THREE PHASE VOLTAGE GUARD

KCV233x/234x

- **Precision Under/Over Voltage Protection, not affected by heavily distorted waveform**
- **Voltage Imbalance Protection**
- **3- or 4- wire systems. Definite time trip delays**
- **Pathfinder function identifies faulty phase**
- **Complies with G59 requirements**
- **Optional fast "highest up" analogue output (F-version)**
- **Optional DIN96 Slave Indicator with Status LEDs**

Specifications

Monitored Voltage range:	100-120, 200-240, 380-415 or 380-440V, 40-70Hz (Fuse 0,5A)			
Optional aux. Supply:	24, 110VDC (Fuse 2A)			
Contact Rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.			
Optional slave meter	External moving voltage meter 150, 300, 500 or 600V as standard			
Adjustments:	U/V Level	U/V Delay (sec)	O/V level	O/V Delay (sec)
Versions: E, F, G, GF	0/-20%	0-30	0/+20%	0-30
B	0/-20%	0-1	0/-20%	0-1
C	0/-50%	0-30	0/+50%	0-30
Optional analogue output: (F-versions)	0-10, 0-20 or 4-20mA, max 500ohm 0-10V, min 10kohm			
Temperature:	-20 to +70ºC			
Weight:	0.5kgs			
Front protection:	IP21			

KCV233x - Three Phase 3-wire system
KCV234x - Three Phase 4-wire system

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.

Description

The digitally controlled KCV233x and KCV234x provide precision (0.5% repeatability) high/low line voltage and phase voltage protection respectively to any three phase generator or motor.

A digitally controlled voltage window discriminator controls operation and delay of the voltage low/high alarm relays. The unit measures the zero point crossing and the true r.m.s. voltage value, and accuracy is independent of any wave form distortion.

The auxiliary voltage is supplied from the unit voltage inputs. A DC auxiliary voltage input is optionally available. A green LED indicates POWER on. Start of monitoring function is delayed when the power is switched on (default 2 secs delay). In this way false tripping during power up is avoided.

The voltmeter and the triple-zone status LEDs give the clear safety message:

- HIGH ALARM
- NORMAL
- LOW ALARM

Red alarm lamps U/V (under voltage) and/or O/V (over voltage) flash instantly (approx. 1 flash per second) on passing the lower and/or upper voltage differential set points. The lamp changes state and the trip relay operates after the pre-set delay. If a fault condition ends during the delay interval, the timer will automatically reset.

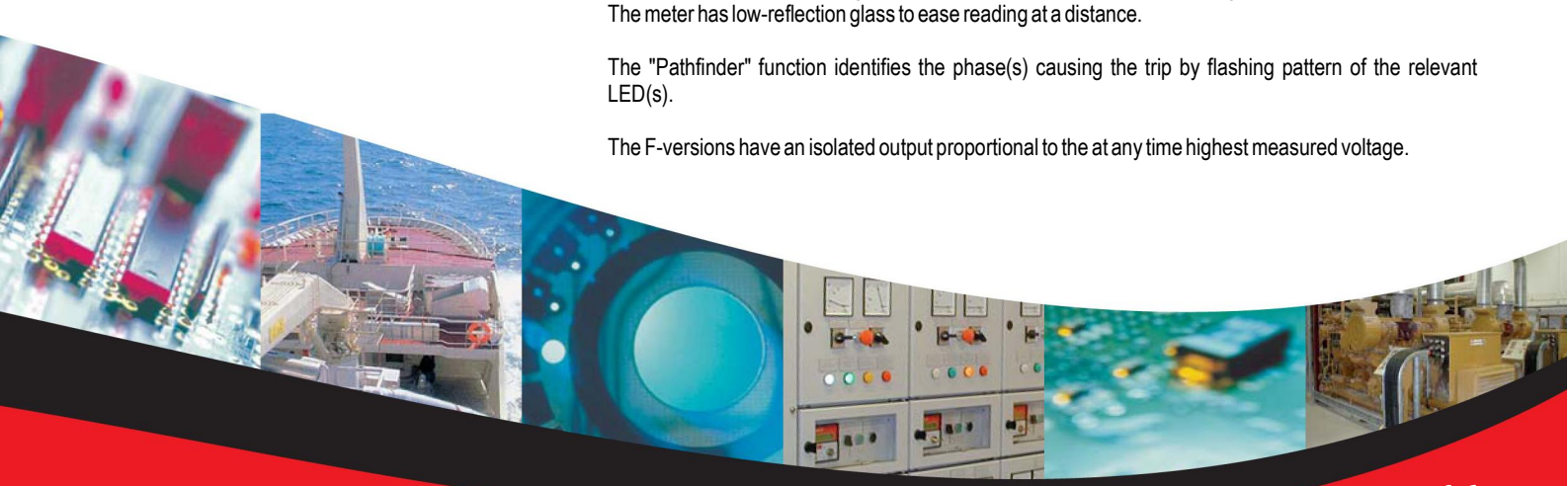
The voltage differential set points can be user-adjusted to suit most applications. Trip levels and delays are settable on unit front. Operation of the status trip relay is inverted (fail safe), i.e. the relay is energised during normal conditions.

