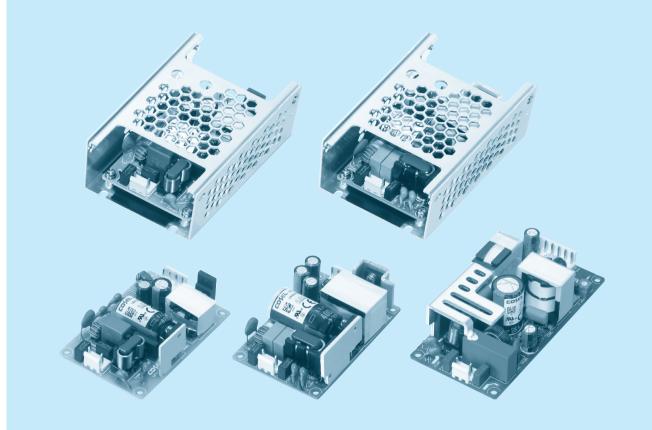




# **UMA-series**



### Feature

For medical electric equipment Medical Isolation Grade 2MOPP 4kV isolation Suitable for BF application Low leakage current Power factor correction (UMA120F) UMA30F, UMA60F : 2" × 3" standard footprint UMA120F : 2" × 4" standard footprint Economical design

### Safety agency approvals

ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (CAN/CSA-C22.2 No.60601-1), UL62368-1, EN62368-1, C-UL (CAN/CSA-C22.2 No.62368-1), Complies with EN60335

### CE marking

Low Voltage Directive RoHS Directive

### UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

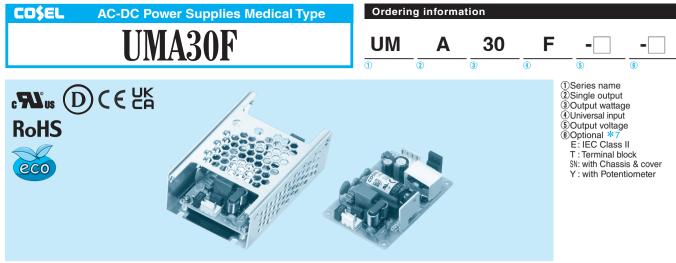
**5-year warranty** (See Instruction Manual)

#### EMI

Complies with CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, FCC Part 15-B, FCC Part 18-B

**EMS Compliance** : EN61204-3, EN61000-6-2 IEC60601-1-2 (2014), EN60601-1-2 (2015)

EN61000-4-2 EN61000-4-3 EN61000-4-4 EN61000-4-5 EN61000-4-6 EN61000-4-8 EN61000-4-11



\*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	UMA30F-5	UMA30F-12	UMA30F-15	UMA30F-24	UMA30F-36	UMA30F-48
MAX OUTPUT WATTAGE[W]	15	30	30	31.2	30.6	31.2
DC OUTPUT	5V 3A	12V 2.5A	15V 2A	24V 1.3A	36V 0.85A	48V 0.65A

