



- Precision High / Low Frequency Protection
- Ranges 45-55Hz, 55-65Hz and 45-65Hz
- Quartz Controlled Frequency Protection and Meter
- Definite time trip delays
- Complies with G59 requirements
- Optional very fast analogue output (<50mS), (F-versions)

**Specifications**

Auxiliary Voltage:	100-120V, 200-240V, 380-415V, 440-460 or 480VAC 40-70Hz (Fuse 0,5A)	
Optional Auxiliary Voltage:	24, 48 or 110VDC (Fuse 2A)	
Supply tolerance:	± 10%	
Power rating:	1,5VA	
Contact rating:	AC: 100VA - 250V/2A max. DC: 50W - 100V/1A max.	
Adjustments:	<u>Trip level</u>	<u>Delay</u>
Trip level High		
45-55Hz & 55-65Hz:	0% to +10%	0-30 secs
45-65Hz:	0% to +20%	0-30 secs
Trip level Low		
45-55Hz & 55-65Hz:	0% to -10%	0-30 secs
45-65Hz:	0% to -20%	0-30 secs
Analogue outputs:	Up to 20mA, max 500ohm (other on request) Up to 10V, min 100kohm	
Temperature:	-20 to +70°C	
Weight:	0.64kgs	
Front protection:	IP52 (IP65 optional)	

**Description**

The digitally controlled KPF221x provide precision (0.2%) high/low frequency protection.

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

The auxiliary voltage is supplied from the unit voltage input. ADC 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 precision DIN96 meter reads the frequency directly in Hz, and has low-reflection glass to ease reading at a distance.

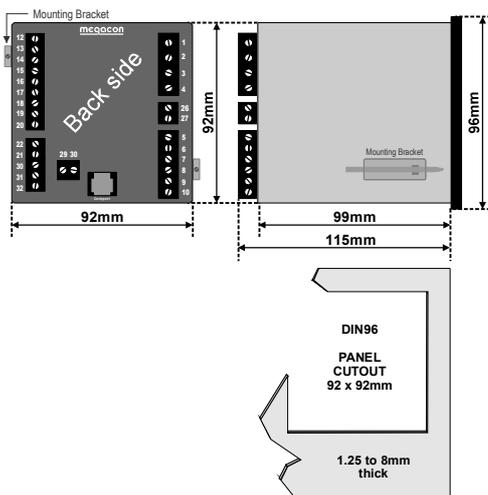
The frequency meter and the triple-zone status LEDs at a glance gives the clear safety message:  
LOWALARM - NORMAL - HIGHALARM

The unit has C/O relay outputs for Frequency High Trip (R1) and Frequency Low Trip (R2). A trip LED flashes when the trip level is passed, the relay trips after elapsed delay. The frequency differential set points can be user-adjusted to suit most applications. Trip levels and delays are settable on unit rear.

Red alarm lamps FREQUENCY LOW or FREQUENCY HIGH flash instantly (approx. 1 flash per second) on passing the frequency differential set points. The lamp changes state and the alarm relay operates after the pre-set delay. If a fault condition ends during the delay interval, the timer will automatically reset.

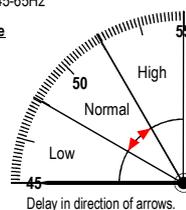
The F-versions have a fast response mA output signal proportional to the Hz range.

**Dimensions**



Standard scale: 45-55Hz, 55-65Hz or 45-65Hz

Models	Latch	Output	Fail safe
KPF221E	-	-	X
KPF221F	-	X	X
KPF221G*	X	-	X
KPF221GF*	X	X	X
KPF221H	-	-	-
KPF221HF	-	X	-
KPF221HG*	X	-	-
KPF221HGF*	X	X	-



KPF221E, KPF221F, KPF221G\*, KPF221GF\*

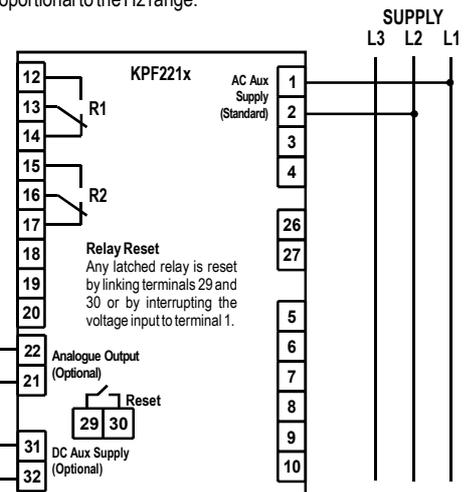
	High	Low	Fail safe	Latch
R1	✓		✓	* / ✓
R2		✓	✓	* / ✓

(KPF221E is the standard version)

KPF221H, KPF221HF, KPF221HG\*, KPF221HGF\*

	High	Low	Fail safe	Latch
R1	✓		✓	* / ✓
R2		✓	✓	* / ✓

Relays shown de-energised.  
A fail-safe relay energises when unit is powered.



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.

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

**ORDERING EXAMPLE:**  
 Type: KPF221F  
 Aux. Supply: 200-240V  
 Input: 230V  
 Range: 45-55Hz  
 Analogue O/P: 4-20mA

