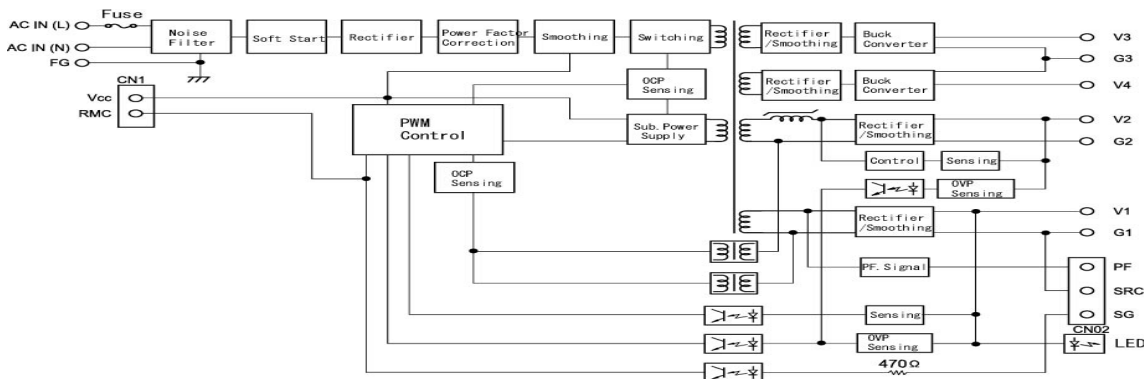


170 WATT AC-DC CONVERTER

FHKQ-00X Series 4 CHANNEL

Specifications<AC/DC> FHKQ**X-U 170WATTS/4 OUTPUTS	Model					
	FHKQ41X-U	FHKQ42X-U	FHKQ43X-U	FHKQ44X-U	FHKQ45X-U	FHKQ46X-U
Input Characteristic						
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) *2	65/68	65/70	67/70	65/68	65/70	67/70
Power Factor	0.99(typical) at AC100V/0.97(typical) at AC200V					

