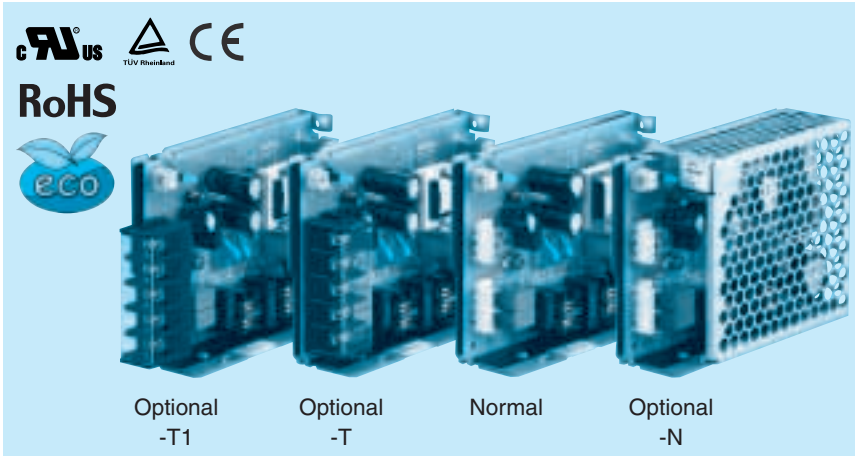
COSEL AC-DC Power Supplies Medical type

PMA15F

Ordering information

PM A 15 F -□ -□

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAM-04-000

Low leakage current type : NAM series

＊The EMI/EMC Filter is recommended to connect with several devices.

①Series name
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional ＊5
T : Vertical terminal block
T1: Horizontal terminal block
N : with Cover
J1: VH(J.S.T.)connector type

Specification is changed at option, refer to Instruction Manual.

PMA

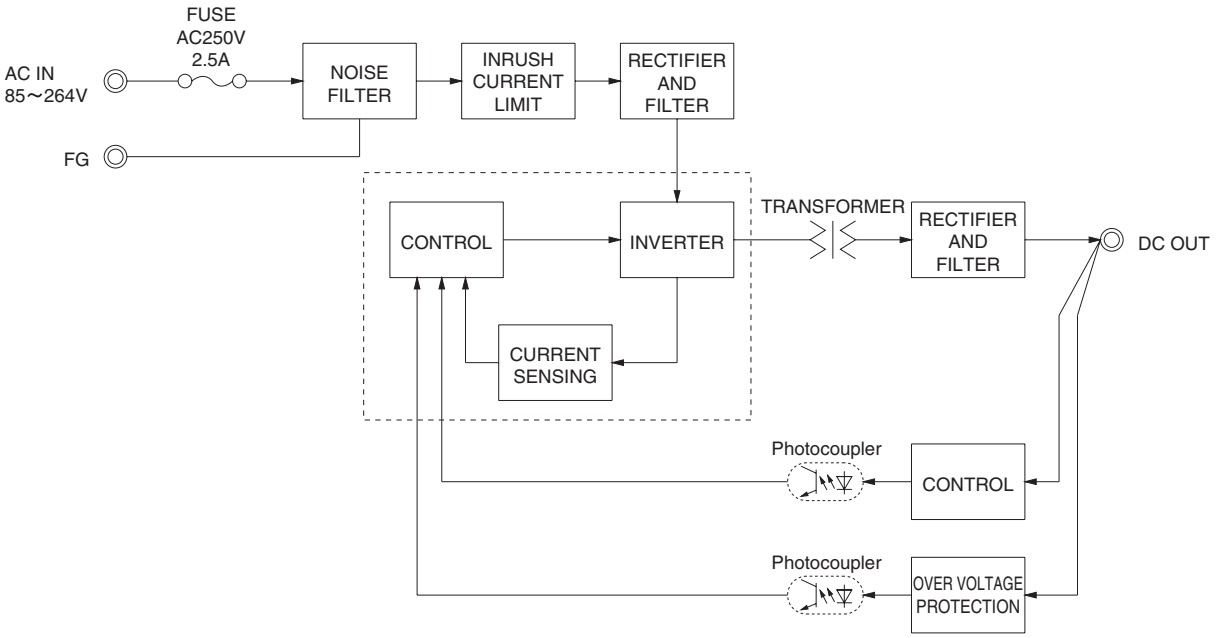
MODEL	PMA15F-3R3	PMA15F-5	PMA15F-12	PMA15F-15	PMA15F-24
MAX OUTPUT WATTAGE[W]	9.9	15	15.6	15	16.8
DC OUTPUT	3.3V 3A	5V 3A	12V 1.3A	15V 1A	24V 0.7A

