COSEL AC-DC Power Supplies DIN Rail Type

KHEA/KHNA120F

Ordering information

KH□ A -120 F -24 -□

① ② ③ ④ ⑤ ⑥

Example recommended EMI/EMC filter
NAC-04-472-D

High voltage pulse noise type : NAP series
Low leakage current type : NAM series

＊A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

①Series name
KHE : Euro style I/O terminals
KHN : Barrier blocks style I/O terminals
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Option
C : with Coating
N2: Screw mounting

＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

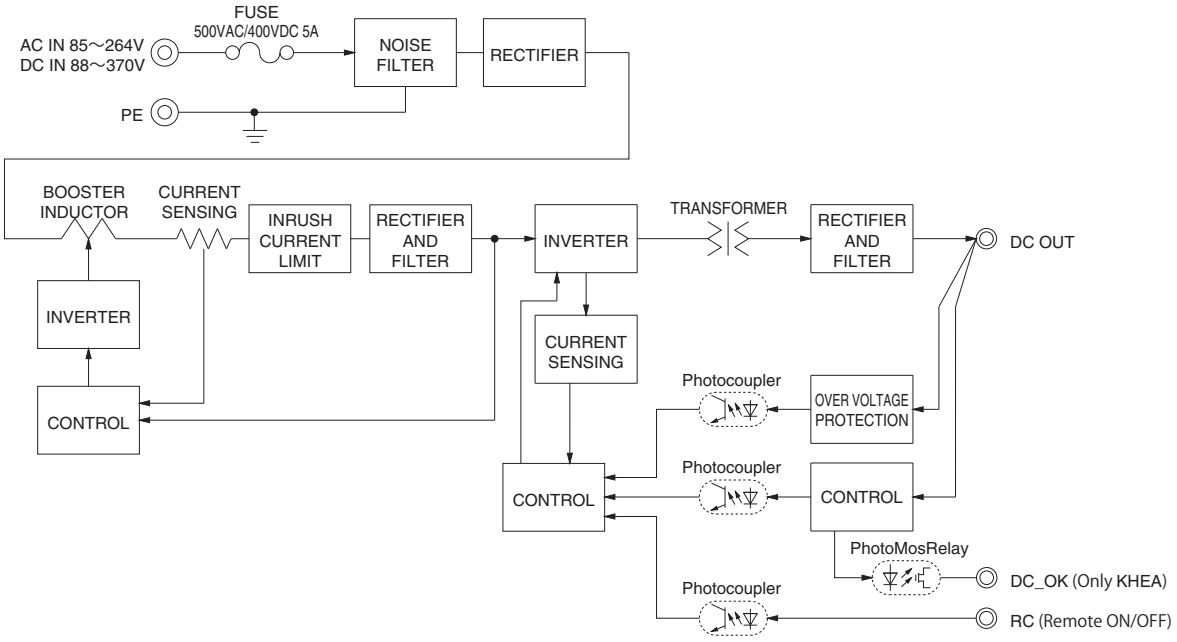
MODEL	KHEA / KHNA120F-24
MAX OUTPUT WATTAGE[W]	120
DC OUTPUT	24V 5A (Peak 7.5A)

SPECIFICATIONS

	MODEL		KHEA / KHNA120F-24
INPUT	VOLTAGE[V]		AC85 - 264 1φ or DC88 - 370 ＊10
	CURRENT[A]	ACIN 115V	1.2typ
		ACIN 230V	0.6typ
	FREQUENCY[Hz]		50 / 60 (45 - 66) or DC
	EFFICIENCY[%]	ACIN 115V	90typ
		ACIN 230V	92typ
	POWER FACTOR	ACIN 115V	0.98typ
		ACIN 230V	0.93typ
	INRUSH CURRENT[A] ＊1	ACIN 115V	15typ (at cold start Ta=25℃)
		ACIN 230V	30typ (at cold start Ta=25℃)
	LEAKAGE CURRENT[mA]		0.45 / 0.75max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)
OUTPUT	VOLTAGE[V]		24
	CURRENT[A]		5
	PEAK CURRENT[A] ＊2		7.5
	LINE REGULATION[mV] ＊3		96max
	LOAD REGULATION[mV] ＊3		150max ＊4
	RIPPLE[mVp-p] ＊5	0 to +70℃	120max
		-25 - 0℃	240max
		Io=0 - 30%	240max ＊4
	RIPPLE NOISE[mVp-p] ＊5	0 to +70℃	150max
		-25 - 0℃	300max
		Io=0 - 30%	300max ＊4
	TEMPERATURE REGULATION[mV]	0 to +70℃	240max ＊4
		-25 to +70℃	360max ＊4
	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) (Only KHEA)
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℃ (Required to Derating), 20 - 90%RH (Non condensing)
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +85℃, 20 - 90%RH (Non condensing)
	VIBRATION ＊9		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60 minutes along Z axis (Non operating, mounted on DIN Rail)
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis (Packing state)
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	AC input	UL60950-1, C-UL (CSA60950-1), EN60950-1, UL508, ANSI/ISA12.12.01, ATEX, GL Complies with DEN-AN
		DC input	UL60950-1, C-UL (CSA60950-1), EN60950-1
	CONDUCTED NOISE		Complies with FCC-B, 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]
	WEIGHT		580g max
	COOLING METHOD		Convection