#### **SPECIFICATIONS**

MODEL		UMA30F-5	UMA30F-12	UMA30F-15	UMA30F-24	UMA30F-36	UMA30F-48			
VOLTAGE[V]		AC85 - 264 1¢								
	ACIN 115V	0.35	0.7							
CURRENT[A]	ACIN 230V	0.15	0.3							
FREQUENCY[Hz]		50/60 (47-63)								
	ACIN 115V	81typ	86typ	86typ	88typ	88typ	88typ			
EFFICIENCY[%]	ACIN 230V	80typ	87typ	87typ	89typ	89typ	89typ			
	ACIN 115V	25typ								
INRUSH CURRENT[A]	ACIN 230V	50typ								
LEAKAGE CURRENT[uA]	ACIN 264V	200max								
TOUCH CURRENT[uA]	ACIN 264V	75max								
VOLTAGE[V]		5	12	15	24	36	48			
CURRENT[A]		3	2.5	2	1.3	0.85	0.65			
WATTAGE[W]		15	30	30	31.2	30.6	31.2			
LINE REGULATION[m	N] *1	20max	48max	60max	96max	144max	192max			
LOAD REGULATION	mV] *1	100max	120max	120max	150max	240max	240max			
RIPPLE NOISE [mVp-p] *2	lo=100%	150 (Bandwidth 20	MHz)							
		100max	120max	150max	240max	360max	480max			
	ACIN 115V	401								
START-UP TIME[ms]	ACIN 230V	+νιγμ								
HOLD-UP TIME[ms]		20typ								
		/ 100typ								
OUTPUT VOLTAGE ADJUSTMEN	T RANGE[V]	Fixed ("Y"option is available for adjusting output voltage between ±10%)								
OUTPUT VOLTAGE SETTING[V]		4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00			
OVERCURRENT PROTEC	TION [A]	Works over 105% of rating and recovers automatically								
OVERVOLTAGE PROTEC	TION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20			
INPUT-OUTPUT		AC4,000V 1minute, DC500V 100MΩ min (At Room Temperature) 2MOPP								
INPUT-FG		AC2,000V 1minute, DC500V 100MΩ min (At Room Temperature) 1MOPP								
OUTPUT-FG		AC2,000V 1minute, DC500V 100M $\Omega$ min (At Room Temperature) 1MOPP								
OPERATING TEMP.,H	UMID. *3	-20 to +70°C, 20 - 90%RH (Non condensing)								
STORAGE TEMP., HUN	/ID.	-20 to +75°C, 20 - 90%RH (Non condensing)								
VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis								
IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis								
AGENCY APPROVALS	5	ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), Complies with EN60335-1								
EMC EMISSION		Complies with CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, FCC Part 15-B, FCC Part 18-B								
EMC IMMUNITY										
HARMONIC ATTENU	ATOR*4	Complies with IEC	61000-3-2 (Class	A) No built-in active	PFC					
CASE SIZE/WEIGHT	*5	50.8×21.7×76.2m	m [2.0×0.85×3.0	inches] (WXHXD)	/ 80g max					
COOLING METHOD		Convection								
WARRANTY										
	VOLTAGE[V] CURRENT[A] FREQUENCY[Hz] EFFICIENCY[%] INRUSH CURRENT[A] LEAKAGE CURRENT[A] TOUCH CURRENT[A] TOUCH CURRENT[A] VOLTAGE[V] CURRENT[A] WATTAGE[W] LINE REGULATION[m LOAD REGULATION[mV] START-UP TIME[ms] HOLD-UP TIME[ms] OUTPUT VOLTAGE ADJUSTMEN OUTPUT VOLTAGE ADJUSTMEN OUTPUT VOLTAGE ADJUSTMEN OUTPUT-UTAGE ADJUSTMEN OVERCURRENT PROTEC OVERVOLTAGE PROTEC INPUT-FG OUTPUT-FG OUTPUT-FG OUTPUT-FG OPERATING TEMP.,HUN VIBRATION IMPACT AGENCY APPROVALS EMC EMISSION EMC IMMUNITY HARMONIC ATTENU CASE SIZE/WEIGHT	CURRENT[A]ACIN 115V ACIN 230VFREQUENCY[Hz]ACIN 115V ACIN 230VEFFICIENCY[%]ACIN 115V ACIN 230VINRUSH CURRENT[A]ACIN 115V ACIN 230VLEAKAGE CURRENT[A]ACIN 1264V TOUCH CURRENT[A]VOLTAGE[V]CURRENT[A]WATTAGE[W]LINE REGULATION[mV]LINE REGULATION[mV]*1LOAD REGULATION[mV]*1IOAD REGULATION[mV]*1RIPPLE NOISE [mVp-p] *2Io=100% CIN 250CSTART-UP TIME[ms]ACIN 15V ACIN 230VOUTPUT VOLTAGE ADJUSTMENT RANGE[V]OUTPUT VOLTAGE ADJUSTMENT RANGE[V]OUTPUT VOLTAGE ADJUSTMENT RANGE[V]OUTPUT VOLTAGE PROTECTION [A] OVERCURRENT PROTECTION [A] OVERCURRENT PROTECTION [A] OVERCURRENT PROTECTION[V]INPUT-OUTPUT INPUT-GSTORAGE TEMP.,HUMID. *3 STORAGE TEMP.,HUMID. *3 STORAGE TEMP.,HUMID. *3 STORAGE TEMP.,HUMID. *3 STORAGE TEMP.,HUMID. *3 STORAGE TEMP.,HUMID. *3 EMC IMMUNITYHARMONIC ATTENUATOR*4 CASE SIZE/WEIGHT *5 COOLING METHOD	VOLTAGE[V]       AC85 - 264 1 ∲         CURRENT[A]       ACIN 115V       0.35         FREQUENCY[Hz]       50/60 (47-63)         BEFFICIENCY[%]       ACIN 115V       81typ         ACIN 230V       80typ         INRUSH CURRENT[A]       ACIN 230V       50typ         LEAKAGE CURRENT[A]       ACIN 230V       50typ         LEAKAGE CURRENT[A]       ACIN 264V       200max         TOUCH CURRENT[A]       ACIN 264V       75max         VOLTAGE[V]       5       5         CURRENT[A]       ACIN 264V       75max         VOLTAGE[V]       5       5         CURRENT[A]       ACIN 264V       75max         VOLTAGE[V]       15       15         LINE REGULATION[mV]       *1       20max         LOAD REGULATION[mV]       0-+50°C       100max         START-UP TIME[ms]       ACIN 230V       40typ         MOLD-UP TIME[ms]       ACIN 230V       40typ         MOLD-UP TIME[ms]       ACIN 230V       100typ         OUTPUT VOLTAGE ADJUSTMENT RANGE[V]       Fixed ("Y"option is         OUTPUT VOLTAGE PROTECTION [A]       Works over 105% of         OVERVOLTAGE PROTECTION[V]       