

KHEA series

KHE A 240 F -24 -□
 ① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
 KHEA120F NAC-04-472
 KHEA240F NAC-06-472



High voltage pulse noise type : NAP series
 Low leakage current type : NAM series
 *The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Option
- C : with Coating
- N2: Screw mounting

MODEL	KHEA120F-24	KHEA240F-24	KHEA480F-24	PRELIMINARY
MAX OUTPUT WATTAGE[W]	120	240	480	
DC OUTPUT	24V 5A (Peak 7.5A)	24V 10A (Peak 15A)	24V 20A (Peak 30A)	

SPECIFICATIONS

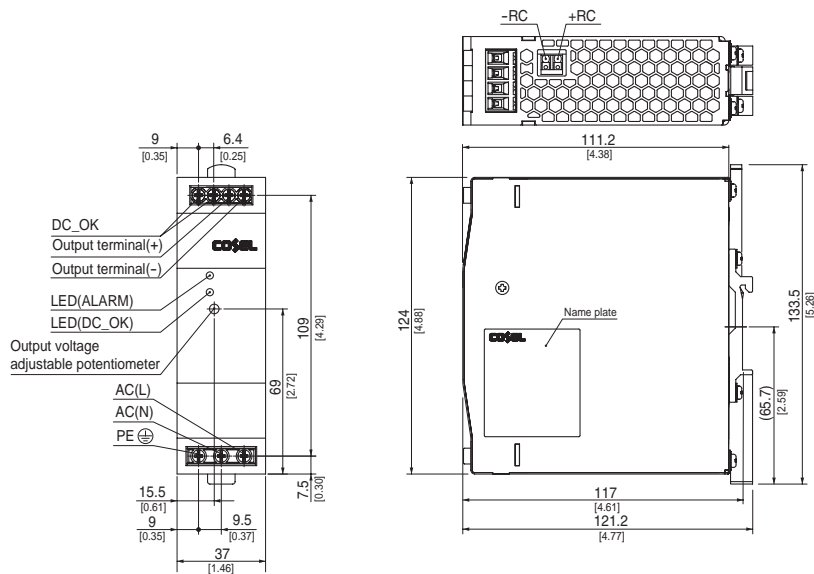
	MODEL	KHEA120F-24	KHEA240F-24	KHEA480F-24	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC120 - 370			
	CURRENT[A]	ACIN 115V	1.2typ	2.3typ	4.6typ
		ACIN 230V	0.6typ	1.2typ	2.3typ
	FREQUENCY[Hz]	50 / 60 (47 - 63) or DC			
	EFFICIENCY[%]	ACIN 115V	90typ	92typ	92typ
		ACIN 230V	92typ	94typ	94typ
	POWER FACTOR	ACIN 115V	0.98typ	0.98typ	0.98typ
		ACIN 230V	0.93typ	0.93typ	0.93typ
INRUSH CURRENT[A]	ACIN 115V	15typ (at cold start Ta=25°C)	20typ (more than 3 sec. to re-start)		
	*1 ACIN 230V	30typ (at cold start Ta=25°C)	40typ (more than 3 sec. to re-start)		
LEAKAGE CURRENT[mA]	0.45 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)				
OUTPUT	VOLTAGE[V]	24	24	24	
	CURRENT[A]	5	10	20	
	PEAK CURRENT[A]	*2 7.5	15	30	
	LINE REGULATION[mV]	*3 96max			
	LOAD REGULATION[mV]	*3,*4 150max			
	RIPPLE[mVp-p]	0 to +70°C	120max		
		-25 - 0°C	240max		
		Io=0 - 30%	240max *4		
	RIPPLE NOISE[mVp-p]	0 to +70°C	150max		
		-25 - 0°C	300max		
		Io=0 - 30%	300max *4		
	TEMPERATURE REGULATION[mV]	0 to +70°C	240max		
		-25 to +70°C	360max		
	DRIFT[mV]	*6 96max			
START-UP TIME[ms]	750max (ACIN 115V, Io=100%)				
HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)				
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	22.5 to 28.5				
OUTPUT VOLTAGE SETTING[V]	24.0±1.0%				
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 101% of peak current and recovers automatically			
	OVERVOLTAGE PROTECTION[V]	30.0 to 36.0			
	DC_OK LAMP	LED (Green)			
	ALARM LAMP	LED (Red)			
DC_OK CONTACT	Relay contact 30VDC 1A max, 30VAC 0.5A max (resistive load)				
ISOLATION	INPUT-OUTPUT	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)			
	INPUT-PE	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)			
	OUTPUT-PE	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)			
	OUTPUT-RC, DC_OK	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)			
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-25 to +70°C (Required to Derating), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 - 90%RH (Non condensing)			
	VIBRATION	*9 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60 minutes along Z axis (Non operating, mounted on DIN Rail)			
IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis (Packing state)				
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS (At only AC input)	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508, ANSI / ISA12.12.01 Complies with DEN-AN			
	CONDUCTED NOISE	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B			
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 (Class A) *7			
OTHERS	CASE SIZE	*8 37×124×117mm (W×H×D) [1.46×4.88×4.61 inches]	50×124×117mm (W×H×D) [1.97×4.88×4.61 inches]	75×124×117mm (W×H×D) [2.95×4.88×4.61 inches]	
	WEIGHT	700g max	900g max	1,100g max	
	COOLING METHOD	Convection / Forced air			

*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter(0.2ms or less)is excluded.
 *2 Peak current for 5sec. And Duty 35% max. Refer to the instruction manual 3.
 *3 Please contact us about dynamic load and input response.
 *4 The output voltage is below 23.5V, the value is equal to three times of the specification.
 *5 This is the value that measured on measuring board with capacitor of 22 μF and 0.1 μF at 150mm from output terminal.
 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103). Please refer to the instruction manual 2.7.

