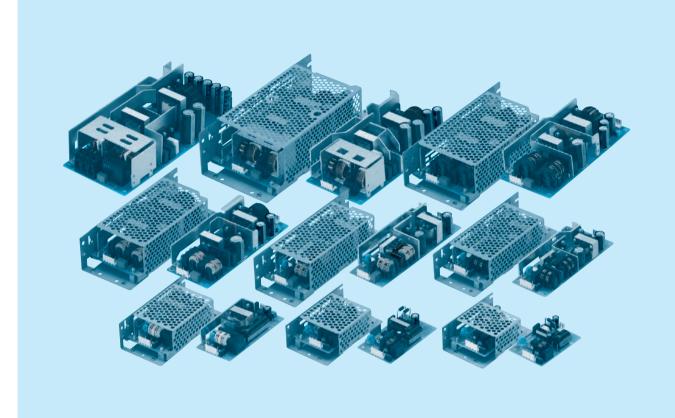
AC-DC Power Supplies Open Frame/ Enclosed Type





勝特力電材超市-龍	山店 886-3-5773766
勝特力電材超市-光祥	度店 886-3-5729570
胜特力电子(上海)	86-21-34970699
胜特力电子(深圳)	86-755-83298787
http://www	r.100y.com.tw

# **LFA-series**



#### Feature

Small and compact PCB construction Built-in inrush current, overcurrent and overvoltage protection circuits Harmonic attenuator (Complies with IEC61000-3-2) Universal input (AC85-264V) Power factor correction (LFA50F-300F) Built-in reducing standby power circuit (LFA10F, 15F)

#### Safety agency approvals

UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN

#### EMI

Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B

**5-year warranty** (refer to Instruction Manual)

#### CE marking

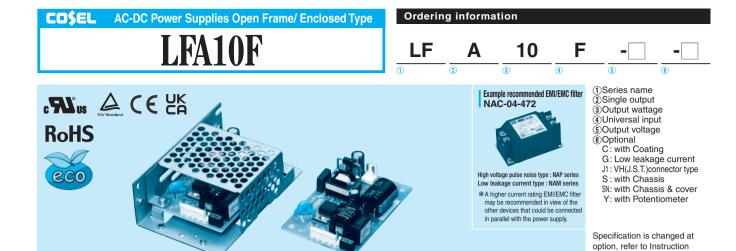
Low Voltage Directive RoHS Directive

### UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

#### EMS Compliance : EN61204-3, EN61000-6-2

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



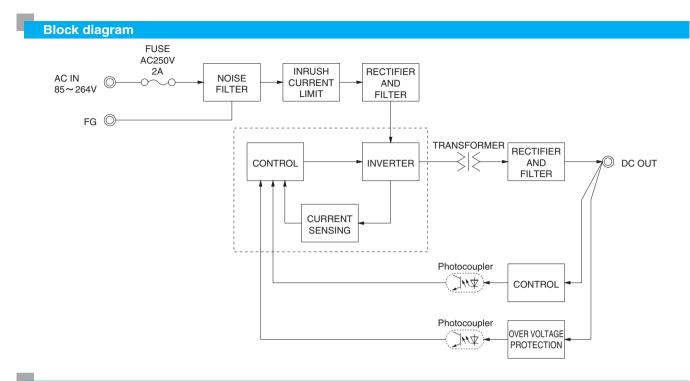
MODEL	LFA10F-3R3-Y	LFA10F-5	LFA10F-12	LFA10F-15	LFA10F-24
MAX OUTPUT WATTAGE[W]	6.6	10	10.8	10.5	12
DC OUTPUT	3.3V 2A	5V 2A	12V 0.9A	15V 0.7A	24V 0.5A