5.75 to 7.00         INPUT-OUTPUT	VOLTAGE[V]         AC85 - 264 1 ∅           CURRENT[A]         ACIN 115V         0.35         0.7           ACIN 230V         0.15         0.3           FREQUENCY[Hz]         50/60 (47-63)         871yp           EFFICIENCY[%]         ACIN 115V         81typ         86typ           ACIN 230V         80typ         871yp           NRUSH CURRENT[A]         ACIN 230V         50typ           LEAKAGE CURRENT[A]         ACIN 200V         50typ           LEAKAGE CURRENT[A]         ACIN 264V         200max           TOUCH CURRENT[A]         ACIN 264V         75max           VOLTAGE[V]         5         12           CURRENT[A]         3         2.5           WATTAGE[W]         15         30           LINE REGULATION[mV] *1         100max         120max           RIPPLE NOISE [mVpp] *2         10=100%         150 (Bandwidth 20MHz)           TEMPERATURE REGULATION[mV]         *1         100max         120max           START-UP TIME[ms]         ACIN 15V         20typ         120max           ACIN 15V         20typ         11.50 to 12.50         0VERVLTAGE ADJUSTMENT RANGE[V]           OUTPUT VOLTAGE ADJUSTMENT RANGE[V]         5x7 to 7.00         13.80 to 16.80	VOLTAGE[V]         AC85 - 264 1 Φ           CURRENT[A]         ACIN 115V         0.35         0.7           REQUENCY[Hz]         S0/60 (47-63)         0.3           EFFICIENCY[%]         ACIN 115V         81typ         86typ         86typ           ACIN 230V         80typ         87typ         87typ         87typ           INRUSH CURRENT[IA]         ACIN 15V         25typ         7           ACIN 15V         25typ         87typ         87typ           INRUSH CURRENT[IA]         ACIN 26W         200max         7           OUCH CURRENT[IA]         ACIN 26W         200max         10           VOLTAGE[V]         5         12         15           CURRENT[A]         3         2.5         2           WATTAGE[W]         15         30         30           LINE REGULATION[mV]         *1         100max         120max         120max           ILOAD REGULATION[mV]         *1         100max         120max         150max           GUADPUT IME[ms]         ACIN 15V         40typ         40typ         40typ           OUTPUT VOLTAGE EMJUSTMENT RANGE(V)         Fixed ("Y"option is available for adjusting output voltage         00typ           OUTPUT VOLTAGE ADJUSTME	VOLTAGE[V]         AC85 - 264 1 φ           CURRENT[A]         ACIN 115V         0.35         0.7           ACIN 115V         0.35         0.7           FREQUENCY[Hz]         ACIN 115V         0.35         0.3           FFREQUENCY[Hz]         ACIN 115V         850/50 (47-63)         851/30         851/30           EFFICIENCY[%]         ACIN 115V         851/30         871/30         871/30         871/30         891/30           INRUSH CURRENT[A]         ACIN 126V         251/30         871/30         871/30         871/30         891/30           LEAKAGE CURRENT[A]         ACIN 264V         200max         12         15         24           CURRENT[A]         ACIN 264V         75max         900max         150         30         30         31.2           UNIC REGULATION[mV]         \$1         100max         120max         120max         120max         120max           INPRE ROUSE [mVp.]         \$2         100max         120max         120max         120max         240max           GURRENTER         ACIN 115V         ACIN 200         100/17p         31.2         31.0           INPRE ROULATION[mV]         \$4         100max         120max         120max         120	VOLTAGE[V]         AC85 - 264 1 φ           CURRENT[A]         ACIN 159         0.35         0.7           ACIN 200         0.15         0.3           FREQUENCY[Hz]         50/60 (47-63)         86typ         86typ         88typ         88typ           EFFICIENCY[%]         ACIN 159         91typ         87typ         87typ         89typ         89typ           INRUSH CURRENT[A]         ACIN 200         50typ         87typ         87typ         89typ         89typ           LEAKAGE CURRENT[A]         ACIN 200         50typ         12         15         24         36           CURRENT[A]         ACIN 264W         75max         VOLTAGE[V]         5         12         13         0.85           WATTAGE[W]         15         30         30         31.2         30.6           LINE REGULATION[mV]         1100max         120max         150max         240max         360max           START-UP TIME[ms]         ACIN 159         01typ         100max         120max         150max         240max         360max           START-UP TIME[ms]         ACIN 159         20typ         ACIN 159         20typ         ACIN 159         20typ           ACIN 160         Acin 169			