If one phase voltage is below the low trip level and, simultaneously, another phase voltage exceeds the high trip level then all three relays will operate.

The optional class 1,5 moving iron DIN96 slave voltmeter will view the highest up of the three phases. The meter has low-reflection glass to ease reading at a distance.

The "Pathfinder" function identifies the phase(s) causing the trip by flashing pattern of the relevant LED(s).

The F-versions have an isolated output proportional to the at any time highest measured voltage.



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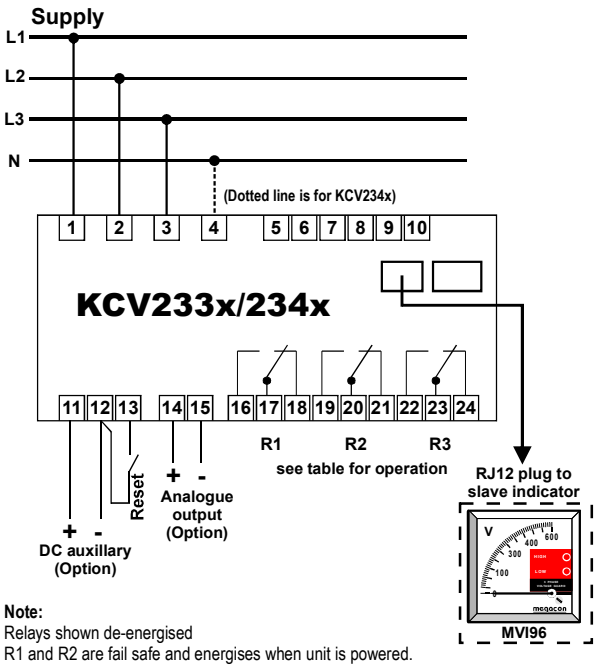


Note:
Relays shown de-energised
R1 and R2 are fail safe and energises when unit is powered.

Analogue Output

The **KCV233F**, **KCV233GF**, **KCV234F** and **KCV234GF** have an isolated output proportional to the highest measured voltage at any time.

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 - 10V**
O/P4	N/A	O/P9	**0,2 - 10V**
O/P5	N/A	O/P10	**4,3 - 20mA**

Relay Operation

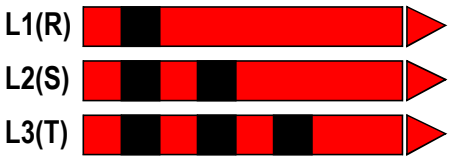
	U/V	O/V	Fail safe	Latch
R1	√		√	√ *
R2		√	√	√ *
R3	√	√		

*All G-versions have latching relays

Relay Reset
Any latched relay is reset by linking terminals 12 and 13.

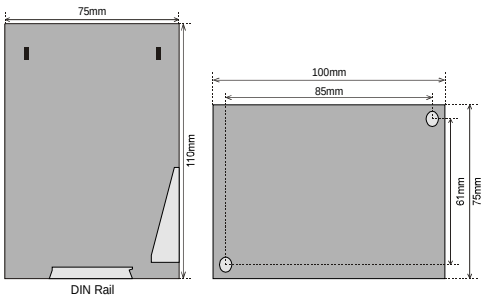
Pathfinder Function

The "Pathfinder" function identifies the phase(s) causing the trip by the flashing pattern of the relevant LED(s).



Red indicates LED on

Dimensions



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

ORDERING EXAMPLE:

Type:	KCV233F
Aux. Supply:	200-240V
System Voltage :	230V (nom.)
Range:	0-300V
Analogue O/P:	O/P 3:4-20mA

IS range