



- Protects a paralleled generator from feeding power into a non-live grid (3-wire or 4-wire systems)
- Generator to Grid Protection
- Rate Of Change Of Frequency (R.O.C.O.F. / df/dt)
- Step Phase Angle - Vector Shift
- Triple relay operation
- Adjustable Supervision delay

Specifications

Auxiliary Voltage:	100-120, 200-240, 380-415 or 440-460VAC, 40-70Hz (Fuse 0,5A)
Optional Auxiliary Voltage:	24, 110VDC (Fuse 2A)
Monitored Voltage Input:	100-120, 200-240, 380-415 or 440-460VAC
Contact Rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.
Standard adjustments:	Phase Angle: 1-14 degrees Rate of Frequency: 0,1-1,0 Hz/secs Supervision Delay: 1-10 secs
Temperature:	-20 to +70°C
Weight:	0.5kgs
Front protection:	IP21
Enclosure:	Flame retardant polycarbonate to UL94 (VO)

Description

The KCG593x meets the protection requirements of Regional Electricity Companies (REC's) for private generation connected to mains supply such as defined in G59 recommendations.

It combines both Rate of Change of Frequency (R.O.C.O.F.) and Step Phase Angle protection in one single unit. Trip status is indicated by two LED's.

An inhibit input is controlled by auxiliary contacts on the generator and mains breakers so that the relay outputs are only enabled when both breakers are closed.

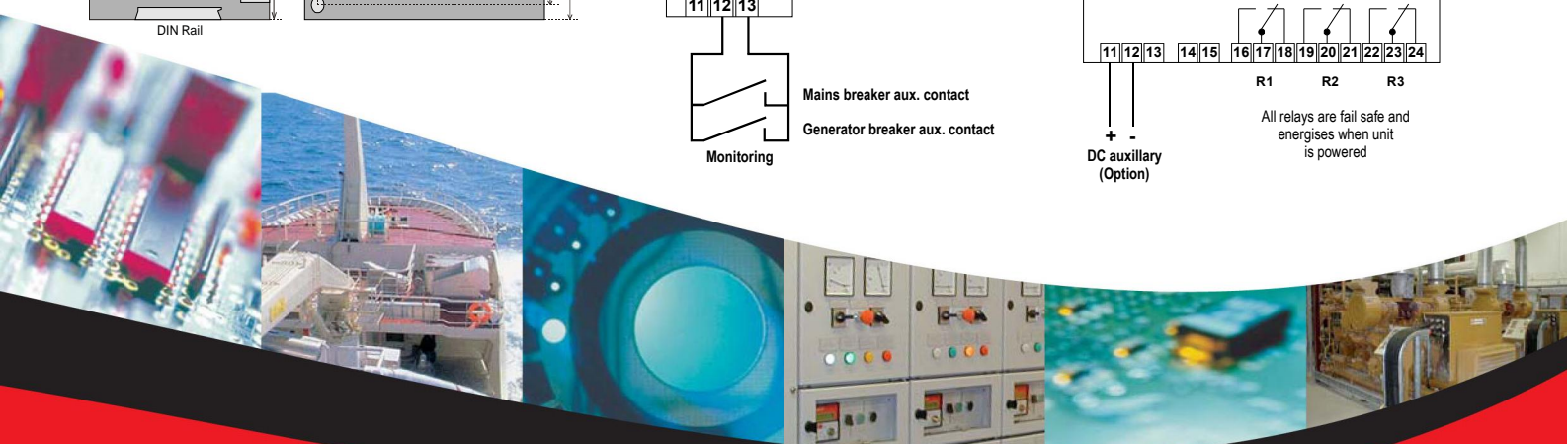
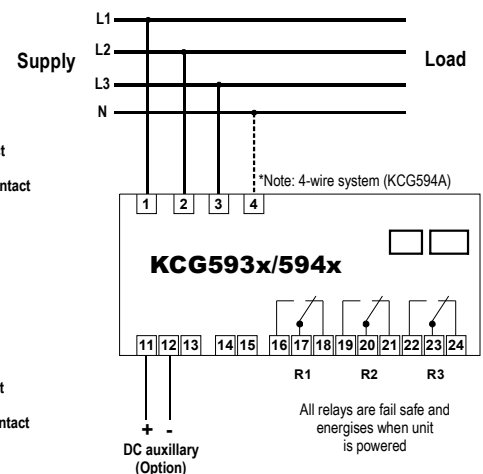
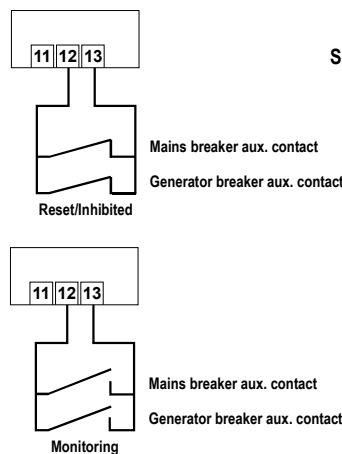
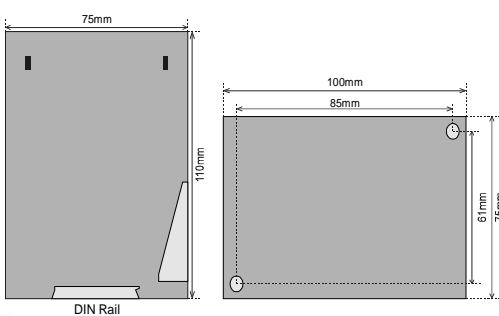
An adjustable Supervision delay is fitted to overcome spurious tripping that may occur when synchronising with the mains.