average mode of the tester to deal with the burst operation at low (Io=0~20% typ) load. Consult us about details. \*2 This is the result of measurement of the testing board with capacitors of  $47\mu$  F and  $0.1\mu$  F \*7 The listed options may affect the published standard specifications. Please contact us for placed at 150 mm from the output terminals by a 20MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-GikenRM104. detailed product specifications and safety approvals. All parameters not specially mentioned are measured at ACIN 230V, rated load and 25°C When the load factor is low (Io=0~20%typ), the switching power loss is reduced by burst of ambient temperature. operation, which will cause ripple noise to go beyond the specifications. \*3 Output power derating is required. Refer to "Derating" Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

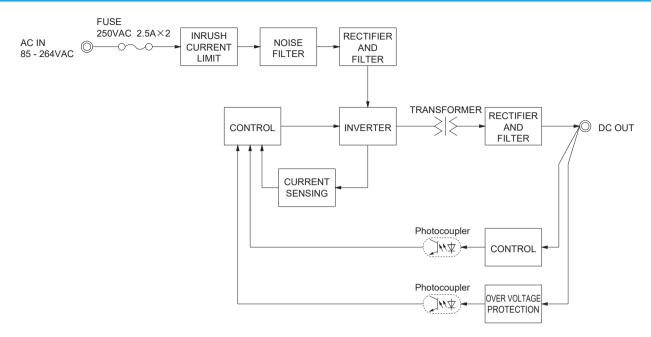
\*4

Please contact us about another class. When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.

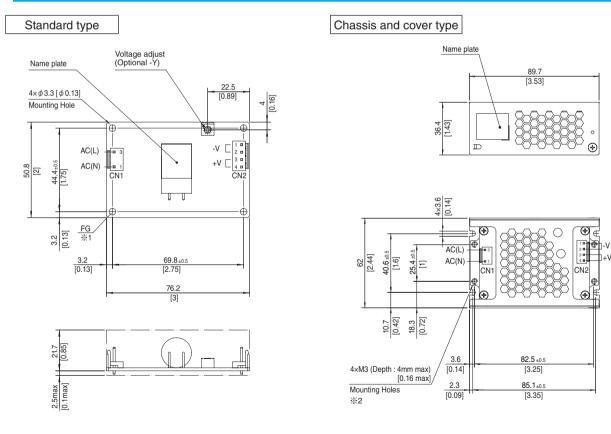
Parallel operation is not possible with this model. Acoustic noise may be heard from the power supply when used for pulse load.

# UMA30F | CO\$EL

#### **Block diagram**



#### **External view**



Mating connector and	terminal of CN1, CN	12

I/O Connector		I/O Connector Mating Connector		Mfr.
CN1	B2P3-VH	VHR-3N	Reel : SVH-21T-P1.1 Loose piece : BVH-21T-P1.1	J.S.T.
CN2	B4P-VH	VHR-4N	Reel : SVH-21T-P1.1 Loose piece : BVH-21T-P1.1	J.S.T.

<pin assignments=""> CN1 CN2</pin>							
Pin No.	Input		Pin No.	Output			
1	AC(N)		1, 2	-V			
2							
3	AC(L)		3, 4	+V			

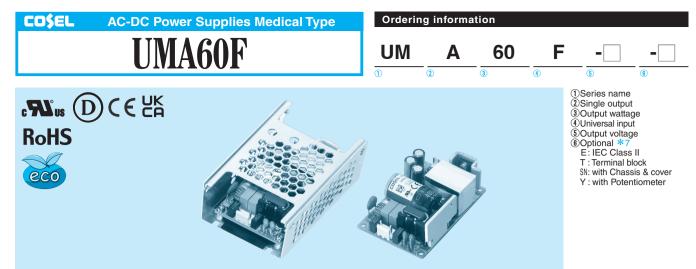
% Dimensions in mm, [] =inches

% Tolerance : ±1 [±0.04]

% Weight : 80g max (with Chassis and cover 130g max)

% PCB Material/thickness : CEM-3/1.6 [0.06]

 \*1 The mounting hole is for FG connection. The mounting hole in the -E option is not for FG connection.
 \*2 Mounting torque : 0.49N•m max



\*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	UMA60F-5	UMA60F-7R5	UMA60F-12	UMA60F-15	UMA60F-24	UMA60F-36	UMA60F-48
MAX OUTPUT WATTAGE[W]	30	41.25	54	52.5	60	61.2	60
DC OUTPUT	5V 6A	7.5V 5.5A	12V 4.5A	15V 3.5A	24V 2.5A	36V 1.7A	48V 1.25A