DIMENSION BLOCK

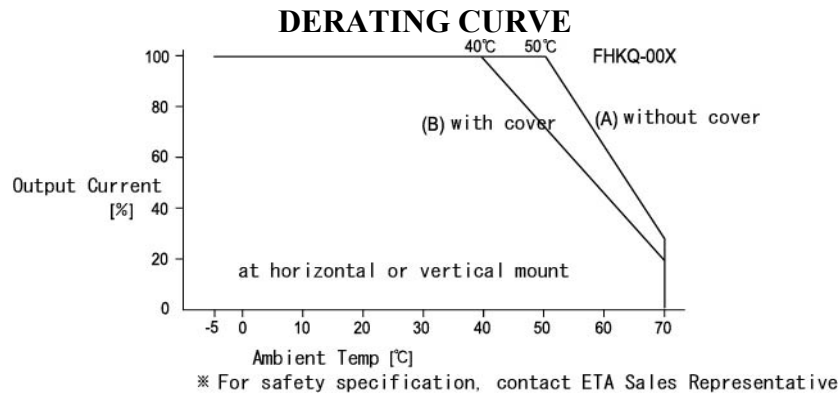


FHKQ-00X

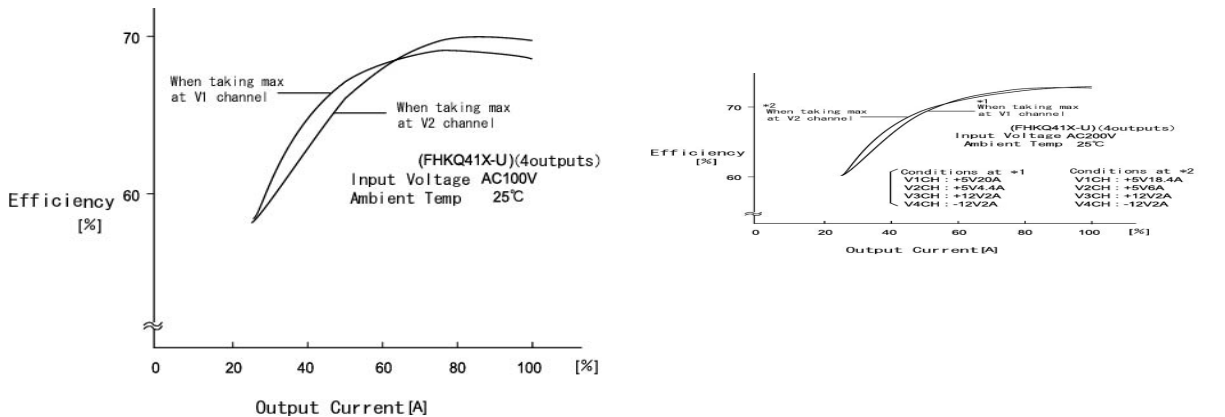
Specifications<AC/DC> FHKQ**X-U 170WATTS/4 OUTPUTS	Model																							
	FHKQ41X-U				FHKQ42X-U				FHKQ43X-U				FHKQ44X-U				FHKQ45X-U				FHKQ46X-U			
Output Characteristic																								
Output Voltage [V]	5	5	+12	-12	5	12	+12	-12	5	24	+12	-12	5	5	+15	-15	5	12	+15	-15	5	24	+15	-15
Output Current [A]	3-20	6.0	2.0	2.0	3-15	6.5	2.0	2.0	3-15	3.3	2.0	2.0	3-20	6.0	2.0	2.0	3-15	6.5	2.0	2.0	3-15	3.3	2.0	2.0
			P2.5	P2.5		P8.5	P2.5	P2.5		P4.3	P2.5	P2.5			P2.5	P2.5		P8.5	P2.5	P2.5		P4.3	P2.5	P2.5
Voltage Adjust Range	V1, V2: +/- 10% of Rated Output Voltage (at minimum load within the input range) V3, V4: fixed with tolerance of +/-3%(at minimum load within the input range)																							
Ripple and Noise [mVp-p](maximum) *3	150	150	220	220	150	220	220	220	150	340	220	220	150	150	250	250	150	220	250	250	150	340	250	250
Regulation																								
a. Statistic Line Regulation [mV](maximum)	40	40	96	96	40	96	96	96	40	192	96	96	40	96	120	120	40	192	120	120				
b. Statistic Load Regulation [mV](maximum)	50	50	360	360	50	120	360	360	50	240	360	360	50	50	450	450	120	120	450	450	300	240	450	450
c. Temperature Coefficient *4	0.03%°C																							
d. Drift [mV](maximum) *5	50	50	120	120	50	120	120	120	50	240	120	120	50	50	150	150	50	120	150	150	50	240	150	150
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																							
Functions																								
Over current Protection ≥105% of Rated Output Current [A]	V1, V2: Current Limiting with automatic recovery V3, V4: by the power H.I.C's characteristics Activates ≥200watts Please contact factory for further information																							
Over voltage Protection ≥120% of Rated Output Voltage [V]	V1, V2: Output shutdown (to reset, leave 3minutes after shut-off) V3, V4: not available																							
	5.75	5.75			5.75	13.8			5.75	27.6			5.75	5.75			5.45	13.8			5.75	27.6		
Remote Sense	Not available																							
Remote On/Off	Available																							
Power Fail Detection	Available																							
Parallel/series Operation	Not available																							
Environmental																								
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 ² , 20minutes' period for 60minutes each along X, Y, Z axes (non-operating)																							
Shock	294m/s ²																							
Cooling	Convection																							
□ Leakage Current	1mA(maximum) at 25□, 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 VDE0871Class B																							
□ Line Harmonic Distortion	Built to meet IEC1000-3-2																							
□ Safety	UL: UL1950 C-UL: CSA C22.2 No.950 (Level 5) VDE: EN60950, IEC950, VDE0805																							
□ Weight (typical)	1,650g/enclosed type: 1,850g																							
□ MTBF [H]	35,000																							
□ Switching Frequency [kHz](typical)	125																							

Conditions:

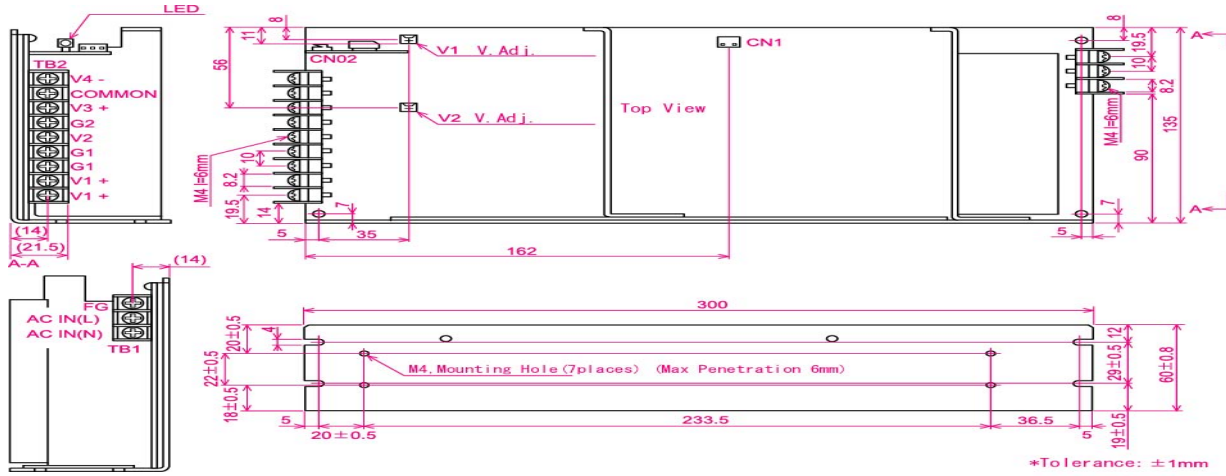
- *1 at cold start
 - *2 at AC115/230V input and 170watts output
 - *3 measured by a bayonet probe at the end of a pair of 20cm long wires terminated with a 47uF electrolytic capacitor and 0.1uF film capacitor in parallel at a 0 to 100MHz bandwidth
 - *4 at -5 to +50°C
 - *5 for 7hour period after 1hour 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
- note: does not satisfy the output specs of V3 and V4 when V1 or V2 goes overcurrent



EFFICIENCY CURVE



DIMENSION DIAGRAM



Dimension Diagram/FHKQ-X

OCP CURVE

