

# 170 WATT AC-DC CONVERTER

**FHKJ-00X Series  
3 CHANNEL**

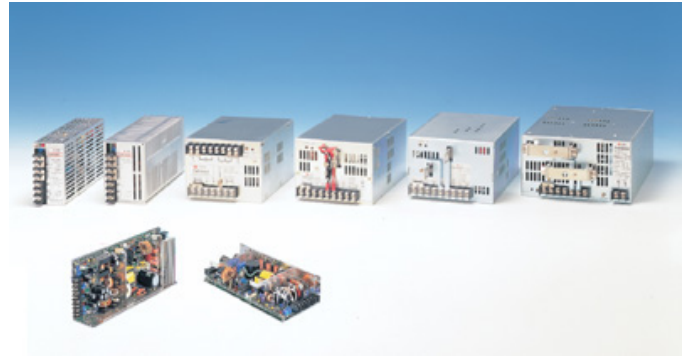
## FHKJ-00X-U1 Series



RoHS

### General Description

FH-Series is a new generation of power supplies. It's the latest design following international standards and market demands. This type of power supply has all in one: These supplies incorporate Power Factor Correction (PFC), low line distortion per IEC61000-3-2 and universal inputs. (EMI) complies with VDE 0871/B, EN50022/B, FCC level B. Safety complies with VDE/EN 60950-1, CSA 234. Size is compatible with WR-series. High efficiency and near unity power factor: an optimal combination of cost and performance for both power user and supplier.



### Features

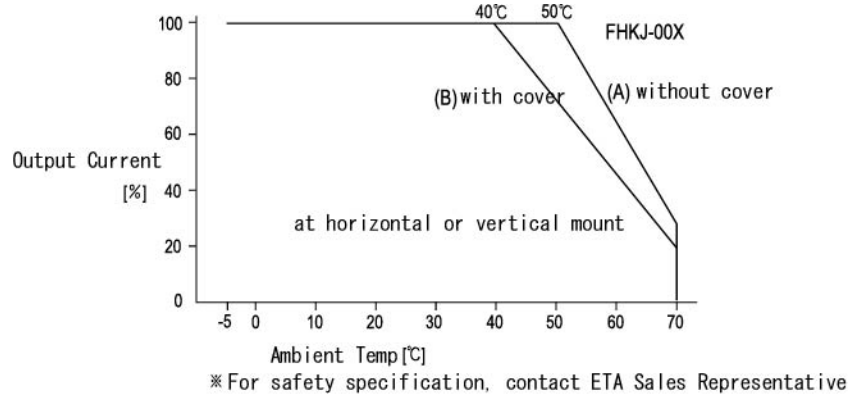
1. Universal input 85-264VAC
2. Power factor correction
3. Immunity against surge and burst

### Options

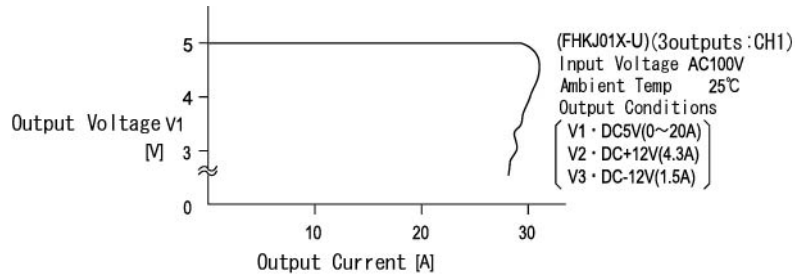
N/A

Specifications<AC/DC>	Model			
FHKJ**X-U 170WATTS/3 OUTPUTS	FHKJ01X-U	FHKJ03X-U	FHKJ04X-U	FHKJ06X-U
<b>Input Characteristic</b>				
Input Voltage	AC115-230V			
Input Current	3.0-1.5A			
Input Range	AC85-264V			
Input Frequency	50/60Hz			
Input Frequency Range	47-63Hz			
Phase	Single			
Inrush Current *1	20A(maximum) at AC100V/40A(maximum) at AC200V			
Efficiency [%] (minimum)	70%(typical) at AC100V/72%(typical) at AC200V			
Power Factor	0.99(typical) at AC100V/0.97(typical) at AC200V			