*6 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *7 Please contact us about another class.
 *8 Case size contains neither the umbo.
 *9 Only as standard mounting orientation (A). Refer to 5.1.
 If install other than standard mounting orientation (A), please fix the power supply for withstand the vibration and impact.
 * To meet the specifications. Do not operate over-loaded condition.
 * A sound may occur from power supply at peak loading.

External view

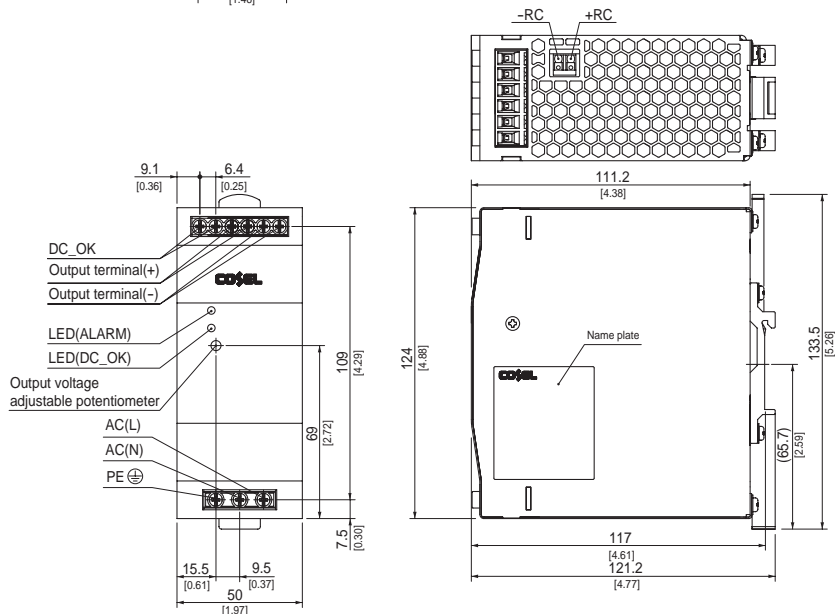
■KHEA120F



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 700g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1N · m max

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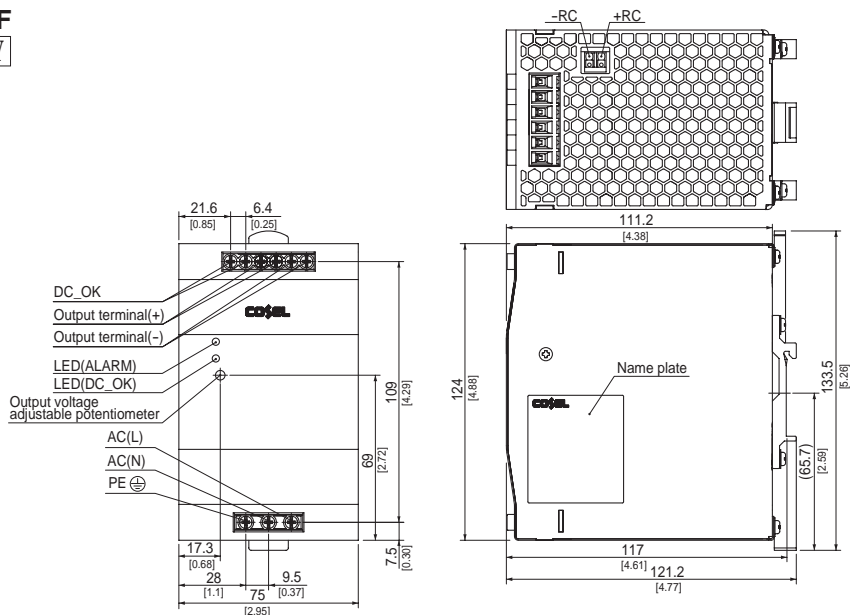
■KHEA240F



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 900g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1N·m max

■KHEA480F

PRELIMINARY



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 1,100g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1N · m max

