to 5kVAC  
(for KPM263x series)



AN6,6 up to 6,6kVAC  
(for KPM163x series)

## Loop Resistance Sensor Module for KPM26x series



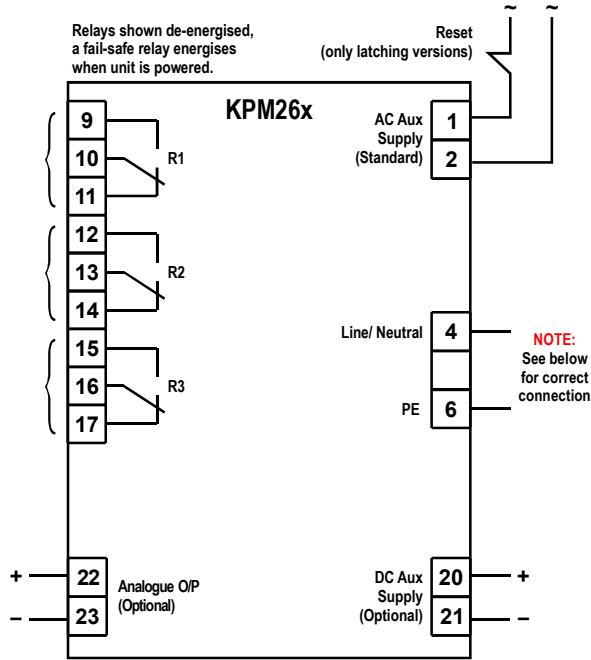
LRSM-1,4 up to 1400V



LRSM-5 up to 5kV

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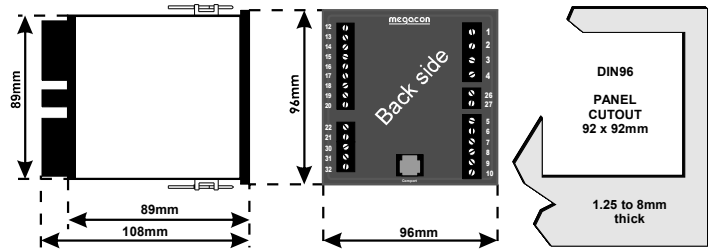
### Analogue Output

KPM261F, KPM261GF, KPM263F, KPM263GF, KPM263F2 and KPM263GF2 have an isolated analogue output proportional to meter reading. (Special outputs are available on request)

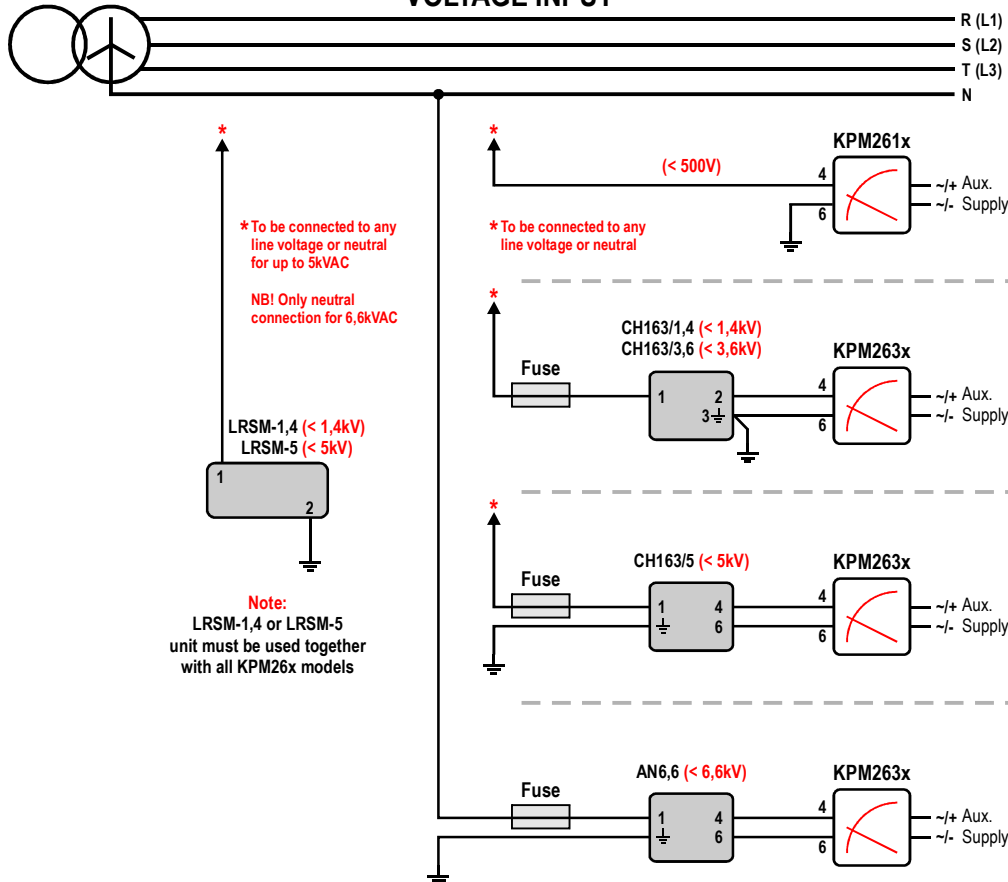
Add suffix from table below to type designation to specify output required:

O/P1	0 - 10mA	O/P6	N/A
O/P2	0 - 20mA	O/P7	N/A
O/P3	4 - 20mA	O/P8	0 - 10VDC
O/P4	N/A	O/P9	N/A
O/P5	N/A	O/P10	N/A

### Dimensions



### VOLTAGE INPUT



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#### ORDERING EXAMPLE:

Type: KPM263F  
 Aux. Supply: 200-240VAC  
 Network Voltage: 3,6kVAC  
 Analogue O/P: (O/P3) 4-20mA  
 Range: 0-10Mohm