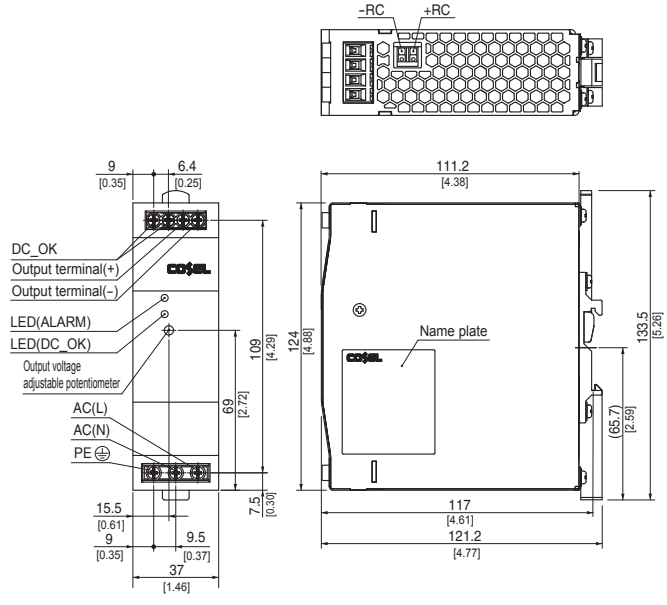
*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter(0.2ms or less)is excluded.
*2 Refer to 3, instruction manual.
*3 Please contact us about dynamic load and input response.
*4 The output voltage is below 23.5V, the value is equal to three times of the specification.
*5 This is the value that measured on measuring board with capacitor of 22μF and 0.1μF 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℃, 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 the instruction manual 5.1. If install other than standard mounting orientation (A), please fix the power supply for withstand the vibration and impact.
*10 Under low DC input voltage below DC110V, the temperature derating -1℃/V or the output power derating -1%/V are required.
* To meet the specifications. Do not operate over-loaded condition.
* A sound may occur from power supply at light or peak loading.

Block diagram



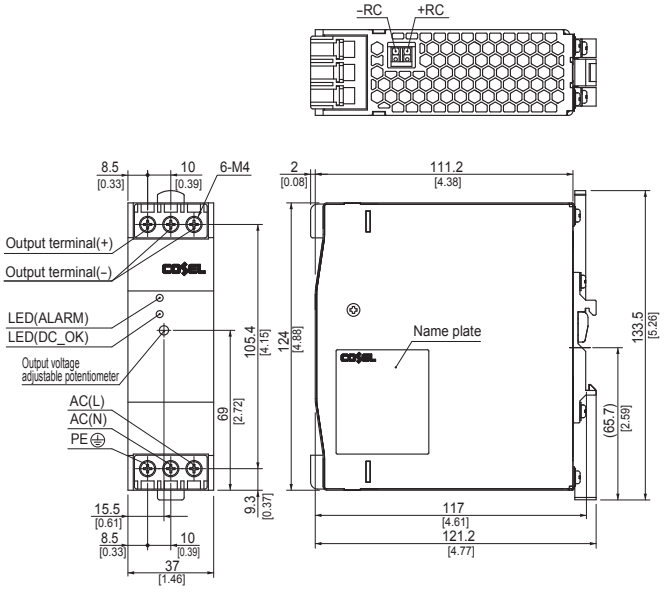
External view

<KHEA120F(Euro Style I/O Terminals)>



※ Tolerance : ±1 [±0.04]
※ Weight : 580g max
※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
※ Chassis material : Aluminum
※ Case material : Stainless steel
※ DIN rail attachment material : Aluminum, Stainless steel, Nylon
※ Dimensions in mm, [ ] = inches
※ Screw tightening torque : 1N・m max

<KHNA120F(Barrier Blocks Style I/O Terminals)>



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※ Chassis material : Aluminum
※ Case material : Stainless steel
※ DIN rail attachment material : Aluminum, Stainless steel, Nylon
※ Dimensions in mm, [ ] = inches
※ Screw tightening torque : 1.6N・m max