



- 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)

Specifications

Monitored voltage range:	100-120V, 200-240V, 380-415V or 440-460VAC, 40-70Hz
Optional separate aux. voltage:	AC 100-120V, 200-240V, 380-415V, 440-460V (Fuse 0.5A) DC 24, 110VDC (Fuse 2A)
Supply tolerance:	± 10%
Power rating:	1.5VA
Voltmeter standard and scale:	0-150V, 0-300V, 0-500V or 0-600V
Contact rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.
Adjustments:	Trip level Delay
Trip level High:	(Vn) 0% to +20% 0-30 Sec
Trip level Low:	(Vn) 0% to -20% 0-30 Sec
Analogue outputs (F-versions):	Up to 20mA, max 500ohm Up to 10V, min 100kohm
Temperature:	-20 to +70°C
Weight:	0.64kgs
Front protection:	IP52 (IP65 optional)

Description

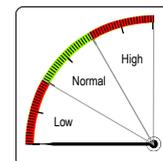
The digitally controlled KEV233x and KEV234x provide precision (0.5% repeatability) high/low line voltage and phase voltage protection respectively to any three phase generator or motor.

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 as standard. A DC or AC 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.

High voltage alarm (R1) and Low voltage alarm (R2) operates if either the high or low relays trip. The voltmeter and the triple-zone status LEDs give the clear safety message:

- HIGH (O/V) (red zone)
- NORMAL (green zone)
- LOW (U/V) (red zone)



The unit meets EN 61010-1 Cat. III, Pollution degree 2 and the relevant environmental and EMC tests specified in EN 61326-2-4 to comply with the requirements of the major Classification Societies.

KEV233x : Three Phase, 3-wire system
KEV234x : Three Phase, 4-wire system

Red alarm lamps LOW (under voltage) and/or HIGH (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 rear. Operation of the status trip relay is inverted (fail safe), i.e. the relays are energised during normal conditions.

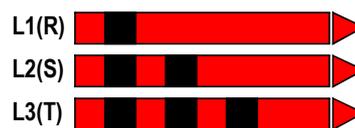
If one phase voltage is below the low trip level and, simultaneously, another phase voltage exceeds the high trip level then both relays will operate.

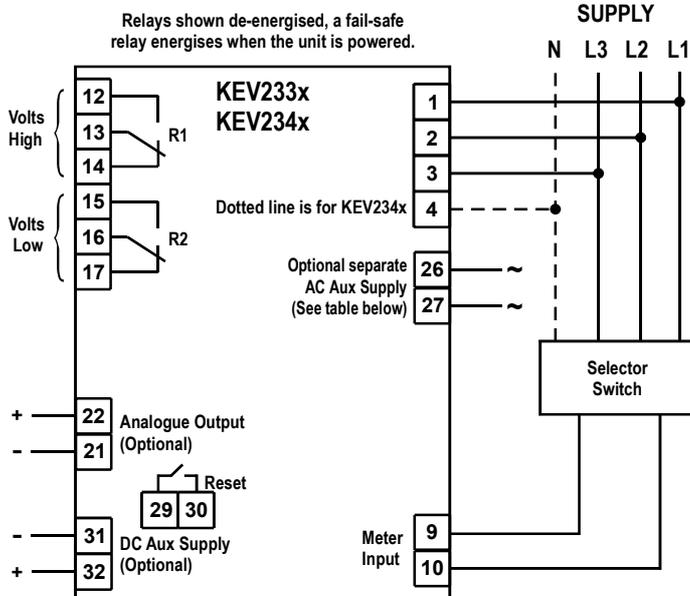
The class 1,5 moving iron DIN96 voltmeter must be connected directly to any phase or via a selector switch to read all three phases. The unit has low-reflection glass to ease reading at a distance.

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

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

Pathfinder Function





Relay Reset

Any latched relay is reset by linking terminals 29 and 30 or by interrupting the voltage input to terminal 1 or 26 (see models)

Analogue Output

The KEV233F, KEV233F2, KEV233GF, KEV233GF2, KEV234F, KEV234F2, KEV234GF and KEV234GF2 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

The class 1,5 moving iron DIN96 voltmeter must be connected directly to any phase or via a selector switch to read all three phases.

Relay Operation

	O/V	U/V	Fail safe	Latch
R1	✓		✓	*✓
R2		✓	✓	*✓

*All G-versions have latching relays

Adjustments	Trip level	Delay
High (Over Voltage):	(V nom.) 0% to +20%	0-30secs
Low (Under Voltage):	(V nom.) 0% to -20%	0-30secs

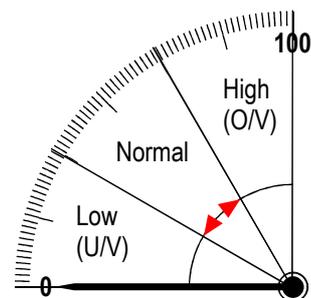
Model	Latch	Output	Separate Aux. Supply	System
KEV233E	-	-	-	3-wire
KEV233F	-	X	-	3-wire
KEV233E2	-	-	X	3-wire
KEV233F2	-	X	X	3-wire
KEV233G	X	-	-	3-wire
KEV233GF	X	X	-	3-wire
KEV233G2	X	-	X	3-wire
KEV233GF2	X	X	X	3-wire

Model	Latch	Output	Separate Aux. Supply	System
KEV234E	-	-	-	4-wire
KEV234F	-	X	-	4-wire
KEV234E2	-	-	X	4-wire
KEV234F2	-	X	X	4-wire
KEV234G	X	-	-	4-wire
KEV234GF	X	X	-	4-wire
KEV234G2	X	-	X	4-wire
KEV234GF2	X	X	X	4-wire

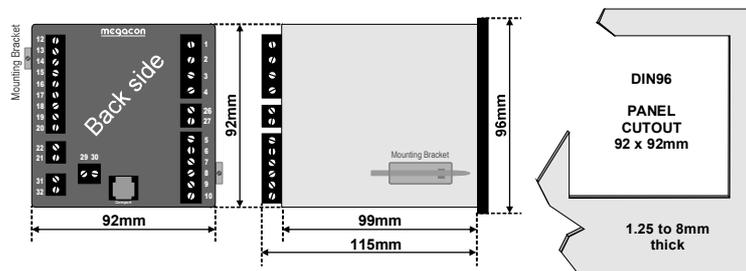
Relay Configurations

The relay operation is delayed in the arrow direction.

Both trip levels can, independently, individually set over the scale range.



Dimensions



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

ORDERING EXAMPLE:

Type: KEV233F
 Aux. Supply: 200-240V
 System Voltage : 230V (nom.)
 Range: 0-300V
 Analogue O/P: O/P3: 4-20mA

