



- 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)	0-50V, 0-150V, 0-250V 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

The digitally controlled KCV14x 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

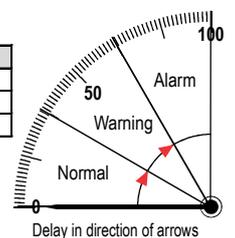
Up to two individual very fast analogue output signals (optional) proportional to monitored parameters. This may be used as an input to a control system, to detect abnormal conditions. If output is used for remote meter reading, we recommend 0-1mA for the slave indicator.

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
KCV14E	-	-	-	-	-
KCV14FA	-	X	-	-	-
KCV14FB	-	X	X	-	-
KCV14G	X	-	-	-	-
KCV14GFA	X	X	-	-	-
KCV14GFB	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)	

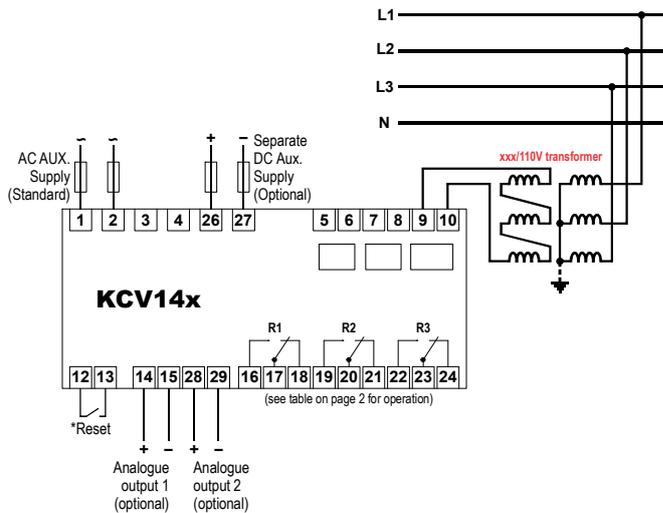
The unit meets EN 60255-27 Cat. III, Pollution degree 2 and the relevant environmental and EMC tests specified in EN 60255-26 to comply with the requirements of the major Classification Societies.

Related information:

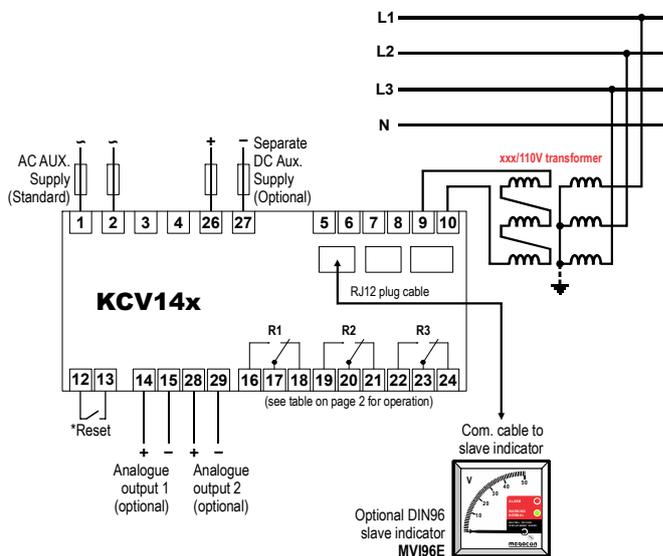
The KCV14x series are also available for panel mounting as KPV14x series.

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

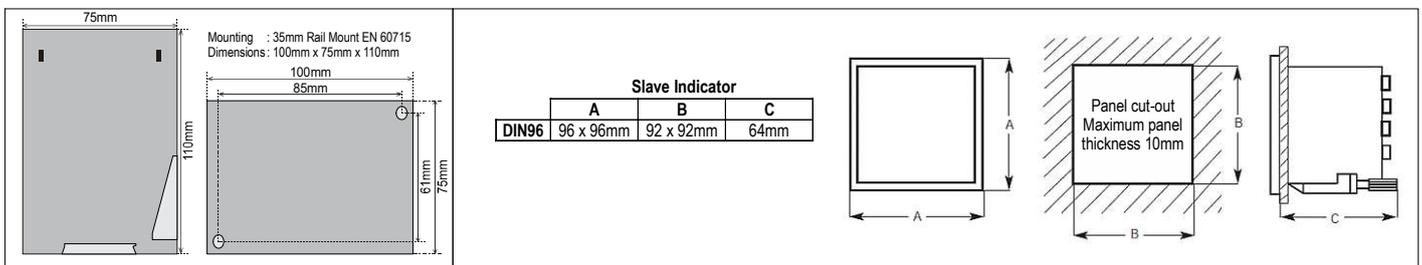
Connection

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	: KCV14FB
Aux. Supply	: 200-240VAC
Input Voltage	: 6kV/110VAC
Range	: 0-50V
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: KCV14FB-SD)