### DERATING CURVE



### EFFICIENCY CURVE



Specifications<AC/DC>		Model											
FHKJ**X-U 170WATTS/3 OUTPUTS		FHKJ01X-U			FHKJ03X-U			FHKJ04X-U			FHKJ06X-U		
Output Voltage [V]		5	+12	-12	5	+12	-5	5	+15	-15	5	24	12
Output Current [A]	*2	3-20	6.5	1.5	3-20	6.5	2	3-20	5.5	1.2	3-20	3.3	1.5
			Peak8.5			Peak8.5						Peak4.3	
Voltage Adjust Range		+/- 10% of Rated Output Voltage(at no load within the input range)											
Ripple and Noise [mVp-p](maximum) *3		150	220	220	150	220	150	150	250	250	150	340	220
Regulation													
a.Statistic Line Regulation [mV](maximum)		40	96	96	40	96	40	40	120	120	40	192	96
b.Statistic Load Regulation [mV](maximum)		50	120	120	50	120	50	50	150	150	50	240	120
c.Temperature Coefficient *4		0.03%/°C											
d.Drift[mV](maximum) *5		50	120	120	50	120	50	50	150	150	50	240	120
e.Dynamic Load Regulation [mV](typical) *6		not specified											
f.Recovery Time *6		not specified											
Rise up time		500mS(maximum) at 25°C and rated input/output											
Hold up time		50mS(minimum) at 25°C and rated input/output											
<b>Functions</b>													
Overcurrent Protection [A]		Current Limiting with automatic recovery											
		activates ≥ 179watts Please contact factory for further information											
Overvoltage Protection ≥ 120% of Rated Output Voltage[V]		V1,V2:Output shutdown(to reset,leave 3minutes after shut-off)/V3:not available											
		6.0	14.4	-	6.0	14.4	-	6.0	18.0	-	6.0	28.8	-
Remote Sense		not available											
Remote On/Off		available											
Power Fail Detection		available											
Parallel/series Operation		not available											
<b>Environmental</b>													
Operating Temperature		-5 to +50°C/enclosed type:-5 to +40°C											
Operating Humidity		30 to 85%RH(non-condensing)											
Storage Temperature		-20 to +85°C											
Storage Humidity		20 to 85%RH(non-condensing)											
Withstanding Voltage		Primary-Secondary AC3,000V for 1minute											
		Primary-Frame Ground AC2,500V for 1minute											
		Secondary-Frame Ground AC500V for 1minute											
Isolation Resistance		Primary-Secondary-Frame Ground 100MΩ(minimum) by DC500V insulation tester											
Vibration		5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)											
Shock		294m/s <sup>2</sup>											
Cooling		Convection											
Leakage Current		1mA(maximum) at 25°C,rated input/output and rated input frequency											
Line Conducted Noise		Built to meet FCC Part15-B Class B											
		Built to meet VCCI Class B											
		Built to meet EN55022											
Line Harmonic Distortion		Built to meet IEC1000-3-2											
Safety		UL: UL1950											
		C-UL: CSA C22.2 No.950(Level 3)											
		VDE:EN60950-1 2006, IEC950, VDE0805											
Weight (typical)		1,200g/enclosed type:1,450g											
? MTBF [H]		170,000											
? Switching Frequency[kHz](typical)		125											

Conditions:

\*1 at cold start

\*2 Total power of the outputs is limited to 170W(maximum)[190W(maximum) at peak load condition] each output is affected by this limit

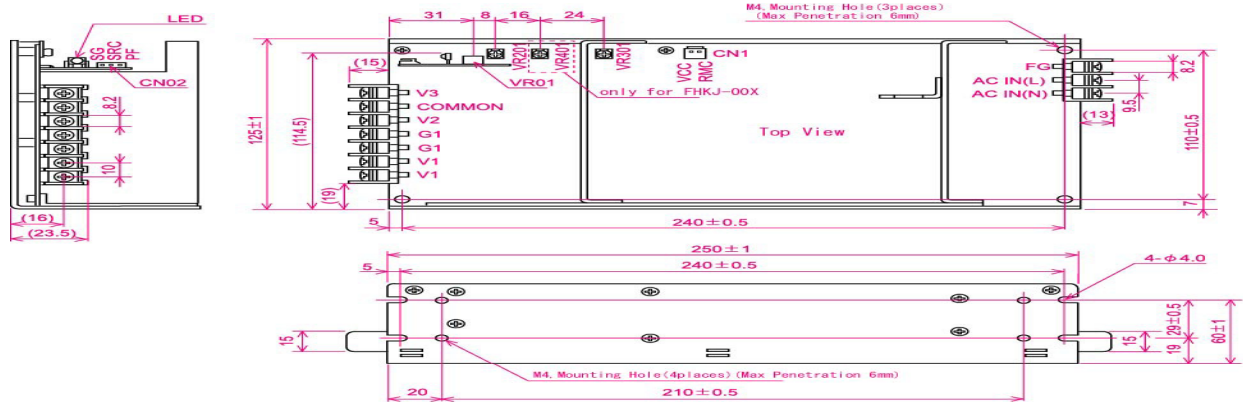
\*3 measured by a bayonet probe at the end of a pair of 20cm long wires terminated with a 47uF electrolytic capacitor and a 0.1uF film capacitor in parallel at a 0 to 100MHz bandwidth

\*4 at -5 to +50°C

\*5 for 7hour period after 1hour warm-up at 25°C and rated input/output

\*6 when output current changed from 25% to 75% of rated output current rapidly at rated input

## DIMENSION DIAGRAM



FHKJ\_X

## OCV CURVE

