



- Precision Reactive Power Overload Protection, not affected by heavily distorted waveforms
- 3 or 4-wire systems. Definite time trip delays
- Triple relay operation gives more flexibility
- Fast response analogue kVAr-signal output, <50mS (F version)
- Wide range setting of high overload contact hysteresis

**Specifications**

Auxiliary Voltage:	100-120, 200-240, 380-415 or 440-460VAC, 40-70Hz	
Optional DC Auxiliary Voltage:	Nom. 12, 24, 48 or 110VDC	
Current Input:	1 or 5A C.T. <0,1VA	
Contact rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.	
<b>Adjustments</b>	<b>Trip level</b>	<b>Delay</b>
HIGH:	0-100% of FSD	0-30secs
LOW:	0-100% of FSD	0-30secs
<b>Hysteresis</b>		
HIGH:	2-50% of FSD	
LOW:	Fix 2% of FSD	
Analogue Output:	Up to 20mA, max 500R or *F version Up to 10V, min 100kohm (other on request)	
Temperature:	-20 to +70°C	
Weight:	0.6kgs	
Front protection:	IP54 (IP65 optional)	

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.

Related information:  
The KPVA18x-range is also available for rail mounting as KCVA18x.

**Application**

The digitally controlled KPVA18x range provides precision (1.0%) reactive power overload protection and monitoring of three phase generators or motors.

The unit measures the voltage and current true r.m.s. value, and accuracy is independent of any wave form distortion. The auxiliary voltage is supplied from the unit voltage input. A DC auxiliary voltage input is optionally available.

A green LED indicates POWER on. 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 DIN96 instrument reads the power level directly in kVAr. The kVAr-meter and the triple-zone status LEDs give the clear safety message: LOW/NORMAL /HIGH at a glance.

**Relay Outputs**

The unit has relay outputs for low load (R1), Overload (R2) and R3 activates if either R1 or R2 is active. Both high and low relay are fail to safety configured. A trip LED flashes when the trip level is passed, the relay trips when the delay has elapsed. The timer resets if the fault is removed during countdown. Hysteresis, Trip levels and delays are settable on unit rear. The High/Low relays can be used to regulate power in AC systems.

**Description**

**KPVA181E For use in three phase 3-wire configuration**

Both overload relays can be used for non-essential load release or as an alarm indication. A wide range overload contact hysteresis can be set to enable R2 to be used for a non-essential load to be reconnected or as a standby generator stop signal. Relay R3 is an additional relay that can be used for local indication, as an input to an alarm system etc.

**KPVA181F** Similar to KPVA181E but also includes an analogue output proportional to the generator kVAr-load.

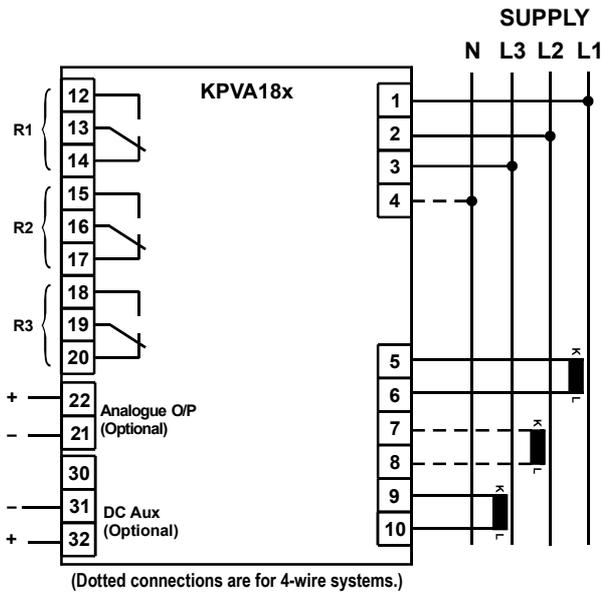
**KPVA184E For use in three phase 4-wire configuration**

Both overload relays can be used for non-essential load release or as an alarm indication. A wide range overload contact hysteresis can be set to enable R2 to be used for a non-essential load to be reconnected or as a standby generator stop signal. Relay R3 is an additional relay that can be used for local indication, as an input to an alarm system etc.

**KPVA184F** Similar to KPVA184E but also includes an analogue output proportional to the generator kVAr-load.



To ensure correct kVAr measurement voltage phase sequence and CT connections MUST be as shown on connection diagram.



**NOTE:** Details in individual connection diagram supplied with unit may differ from the general diagram shown above.

## Relay

	LOW	HIGH	FAIL SAFE	LATCH
R1	✓		✓	
R2		✓	✓	
R3	✓	✓		

## Fail-safe

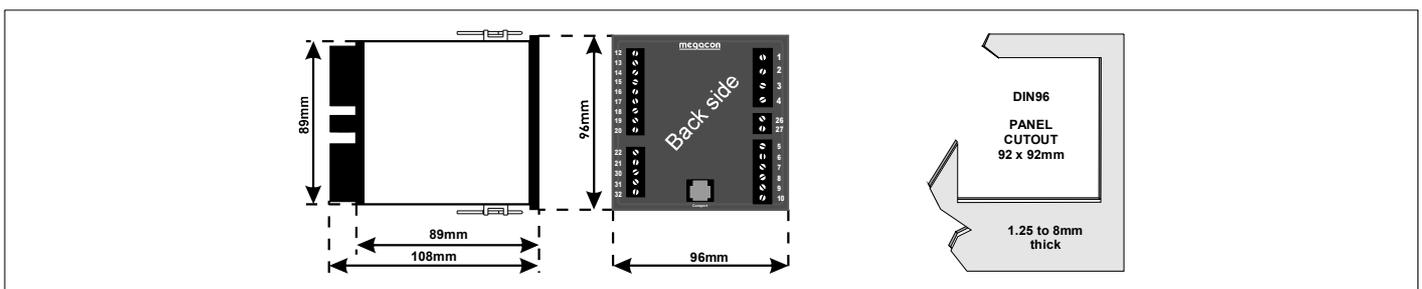
All fail-safe relays will energise and change state when unit is powered.

## Analogue Output

KPVA181F and KPVA184F have an analogue output proportional to the kVAr-meter reading. The signal is specifically intended as an input to a control system for kVAr monitoring, load sharing, load shedding etc.

Add to type designation suffix from table below to designate 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 MEGAICON policy is one of continuous improvement, consequently equipment supplied may vary in detail from this publication.

### ORDERING EXAMPLE:

Type: KPVA184F  
 Aux. Supply: 200-240V  
 Input Voltage: 690/230V  
 Input Current: 1500/5A  
 Range: -150/0/+1500kVAr  
 Analogue O/P: 4,3-20mA

