



- Insulation monitoring and Earth Fault Protection of live non-grounded low or high tension AC supplies
- Direct connection to Neutral in up to 690VAC supply networks
- Triple relay operation gives more flexibility
- Up to two individual very fast analogue output signals (<50mS), (optional)
- DIN96 Slave Indicator with status LEDs (optional) (Optional)

Specifications

Standard Auxiliary Voltage:	100-120V, 200-240V, 380-415V, 440-460V, 480VAC, 40-70Hz (Fuse 0,5A)
Optional Auxiliary Voltage:	24-60VDC (Fuse 0,5A) 110-220VDC (Fuse 1A)
Supply tolerance:	+10%, -20%
Power rating:	5VA
Contact rating:	AC: 100VA -250V/2A max. DC: 50W -100V/1A max.
Adjustments:	See table on the right
Scaling (typical range) (other ranges on request)	0-100V, 0-200V, 0-400V or 0-500V
Output range:	Any % of the scale
Analogue output 1: (see page 2 for available outputs)	mA: Up to 20mA, max 500R V: Up to 10V, min 100kohm (other on request)
Analogue output 2: (see page 2 for available outputs)	mA: Up to 20mA, max 500R V: Up to 10V, min 500ohm (other on request)
Accuracy:	Class 0,5
Temperature:	-20 to +70°C
Humidity, relative:	0-95%
Weight:	0.6kgs
Front protection:	IP21
Flammability:	UL94-V0

Description

KCV12x is a digitally controlled two-level trip relay monitoring the insulation status of a live AC system, by detecting the displacement of the voltage between the supply system neutral point and PE.

The level of neutral point voltage will depend on the level of earth fault between each line voltage and PE. In a fault free system the voltage will be nil, if one line voltage is grounded to PE the voltage may increase to $V_n/\sqrt{3}$ (approx. 400V for a 690V system).

KCV12x is available for direct connection to nominal 115, 230, 440 or 690VAC system voltage, with 100, 200, 400 or 500V meter range respectively. Use 115V input for transformer connection to higher voltage.

The standard models takes the auxiliary supply voltage terminal 1 & 2.

It can also be delivered with optional separate DC auxiliary voltage (terminal 26 & 27), but that must be specified when ordering (see page 2 for ordering code for separate Aux. Supply).

User settable trip levels and delays. Colour of LEDs indicate alarm status. Alarm LEDs flash during count-down.

Start of monitoring function is delayed when power is switched on (default 2 secs delay). In this way false tripping during power up is avoided.

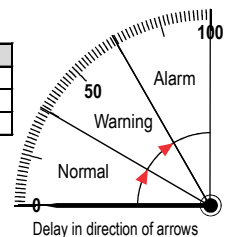
The optional slave meter reads the neutral point voltage, and has low-reflection glass to ease reading at a distance. Scale will depend on measuring voltage input and can be customized to nearly any scale.

OUTPUTS

Up to two individual very fast analogue output signals (optional) proportional to monitored parameters. This may be used as an input to a control system, to detect abnormal conditions. If output is used for remote meter reading, we recommend 0-1mA for the slave indicator.

Relay	Warning	Alarm	Fail Safe	Latch
R1		X		*X
R2	X			
R3	X	X	X	*X

LED status		
Power	Warning	Alarm
Green	Red	Red
Normal	Alarm	Alarm



Relays shown de-energised. R3 are fail-safe and energises when unit is powered. *X) See the table below for models with latch function

Models	Latch	O/P 1	O/P 2	N/A	N/A
KCV12E	-	-	-	-	-
KCV12FA	-	X	-	-	-
KCV12FB	-	X	X	-	-
KCV12G	X	-	-	-	-
KCV12GFA	X	X	-	-	-
KCV12GFB	X	X	X	-	-

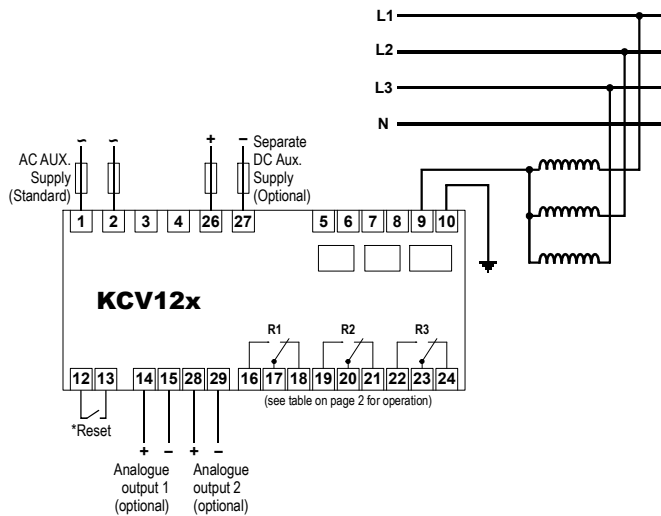
Adjustments	Trip level	Delay
Warning:	0-100% of Alarm	0-30secs
Alarm:	0-100% of FSD	0-30secs
	(FSD = Full Scale Deflection)	

The unit meets EN 60255-27 Cat. III, Pollution degree 2 and the relevant environmental and EMC tests specified in EN 60255-26 to comply with the requirements of the major Classification Societies.