KHNA series

KHN **A** **240** **F** **-24** **-**

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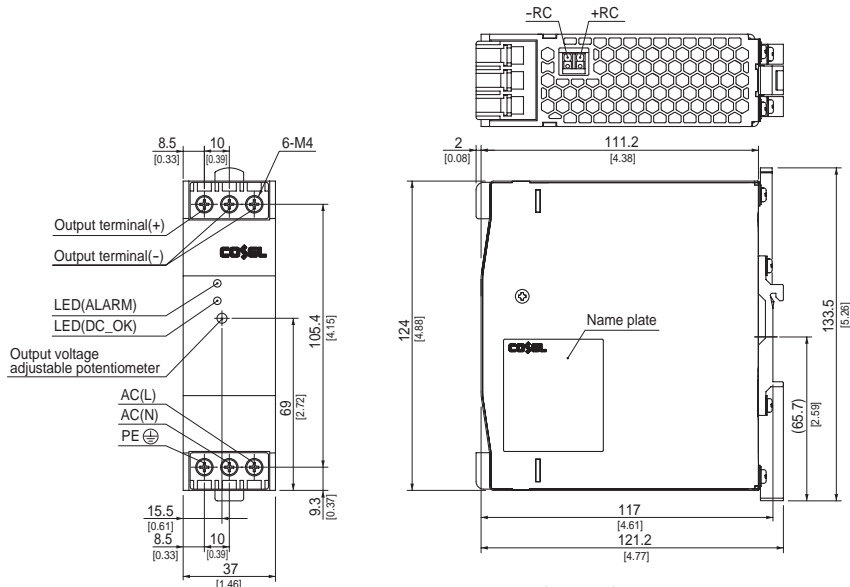
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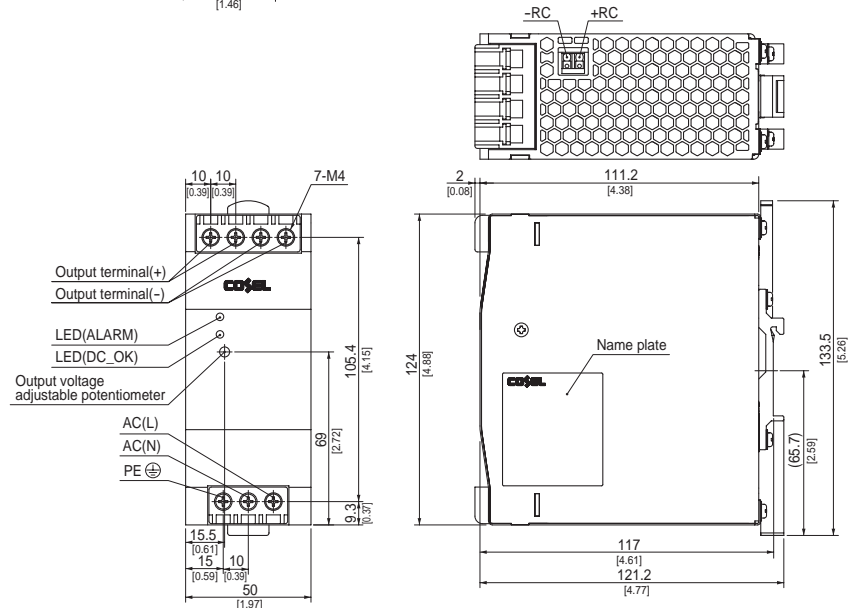
■ KHNA120F



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 700g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1.6N · m max

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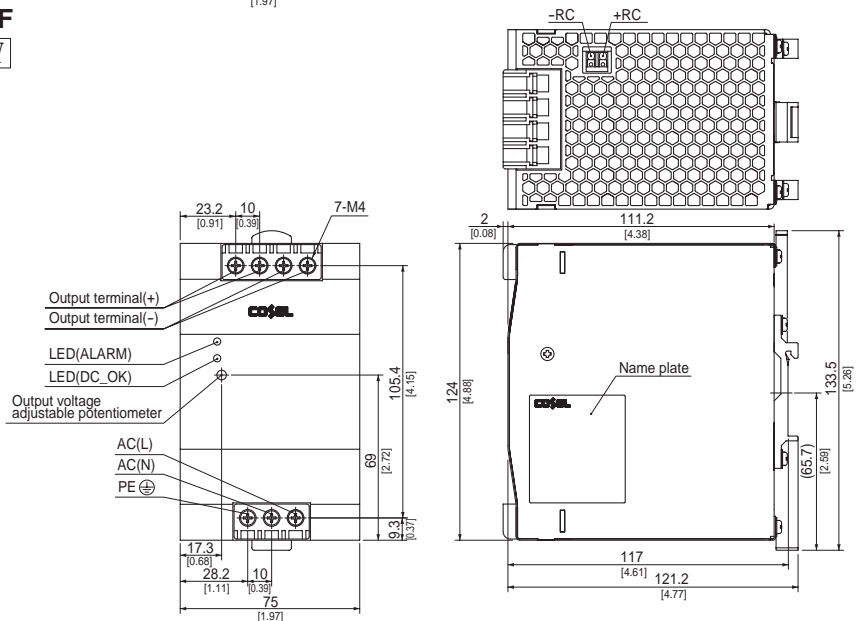
■ KHNA240F



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 900g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1.6N · m max

■ KHNA480F

PRELIMINARY



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 1,100g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Case material : Stainless steel
- ※ DIN rail attachment material : Aluminum, Nylon
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1.6N · m max