SPECIFICATIONS

	MODEL		PMA15F-3R3	PMA15F-5	PMA15F-12	PMA15F-15	PMA15F-24
INPUT	VOLTAGE[V]		AC85 - 264 1φ (Refer to the Instruction Manual 1.1 and 3.2) ＊3				
	CURRENT[A]	ACIN 100V	0.30typ (Io=100%)	0.40typ (Io=100%)			
		ACIN 200V	0.15typ (Io=100%)	0.20typ (Io=100%)			
	FREQUENCY[Hz]		50 / 60 (47 - 440)				
	EFFICIENCY[%]	ACIN 100V	66typ	70typ	74typ	76typ	76typ
		ACIN 200V	67typ	74typ	78typ	79typ	79typ
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)				
		ACIN 200V	30typ (Io=100%) (At cold start)				
	LEAKAGE CURRENT[mA]		0.05/0.10max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60601-1)				
OUTPUT	VOLTAGE[V]		3.3	5	12	15	24
	CURRENT[A]		3.0	3.0	1.3	1.0	0.7
	LINE REGULATION[mV]		20max	20max	48max	60max	96max
	LOAD REGULATION[mV]		40max	40max	100max	120max	150max
	RIPPLE[mVp-p] ＊1	0 to +50℃	80max	80max	120max	120max	120max
		-10 - 0℃	140max	140max	160max	160max	160max
	RIPPLE NOISE[mVp-p] ＊1	0 to +50℃	120max	120max	150max	150max	150max
		-10 - 0℃	160max	160max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max
		-10 to +50℃	60max	60max	150max	180max	290max
	DRIFT[mV] ＊2		20max	20max	48max	60max	96max
	START-UP TIME[ms]		200typ (ACIN 100V, Io=100%) ＊Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage.				
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.60	4.50 to 5.50	10.00 to 13.20	13.20 to 18.00	19.20 to 27.00
	OUTPUT VOLTAGE SETTING[V]		3.30 to 3.40	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically				
	OVERVOLTAGE PROTECTION[V]		4.00 to 5.25	5.75 to 7.00	15.00 to 18.00	20.00 to 25.00	30.00 to 37.00
	OPERATING INDICATION		LED (Green)				
	REMOTE ON/OFF		Not provided				
ISOLATION	INPUT-OUTPUT		AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)				
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)				
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +70℃, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max ＊3				
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) 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		UL60601-1, C-UL (CSA-C22.2 No.601.1), EN60601-1				
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR11-B, CISPR22-B, EN55011-B, EN55022-B				
	HARMONIC ATTENUATOR		Complies with IEC61000-3-2 (Not built-in to active filter ＊4)				
OTHERS	CASE SIZE/WEIGHT		31×78×103mm [1.22×3.07×4.06 inches] (W×H×D) / 230g max (without cover)				
	COOLING METHOD		Convection				

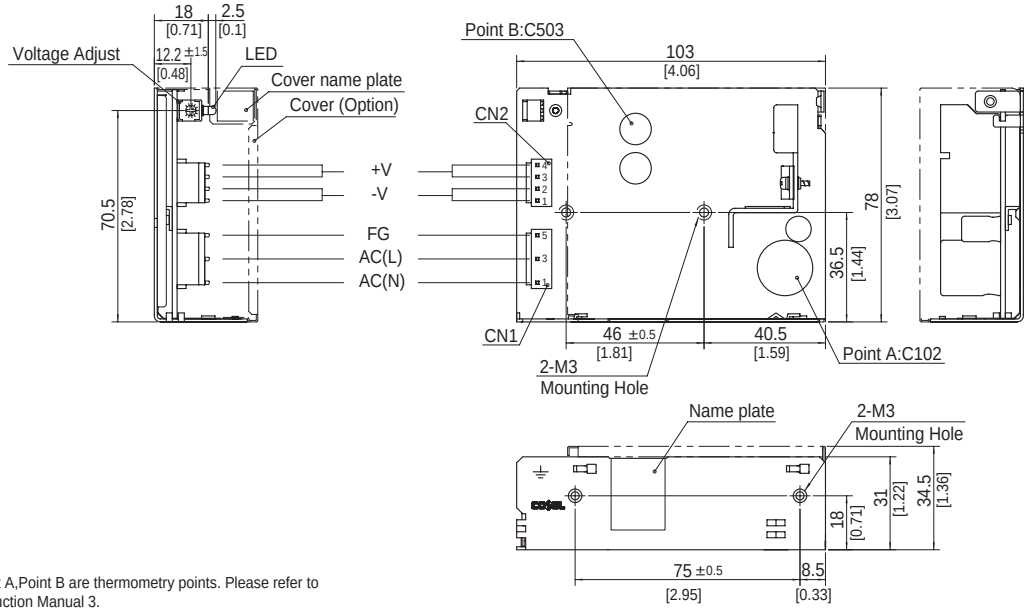
＊1 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN: RM101).
＊2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃.
＊3 Derating is required.
＊4 When two or more units are used, they may not comply with the harmonic attenuator. Please contact us for details.
＊5 Please contact us about safety approvals for the model with option.
＊ Parallel operation with other model is not possible.
＊ Derating is required when operated with cover.
＊ A sound may occur from power supply at peak loading.

Block diagram



External view

※ External size of option T,T1 and N is different from standard model and refer to 4 Option of instruction manual for detalis.



※ Point A,Point B are thermometry points. Please refer to Instruction Manual 3.

I/O Connector		Mating Connector	Terminal	
CN1	1-1123724-3	1-1123722-5	Chain	1123721-1
			Loose	1318912-1
CN2	1-1123723-4	1-1123722-4	Chain	1123721-1
			Loose	1318912-1

(Mfr : Tyco Electronics AMP)

※ I/O Connector is Mfr.Tyco Electronics AMP
※ Option : -J1 : (J.S.T) connector type
-T : Vertical terminal block type
-T1 : Horizontal terminal block type
Refer to Instruction Manual 4.

<PIN CONNECTION>

CN1

Pin No.	Input
1	AC(N)
2	
3	AC(L)
4	
5	FG

CN2

Pin No.	Output
1, 2	-V
3, 4	+V

※ Tolerance : ±1 [±0.04]
※ Weight : 230g max (without cover)
※ PCB Material/thickness : CEM-3 / 1.6mm [0.06inches]
※ Chassis material : Electric galvanizing steel board
※ Keep drawing current per pin bellow 5A of CN2.
※ Dimensions in mm, [ ]=inches
※ Mounting torque : 0.6N・m (6.3kgf・cm) max
※ Please connect safety ground to the unit in 2-M3 holes.