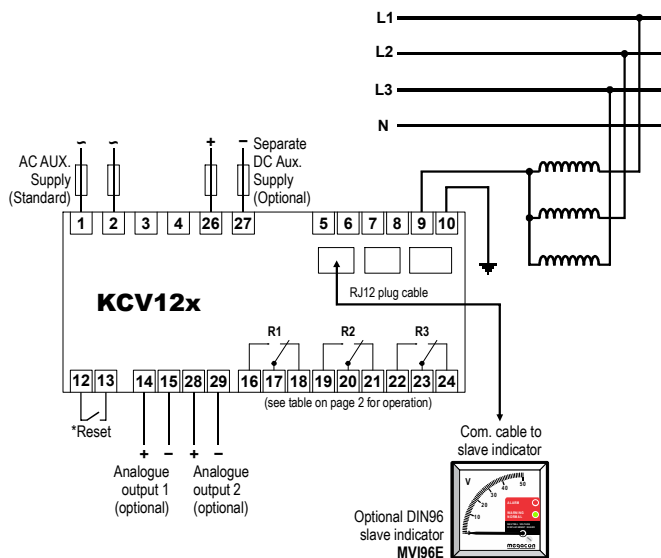
Related information: The KCV12x series are also available for panel mounting as KPV12x series.

Connection Diagram

Connection Diagram without optional slave instrument



Connection Diagram with optional slave instrument



*Reset: Any latched relay is reset by linking terminals 12 and 13 or by interrupting the auxiliary voltage supply.

Analogue Output

The output signals are proportional to the meter reading (see page 1 for an overview of models and functions).

The signal is specifically intended as an input to a control system for monitoring or control.

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

Outputs 1

O/P1	0 - 10mA
O/P2	0 - 20mA
O/P3	4 - 20mA
O/P4	N/A
O/P5	N/A
O/P6	N/A
O/P7	N/A
O/P8	0 - 10V
O/P9	0,2 - 10V
O/P10	4,3 - 20mA

Outputs 2

O/P11	0 - 10mA
O/P12	0 - 20mA
O/P13	4 - 20mA
O/P14	N/A
O/P15	N/A
O/P16	N/A
O/P17	N/A
O/P18	0 - 10V
O/P19	0,2 - 10V
O/P20	4,3 - 20mA

Relay Contacts

Burden on supply	: 170mW per relay
Switching voltage (Max)	: 400V AC, 300V DC
Switching voltage (Rated)	: 250V AC, 30V DC
Max I continuous	: 6A RMS, 6A DC
Max breaking capacity	: 1500VA AC, 18-120W DC
Dielectric strength across Open contacts	: 1000V RMS

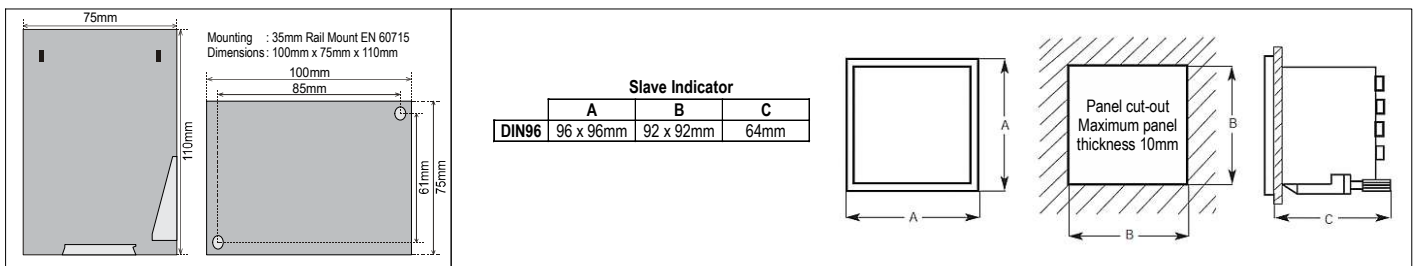
Connection

Terminal type	: Terminal Clamp and Screw
Wire max.	: T1-T4, T26-T27: AWG 24-14, T5-T10: AWG 12, other terminals: AWG 24-12
Screw Torque	: 0.5Nm

Overload

Voltage	: 1.2 x Un continuous 2 x Un for 10secs
Current	: 2.5 x In continuous 5 x In for 1secs (max 25A)

Dimensions



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

ORDERING INFORMATION (Example)

Type	: KCV12FB
Aux. Supply	: 200-240VAC
Input Voltage	: 0-500VAC
Range	: 0-500V
Analogue output 1	: O/P3: 4-20mA
Analogue output 2	: O/P18: 0-10VDC

Optional Separate Aux. Supply: Add -SD for models with Separate DC Aux. Supply. (Example: KCV12FB-SD)

