

COSÉL AC-DC Power Supplies DIN Rail type

KHEA/KHNA30F

Ordering information

KH **A** **30** **F** - -

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-04-472-D



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
KHE : Euro style I/O terminals
KHN : Barrier blocks style I/O terminals
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Option
C : with Coating

MODEL	KHEA/KHNA30F-5	KHEA/KHNA30F-12	KHEA/KHNA30F-24
MAX OUTPUT WATTAGE[W]	25	27.6	31.2
DC OUTPUT	5V 5A	12V 2.3A	24V 1.3A

SPECIFICATIONS

MODEL	KHEA/KHNA30F-5	KHEA/KHNA30F-12	KHEA/KHNA30F-24
INPUT	AC85 - 264 1 φ (Output derating is required) or DC120 - 370		
CURRENT[A]	ACIN 115V 0.45typ ACIN 230V 0.30typ	0.50typ 0.30typ	0.55typ 0.35typ
FREQUENCY[Hz]	50 / 60 (47 - 440) or DC		
EFFICIENCY[%]	ACIN 115V 84.0typ ACIN 230V 85.5typ	87.0typ 88.5typ	88.5typ 89.5typ
INRUSH CURRENT[A]	ACIN 115V 18typ (I _o =100%) (at cold start Ta=25°C) *1 ACIN 230V 35typ (I _o =100%) (at cold start Ta=25°C)		
LEAKAGE CURRENT[ma]	0.45 / 0.75max (ACIN 100V / 240V 60Hz, I _o =100%, According to IEC60950-1 and DEN-AN)		
OUTPUT	5		
CURRENT[A]	5.0		
PEAK CURRENT[A]	-		
LINE REGULATION[mV] *2	20max		
LOAD REGULATION[mV] *2	80max		
RIPPLE[mVp-p] *3	0 to +70°C 150max -20 - 0°C 300max I _o =0 - 30% 300max *4	150max 300max *4	150max 300max *4
RIPPLE NOISE[mVp-p] *3	0 to +70°C 180max -20 - 0°C 360max I _o =0 - 30% 360max *4	180max 360max *4	180max 360max *4
TEMPERATURE REGULATION[mV]	0 to +70°C 50max -20 to +70°C 60max	120max 150max	240max 290max
DRIFT[mV] *5	20max		
START-UP TIME[ms]	200typ (ACIN 115V, I _o =100%)		
HOLD-UP TIME[ms]	20typ (ACIN 115V, I _o =100%)		
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50		22.50 to 28.50
OUTPUT VOLTAGE SETTING[V]	5.00 to 5.15		24.00 to 24.96
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION Works over 105% of rating and recovers automatically *10		
	OVERVOLTAGE PROTECTION[V] 6.30 to 7.60		30.00 to 36.00
	DC_OK LAMP LED (Green)		
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)		
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE -20 to +70°C (Required to Derating), 20 - 90%RH (Non condensing)		
	STORAGE TEMP., HUMID. AND ALTITUDE -30 to +85°C, 20 - 90%RH (Non condensing)		
	VIBRATION *8 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), UL508 (NEC Class2 per UL1310), ANSI/ISA12.12.01, EN60950-1, EN50178 Complies with DEN-AN		
	CONDUCTED NOISE Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B		
	HARMONIC ATTENUATOR Complies with IEC61000-3-2 (Class A) *6 (Not built-in to active filter) *9		
OTHERS	CASE SIZE *7 22.5 x 75 x 90mm (W x H x D) [0.89 x 2.95 x 3.54 inches]		
	WEIGHT 165g 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 Please contact us about dynamic load and input response.

*3 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.

Ripple and ripple noise spec is change at I_o=0 to 30% by burst operation.

*4 In case of operating under 0°C ambient temperature, the value is two times of specification at 0 to 30% load factor.

*5 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.

*6 Please contact us about another class.

*7 Case size contains neither the umbo.

*8 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.

