



- Insulation monitoring and earth fault protection of high tension AC networks
- Neutral voltage displacement monitoring
- Open Delta measuring principle
- Triple relay operation gives more flexibility
- Up to two individual very fast analogue output signals (<50mS), (optional)
- DIN96 Slave Indicator with status LEDs (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)	0-50/120V
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

The digitally controlled KCV14x50 is a triple zone (two-level) trip relay connected in an Open Delta configuration. The unit detects changes in the neutral point voltage in a non-grounded high tension network, caused by insulation fault. Often supplied via a step-down transformer.

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

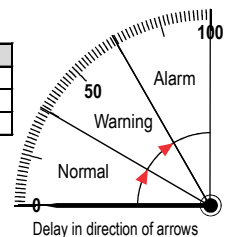
Up to two individual very fast analogue output signals (optional) proportional to monitored parameters. This may be used as an input to a control system, to detect abnormal conditions. If output is used for remote meter reading, we recommend 0-1mA for the slave indicator.

## RELAY OUTPUTS

Relay operation depends on the selected model. Other combinations are available on request.

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

LED status		
Power	Warning	Alarm
●	●	●
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
KCV14E50	-	-	-	-	-
KCV14FA50	-	X	-	-	-
KCV142FB50	-	X	X	-	-
KCV14G50	X	-	-	-	-
KCV14GFA50	X	X	-	-	-
KCV14GFB50	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)	

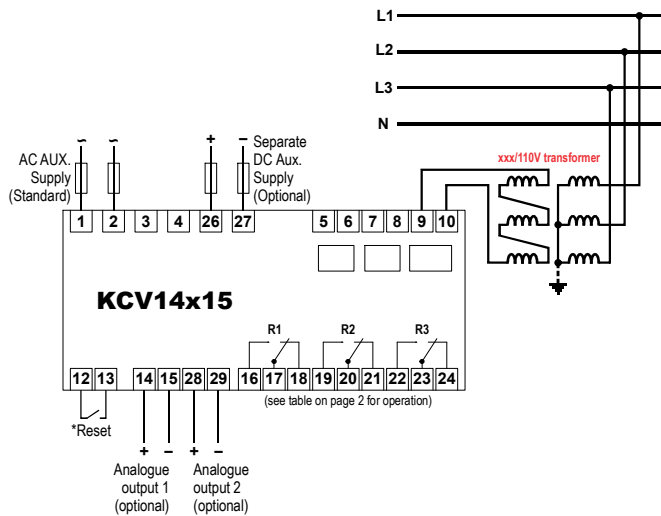
The unit meets EN 60255-27 Cat. III, Pollution degree 2 and the relevant environmental and EMC tests specified in EN 60255-26 to comply with the requirements of the major Classification Societies.

Related information:

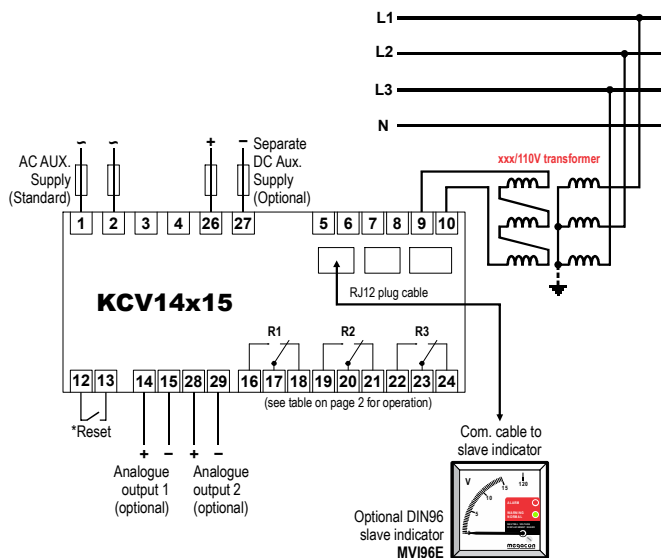
The KCV14x50 series are also available for panel mounting as KPV14x50 series.

## 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

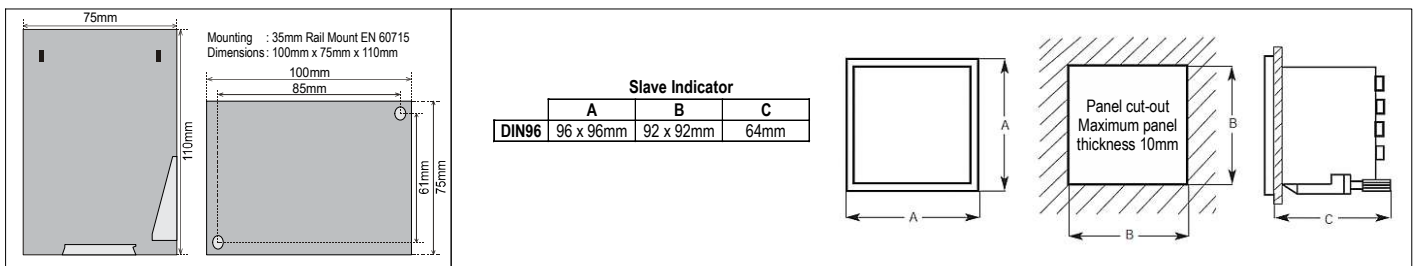
## Connection

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	: KCV14FB50
Aux. Supply	: 200-240VAC
Input Voltage	: 6kV/110VAC
Range	: 0-15/120V
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: KCV14FB15-SD)

