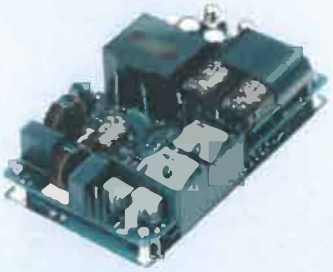
COSEL AC-DC Power Supplies Medical Type

GHA500F

Ordering information

GH A 500 F -□□ -□
① ② ③ ④ ⑤ ⑥



Example recommended EMI/EMC filter
EAC-10-472

High voltage pulse noise type : EAP series
Low leakage current type : EAM 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
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional *6
T3 : mounting hole M3
J1 : VH(J.S.T.)connector type
J3 : Horizontal input connector VH(J.S.T.)connector type
R3 : with Subfeatures (5VAUX,12VAUX,Remote, Power good)
P : Parallel Operation

Specification is changed at option, refer to Instruction manual.

This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, please handle the unit with care
* 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			GHA500F-12	GHA500F-15	GHA500F-24	GHA500F-30	GHA500F-48	GHA500F-56
MAX OUTPUT WATTAGE[W]			500.4	501	504	501	504	504
DC OUTPUT	Forced air	at 50℃	12V 41.7A	15V 33.4A	24V 21.0A	30V 16.7A	48V 10.5A	56V 9.0A
	Convection	at 40℃	12V 12.5A	15V 10.0A	24V 6.3A	30V 5.0A	48V 3.2A	56V 2.7A
		at 50℃	12V 9.2A	15V 7.4A	24V 4.6A	30V 3.7A	48V 2.3A	56V 1.9A
	conduction cooling	at 0℃	12V 30.0A	15V 24.0A	24V 15.0A	30V 12.0A	48V 7.5A	56V 6.4A
		at 50℃	12V 16.7A	15V 13.4A	24V 8.4A	30V 6.7A	48V 4.2A	56V 3.6A

SPECIFICATIONS

	MODEL		GHA500F-12	GHA500F-15	GHA500F-24	GHA500F-30	GHA500F-48	GHA500F-56
INPUT	VOLTAGE[V]		AC90 - 264 1 φ (output derating is required at AC90V -115V *3)					
	CURRENT[A]	ACIN 120V	5.4typ					
		ACIN 230V	2.9typ					
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
	EFFICIENCY[%]	ACIN 120V	88typ	90typ	90typ	90typ	90typ	90typ
		ACIN 230V	90typ	92typ	92typ	92typ	92typ	92typ
	POWER FACTOR (Io=100%)	ACIN 120V	0.95typ					
		ACIN 230V	0.90typ					
	INRUSH CURRENT[A]	ACIN 120V	20typ (Io=100%) (At cold start) (Ta=25℃)					
		ACIN 230V	40typ (Io=100%) (At cold start) (Ta=25℃)					
	LEAKAGE CURRENT[mA]		0.125/0.250max (ACIN 120V/240V 60Hz Io=100% According to IEC60601-1)					
OUTPUT	VOLTAGE[V]		12	15	24	30	48	56
	CURRENT[A]	Forced air	41.7	33.4	21.0	16.7	10.5	9.0
		Convection	9.2	7.4	4.6	3.7	2.3	1.9
		conduction cooling	16.7	13.4	8.4	6.7	4.2	3.6
	LINE REGULATION[mV] *4		48max	60max	96max	120max	192max	192max
	LOAD REGULATION[mV] *4		100max	120max	150max	180max	240max	240max
	RIPPLE[mVp-p] *1	0 to +50℃	240max	240max	240max	300max	300max	400max
		-20 - 0℃	320max	320max	320max	400max	400max	500max
	RIPPLE NOISE[mVp-p] *1	0 to +50℃	300max	300max	300max	480max	480max	500max
		-20 - 0℃	360max	360max	360max	500max	500max	580max
	TEMPERATURE REGULATION[mV]	0 to +50℃	120max	150max	240max	300max	480max	480max
		-20 to +50℃	150max	180max	290max	360max	600max	600max
	DRIFT[mV] *2		48max	60max	96max	120max	192max	192max
	START-UP TIME[ms]		500typ (ACIN 120V, Io=100%)					
	HOLD-UP TIME[ms]		16typ (ACIN 120V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	27.00 to 31.50	43.20 to 52.80	52.00 to 56.00
	OUTPUT VOLTAGE SETTING[V]		12.00 to 12.48	15.00 to 15.30	24.00 to 24.96	30.00 to 31.20	48.00 to 49.92	55.00 to 56.00
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically					
	OVERVOLTAGE PROTECTION[V]		13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	34.50 to 42.00	55.20 to 67.20	60.00 to 69.00
	AUX1 (12V1A)		Optional					
	AUX2 (5V1A)		Optional					
	REMOTE ON/OFF		Optional					
	PowerGood		Optional					
ISOLATION	INPUT-OUTPUT · RC · AUX *7		AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP					
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP					
	OUTPUT · RC · AUX-FG *7		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)					
	OUTPUT-RC · AUX *7		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)					
ENVIRONMENT	OPERATING TEMP. HUMID. AND ALTITUDE		-20 to +80℃, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max					
	STORAGE TEMP. HUMID. AND ALTITUDE		-30 to +80℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis					
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis					
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, ANSI/AAMI ES60601-1, C-UL(CSA60950-1 CAN/CSA60601-1), EN60950-1, EN60601-1 3rd, Complies with DEN-AN, IEC60601-1-2 4th Ed.					
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR11-B, CISPR22-B, EN55011-B, EN55022-B					
	HARMONIC ATTENUATOR		Complies with IEC61000-3-2 (class A) *5					
OTHERS	CASE SIZE/WEIGHT		76.2×35×127mm (3.0×1.4×5.0 inches) (W×H×D) / 420g max					
	COOLING METHOD		Convection, Forced air (Require external fan), Conduction cooling					

*1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal.
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
*2 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.
*3 Derating is required.
*4 Please contact us about dynamic load and input response.
*5 Please contact us about another class.
*6 Specification is changed at option, refer to Instruction Manual.
*7 Applicable when AUX and remote control (optional) is added.
* To meet the specifications. Do not operate over-loaded condition.
* Sound noise may be generated by power supply in case of pulse load.
* Parallel operation is available with -P option. Refer to 5.1on the Instruction manual.
* Forced air cooling is required to output up to MAX OUTPUT WATTAGE.