#### **SPECIFICATIONS**

	MODEL		UMA60F-5	UMA60F-7R5	UMA60F-12	UMA60F-15	UMA60F-24	UMA60F-36	UMA60F-48		
	VOLTAGE[V]		AC85 - 264 1Φ								
		ACIN 115V	0.7	1.0	1.4						
	CURRENT[A]	ACIN 230V	0.3	0.5	0.7						
	FREQUENCY[Hz]		50/60 (47-63)								
INPUT	ACIN 115V		80typ	84typ	87typ	86typ	88typ	89typ	89typ		
NPUT	EFFICIENCY[%]	ACIN 230V		85typ	88typ	87typ	90typ	91typ	91typ		
		ACIN 115V									
	INRUSH CURRENT[A]	ACIN 230V									
	LEAKAGE CURRENT[uA]	ACIN 264V									
	TOUCH CURRENT[uA]										
	VOLTAGE[V]	710111 2011	5	7.5	12	15	24	36	48		
	CURRENT[A]		6	5.5	4.5	3.5	2.5	1.7	1.25		
	WATTAGE[W]		30	41.25	54	52.5	60	61.2	60		
-	LINE REGULATION[m	ו¥1		36max	48max	60max	96max	144max	192max		
				120max	120max	120max	150max	240max	240max		
					12011183	IZUIIIAX	TSUIIIdX	240111dX	2401118		
OUTPUT	RIPPLE NOISE [mVp-p] *2	1		100max	120max	180max	240max	360max	480max		
JUIPUI	TEMPERATURE REGULATION[mV]		Toomax	Toomax	Izumax	Toomax	240max	Boumax	480max		
	START-UP TIME[ms]	ACIN 115V ACIN 230V	40typ								
			20tup								
	HOLD-UP TIME[ms]	ACIN 115V									
	OUTPUT VOLTAGE ADJUSTMEN										
	OUTPUT VOLTAGE SETTING[V]		4.90 to 5.30	7.20 to 7.80	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	34.50 to 37.50	46.00 to 50.0		
ROTECTION	OVERCURRENT PROTEC			% of rating and re	1		1	1	1		
IRCUIT AND OTHERS	•••••••••••••••••••••••••••••••••••••••		5.75 to 7.00	8.63 to 10.50	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.2		
	INPUT-OUTPUT		AC4,000V 1minute, DC500V 100MΩ min (At Room Temperature) 2MOPP								
SOLATION	INPUT-FG		AC2,000V 1minute, DC500V 100MΩ min (At Room Temperature) 1MOPP								
	OUTPUT-FG		AC2,000V 1minute, DC500V 100MΩ min (At Room Temperature) 1MOPP								
	OPERATING TEMP.,H	UMID. *3									
NVIRONMENT	STORAGE TEMP., HUN	/ID.	-20 to +75°C, 20 - 90%RH (Non condensing)								
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G) , 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis								
	AGENCY APPROVAL	S	ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL62368-1,EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), Complies with EN60335-1								
SAFETY AND	EMC EMISSION		Complies with CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, FCC Part 15-B, FCC Part 18-B								
EMC	EMC IMMUNITY		Complies with EN61000-4-2, 3, 4, 5, 6, 8, 11								
	HARMONIC ATTENU	ATOR*4									
	CASE SIZE/WEIGHT	*5									
OTHERS	COOLING METHOD		Convection								
VARRANTY		*6		t to the operating	conditions)		1				
	about dynamic load and inpu					ons below PCB are i					
average mo	de of the tester to deal with result of measurement of the	the burst o	peration at low (lo=0	~20%typ) load.	*6 Consult	us about details.	t the published stand	lard specifications.	Please contact us f		
placed at 15	50 mm from the output term	inals by a 2			detailed	product specificatio	ns and safety approv	/als.			
	valent to Keisoku-GikenRM		* All parameters not specially mentioned are measured at ACIN 230V, rated load and 25°C								
	ad factor is low (lo=0~20%	witching power loss	is reduced by burst	of ambie	of ambient temperature.						

When the load factor is low (lo=0-20%typ), the switching power loss is reduced by burst operation, which will cause ripple noise to go beyond the specifications.
3 Output power derating is required. Refer to "Derating"

\*3 Output power derating is required. Refer to "Derating"
 \*4 Please contact us about another class. When two or more units are operating it may not comply with the IEC61000-3-2. Please contact us for details.

- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this model.
   Acoustic noise may be heard from the power supply when used for pulse load.
- Acoustic noise may be heard from the power supp

#### November 27, 2024

# UMA60F | COSEL

89.7 [3.53]

с

 $\odot$ 

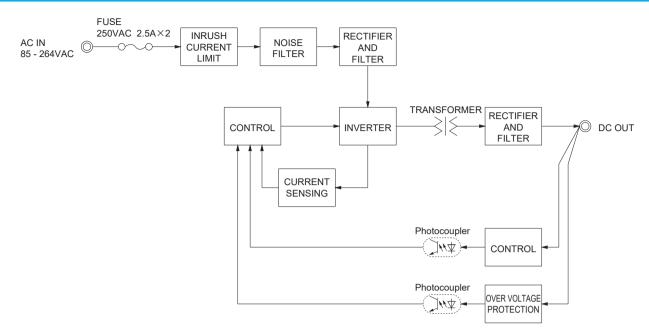
 $\oplus$ 

CN2

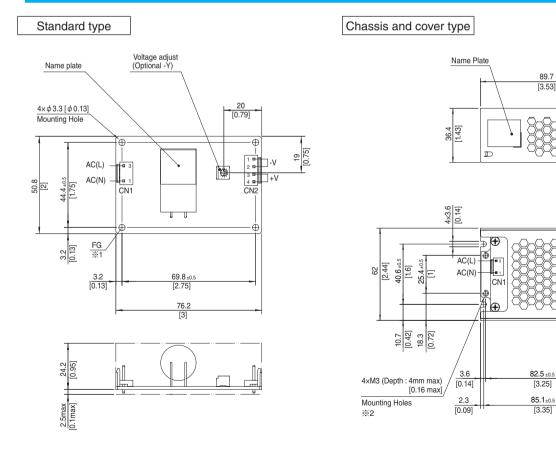
 $\oplus$ 

 $\cap$ 

#### Block diagram



#### **External view**



Mating connector and terminal of CN1, CN2

I/O Connector		Mating Connector	Terminal	Mfr.
CN1	B2P3-VH	VHR-3N	Reel : SVH-21T-P1.1 Loose piece : BVH-21T-P1.1	J.S.T.
CN2	B4P-VH	VHR-4N	Reel : SVH-21T-P1.1 Loose piece : BVH-21T-P1.1	J.S.T.

<pin assignments=""></pin>								
CN1	-		CN2					
Pin No.	Input		Pin No.	Output				
1	AC(N)		1, 2	-V				
2								
3	AC(L)		3, 4	+V				

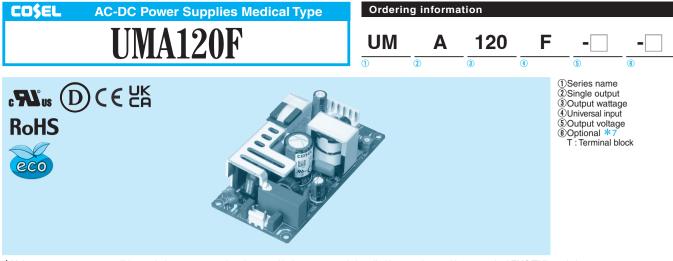
% Dimensions in mm, []=inches

% Tolerance : ±1 [±0.04]

Weight : 120g max (with Chassis and cover 180g max)
 PCB Material/thickness : FR-4/1.6 [0.06]

%1 The mounting hole is for FG connection.

The mounting hole in the -E option is not for FG connection.



\*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	UMA120F-12 -Y	UMA120F-24-Y	UMA120F-48-Y
MAX OUTPUT WATTAGE[W]	120	120	120
DC OUTPUT	12V 10A	24V 5A	48V 2.5A