Typical trip times are 20-50mS for step phase angle change and 200-300mS for rate of change of frequency.


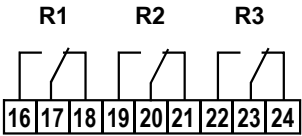
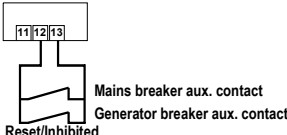

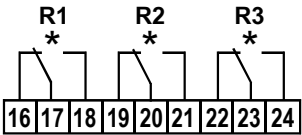
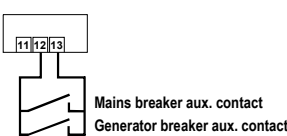
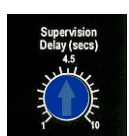

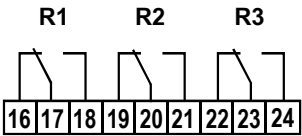

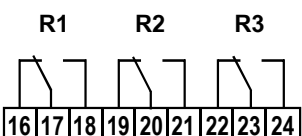
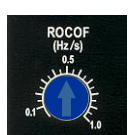

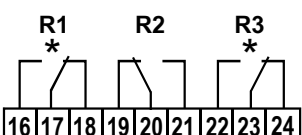


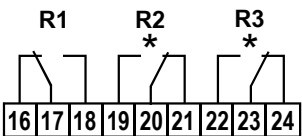

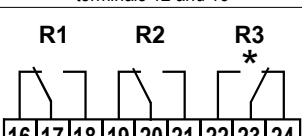
Auxiliary supply and monitored inputs can be from the same source, as shown, or independent (DC).

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.

KCG593A 3 phase 3-wire configuration
KCG594A 3 phase 4-wire configuration



Operation

	Auxiliary supply off	 <p>Both LED's off</p>	
	Auxiliary supply on, unit inhibited/reset	 <p>Steady Green A LED</p>	
 	During supervision delay	 <p>Steady Green A LED Flashing Green B LED</p>	
	Loss of Mains Mode Normal operation	 <p>Steady Green A and B LED's</p>	
	Loss of Mains Mode After failure (R.O.C.O.F.)	 <p>Steady Red A LED (R.O.C.O.F.)</p>	
	Loss of Mains Mode After failure (Vector shift)	 <p>Steady Red B LED (Vector jump)</p>	
	If one or more phases of the monitored supply is lost, relay 3 de-energises	 <p>Flashing Red B LED</p>	

If auxiliary supply is maintained, R1 and R3 latch and can be reset by connecting terminals 12 and 13

If auxiliary supply is maintained, R2 and R3 latch and can be reset by connecting terminals 12 and 13

* indicates relay changing state

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

ORDERING EXAMPLE:

Type: KCG594A
 Aux. Voltage: 200-240V 50/60Hz
 Monitored Voltage & Hz: 230V / 50Hz