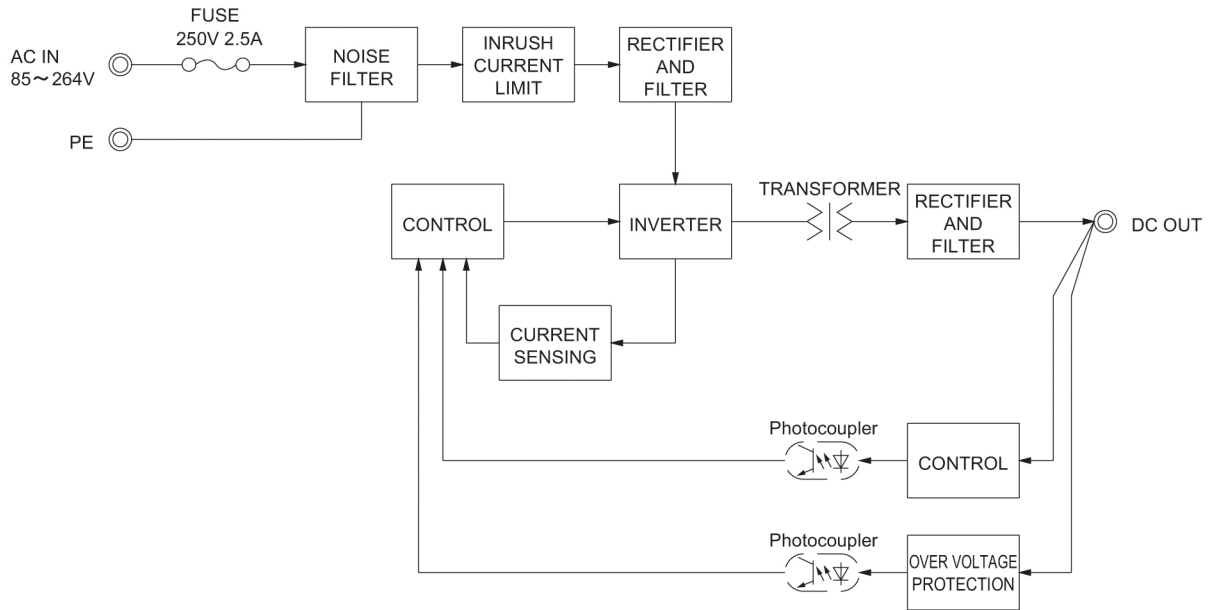
*9 When two or more units are operating it may not comply with the IEC61000-3-2.

*10 If the overcurrent protection circuit operates continuously, the output voltage shut down. Refer to the instruction manual 2.3.

* To meet the specifications. Do not operate over-loaded condition.

* A sound may occur from power supply at light or peak loading.

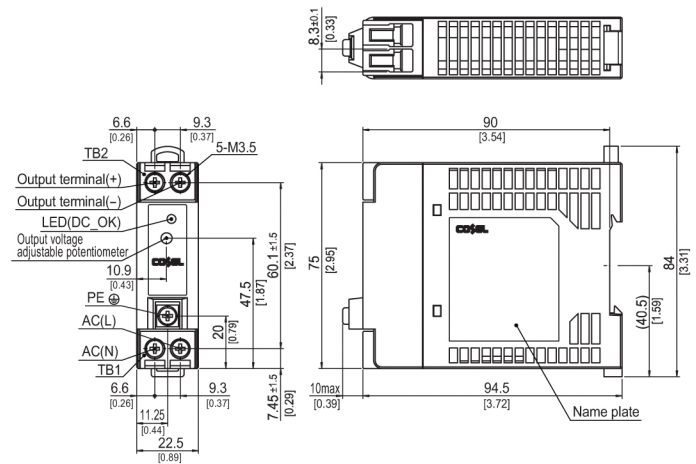
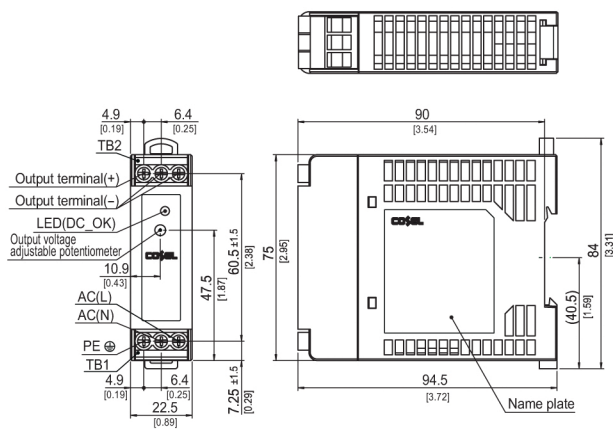
Block diagram



External view

<KHEA30F(Euro Style I/O Terminals)>

<KHNA30F(Barrier Blocks Style I/O Terminals)>



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 165g max
- ※ PCB Material/thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis - Case material : PBT
- ※ Din rail attachment material : PC/ABS
- ※ Dimensions in mm, [] = inches
- ※ Screw tightening torque : 1N · m max

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