#### **SPECIFICATIONS**

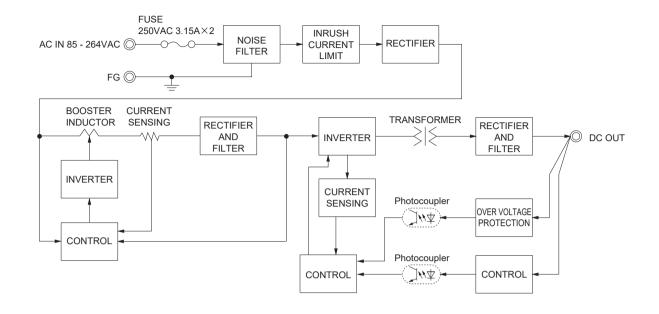
	MODEL		UMA120F-12 -Y	UMA120F-24-Y	UMA120F-48-Y				
	VOLTAGE[V]		AC85 - 264 1¢						
		ACIN 115V							
	CURRENT[A]	ACIN 230V	0.6						
	FREQUENCY[Hz]		50/60 (47-63)						
	ACIN 115V			92typ	92typ				
INPUT	EFFICIENCY[%]	ACIN 230V		94typ	94typ				
		ACIN 115V		0.000	0.190				
	INRUSH CURRENT[A]	ACIN 230V	71						
		ACIN 230V	21						
	POWR FACTOR	ACIN 230V							
			200max						
	LEAKAGE CURRENT[uA] ACIN 264								
		ACIN 204V	12	24	48				
	VOLTAGE[V]			5					
	CURRENT[A]		10		2.5				
	WATTAGE[W]		120	120	120				
	LINE REGULATION[m	-	48max	96max	192max				
	LOAD REGULATION[		100max	150max	240max				
UTPUT	RIPPLE NOISE [mVp-p] *2			I	1				
	TEMPERATURE REGULATION [mV]		120max	240max	480max				
	START-UP TIME[ms]	ACIN 115V ACIN 230V	700typ						
	HOLD-UP TIME[ms]		16typ						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		11.40 to 12.60	22.80 to 25.20	45.60 to 50.40				
	OUTPUT VOLTAGE SETTING[V]		12.00 to 12.30	24.00 to 24.60	48.00 to 49.20				
OTECTION	OVERCURRENT PROTEC		Works over 105% of rating and recovers automatically						
RCUIT AND OTHERS	OVERVOLTAGE PROTEC		13.80 to 16.80	27.60 to 33.60	55.20 to 67.20				
	INPUT-OUTPUT		AC4,000V 1minute, DC500V 100MΩ m	nin (At Room Temperature) 2MOPP	1				
SOLATION	INPUT-FG		AC2,000V 1minute, DC500V 100M $\Omega$ min (At Room Temperature) 1MOPP						
	OUTPUT-FG		AC2,000V 1minute, DC500V 100MΩ min (At Room Temperature) 1MOPP						
	OPERATING TEMP.,H								
	STORAGE TEMP., HUN		-20 to +75°C, 20 - 90%RH (Non condensing)						
NVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis						
	AGENCY APPROVALS	S	ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL62368-1,EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1)						
AFETY AND	EMC EMISSION		Complies with CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, FCC Part15-B and FCC Part18-B						
MC	EMC IMMUNITY		Complies with EN61000-4-2, 3, 4, 5, 6, 8, 11						
	HARMONIC ATTENU								
THERS	CASE SIZE/WEIGHT *5 COOLING METHOD								
VARRANTY		*6	Convection 5 years (subject to the operating conditions)						
	WARRANTY		, , , , , ,	,					
average mo 2 This is the r placed at 15 meter equiv	de of the tester to deal with esult of measurement of the 50 mm from the output term ralent to Keisoku-GikenRM	the burst op e testing bo inals by a 2 104.	peration at low (lo=0~10%typ) load.	<ul> <li>Dimensions below PCB are not included.</li> <li>Consult us about details.</li> <li>The listed options may affect the published detailed product specifications and safety at all parameters not specially mentioned are of ambient temperature.</li> </ul>					

When the load factor is low (lo=0~10%typ), the switching power loss is reduced by burst operation, which will cause ripple noise to go beyond the specifications. \*3 Output power derating is required. Refer to "Derating" \*4 Please contact us about another class.

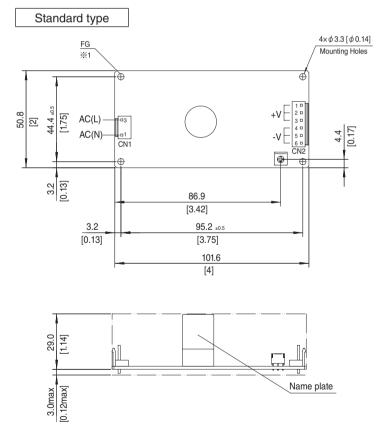
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged. Parallel operation is not possible with this model.
- \* Acoustic noise may be heard from the power supply when used for pulse load.

# UMA120F | COSEL

#### **Block diagram**



**External view** 



Matin	Mating connector and terminal of CN1, CN2									
I/O	Connector	Mating Connector	Terminal	Mfr.						
CN1	B2P3-VH	VHR-3N	Reel : SVH-21T-P1.1 Loose piece : BVH-21T-P1.1	J.S.T.						
CN2	B6P-VH	VHR-6N	Reel : SVH-21T-P1.1 Loose : BVH-21T-P1.1 piece : BVH-21T-P1.1	J.S.T.						

<pin assigni<="" th=""><th>ments&gt;</th><th></th><th></th><th></th></pin>	ments>						
CN1			CN2				
Pin No.	Input		Pin No.	Output			
1	AC(N)		1, 2, 3	+V			
2							
3	AC(L)		4, 5, 6	-V			

Dimensions in mm, [] =inches
Tolerance : ±1 [±0.04]
Weight : 150g max
PCB Material/thickness : FR-4/1.6 [0.06]
The mounting hole is for FG connection.

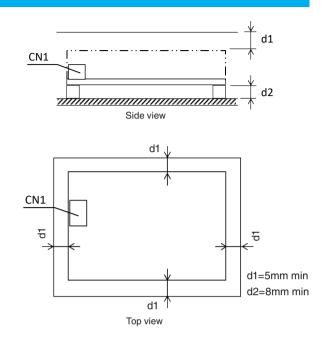
## **COŞEL** | UMA-series

#### Assembling and Installation Method

When the power supply is used with natural convection cooling, the standard mounting position is horizontal.

AC voltage exists on the primary side. Therefore, in order to prevent

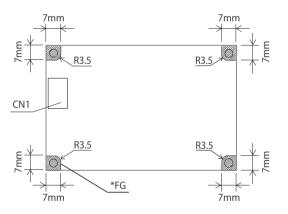
electric shock, or to meet the leakage current requirements of the safety standard, you need to ensure the proper insulation distance.



#### Mounting screw

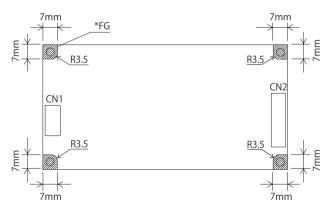
The mounting screws should be M3. The hatched area indicates the proper area for mounting hardware.

#### UMA30F, UMA60F



\* Recommend to electrically connect FG to metal chassis for reducing noise.

#### • UMA120F



\* Recommend to electrically connect FG to metal chassis for reducing noise.

The mounting screws should be M3.

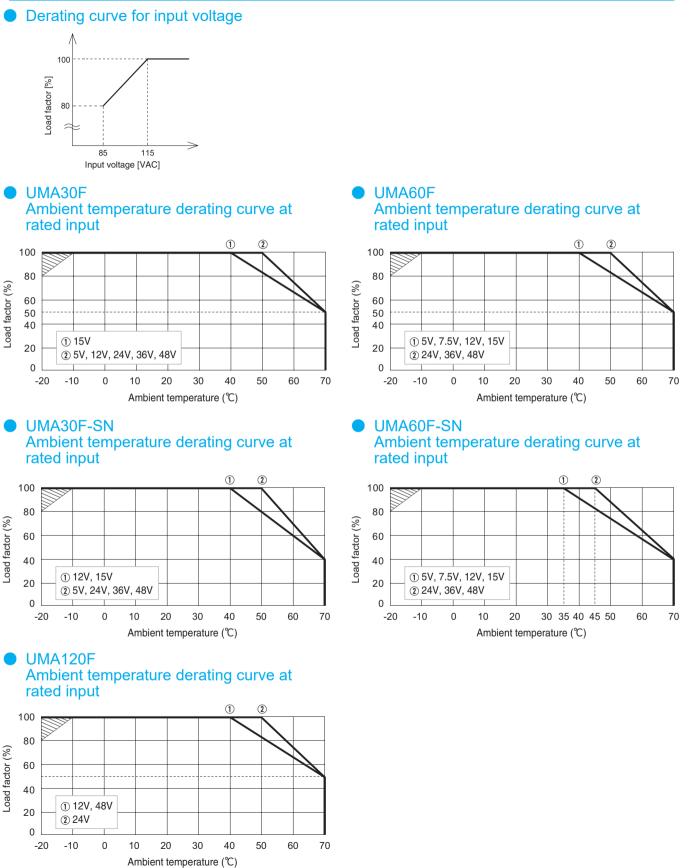
The hatched area indicates the proper area for mounting hardware.

This power supply is manufactured by SMD technology.

Stress to the PCB such as twisting or bending may cause damage to the unit, please handle with care.

UMA-series | CO\$EL

#### Derating



The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.

The shaded area is the derating required at start-up.

# **COŞEL** | UMA-series

#### **Instruction Manual**

Please read the "Instruction Manual" and "Before using our product" before you use our product.

Instruction Manual Before using our product https://www.cosel.co.jp/redirect/catalog/en/UMA/ https://en.cosel.co.jp/technical/caution/index.html



#### **Basic Characteristics Data**

Model	Circuit method	U U	Input	Rated input fuse	Inrush current protection circuit	PCB/Pattern			Deschol
			current [A]			Material	Single sided	Double sided	Parallel operation
UMA30F	Flyback converter	20 to 125	0.7	250V 2.5A	Thermistor	CEM-3	Yes		No
UMA60F	Flyback converter	20 to 125	1.4	250V 2.5A	Thermistor	FR4		Yes	No
UMA120F	Active filter	15 to 300	1.2	250V 3.15A	Thermistor	FR4		Yes	No
	LLC resonant converter	70 to 280							

### **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Cosel:

 UMA30F-24
 UMA30F-48
 UMA30F-5
 UMA60F-12
 UMA60F-15
 UMA60F-24
 UMA60F-48
 UMA60F-5
 UMA60F-36

 UMA60F-7R5
 UMA30F-15
 UMA30F-36
 UMA30F-36-SN
 UMA30F-48-SN
 UMA60F-15-SN
 UMA60F-5-SN

 UMA30F-24-SN
 UMA60F-24-SN
 UMA30F-15-SN
 UMA60F-7R5-SN
 UMA60F-48-SN
 UMA30F-5-SN

 UMA60F-12-SN
 UMA30F-12-SN
 UMA30F-12-SN
 UMA120F-48-Y
 UMA120F-24-Y
 UMA120F-12-Y