#### **SPECIFICATIONS**

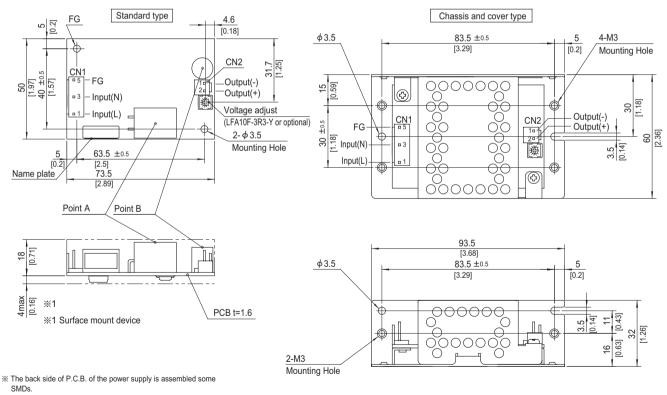
CURRENT[A] FREQUENCY[Hz] EFFICIENCY[%]	ACIN 100V ACIN 200V ACIN 100V ACIN 200V ACIN 200V	AC85 - 264 1 ¢ (Refer 0.18typ (lo=100%) 0.11typ (lo=100%) 50 / 60 (47 - 440) 68.0typ	to "Derating", Instruct 0.26typ (Io=100%) 0.16typ (Io=100%)	ction Manual 1 and 3) *3					
EURRENT[A] FREQUENCY[Hz] EFFICIENCY[%] INRUSH CURRENT[A]	ACIN 200V ACIN 100V ACIN 200V	0.11typ (lo=100%) 50 / 60 (47 - 440)							
FREQUENCY[Hz] EFFICIENCY[%] INRUSH CURRENT[A]	ACIN 100V ACIN 200V	50 / 60 (47 - 440)	0.16typ (lo=100%)		0.18typ (lo=100%) 0.26typ (lo=100%)				
EFFICIENCY[%]	ACIN 200V	. ,							
EFFICIENCY[%]	ACIN 200V	. ,							
EFFICIENCY[%]	ACIN 200V		74.0typ	76.5typ	77.5typ	79.5typ			
INRUSH CURRENT[A]		68.5typ	76.0typ	79.0typ	80.0typ	83.0typ			
INRUSH CURRENT[A]		15typ (lo=100%)	roiotyp	reietyp	oolotyp	contyp			
	ACIN 200V	30typ (lo=100%)							
		, , ,	00V/240V 60Hz Io	=100%, According to IEC	62368-1 and DEN-AN)				
VOLTAGE[V]		3.3	5	12	15	24			
CURRENT[A]		2.0	2.0	0.9	0.7	0.5			
LINE REGULATION[m	V1 *5	20max	20max	48max	60max	96max			
LOAD REGULATION[I		40max	40max	100max	120max	150max			
LOAD REGULATION				120max		120max			
RIPPLE[mVp-p]	0 to +50℃ -10 - 0℃	80max 140max	80max		120max				
*1			140max	160max	160max	160max			
	lo=0 - 35%	190max	160max	240max	240max	280max			
RIPPLE NOISE[mVp-p]	0 to +50℃	120max	120max	150max	150max	150max			
*1	<b>-10 - 0</b> ℃	160max	160max	180max	180max	180max			
	lo=0 - 35%		240max	300max	300max	320max			
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 1 minute 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 3.63	Fixed ("Y"option is	available for adjusting out	put voltage between ±	10%)			
OUTPUT VOLTAGE SETTI	NG[V]	3.30 to 3.40	4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00			
OVERCURRENT PROTE	CTION	Works over 105% of rating and recovers automatically							
OVERVOLTAGE PROTEC	CTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
<b>OPERATING INDICAT</b>	ION	Not provided			,	·			
REMOTE SENSING		Not provided							
REMOTE ON/OFF									
INPUT-OUTPUT			toff current = 10mA,	DC500V 50MΩ min (At F	Room Temperature)				
INPUT-FG									
OUTPUT-FG									
					. ,	00m (10.000 feet) max *3			
,									
1									
				v ·					
	5	, ,	,,		N				
	TOP				*4				
	NUN					50g max)			
						Sug max)			
e value that measured on mea of 22 µ F at 150mm from outp I by 20MHz oscilloscope or Ripp nt to KEISOKU-GIKEN: RM103) educing standby power is built o, the internal switch element is	ut terminal. Ile-Noise met t in this unit. s intermitten	d with factor lo- Please ru er *2 Drift is th a half-ho constant t *3 Derating	=0-35% is different. efer to the Instruction Mani e change in DC output for ur warm-up at 25°C, with th at the rated input/output. is required.	ual 1.7. *: an eight hour period after * re input voltage held * *	6 Please contact us about an To meet the specifications. Parallel operation is not po Derating is required when	ynamic load and input response. nother class. . Do not operate over-loaded conditi issible. operated with chassis and cover.			
FFIICCS\ILACFCCeoolth	REMOTE SENSING REMOTE ON/OFF NPUT-OUTPUT NPUT-FG DUTPUT-FG DUTPUT-FG DERATING TEMP,HUMID.AND / TORAGE TEMP,HUMID.AND / TORAGE TEMP,HUMID.AND / IBRATION MPACT AGENCY APPROVALS CONDUCTED NOISE HARMONIC ATTENU/ CASE SIZE/WEIGHT COOLING METHOD value that measured on mea f 22 µ F at 150mm from outp by 20MHz oscilloscope or Ripp to KEISOKU-GIKEN: RM103) ducing standby power is buil the internal switch element i	AEMOTE ON/OFF NPUT-OUTPUT NPUT-FG DUTPUT-FG DETENTING TEMP,HUMID.AND ALTITUDE TORAGE TEMP,HUMID.AND ALTITUDE TORAGE TEMP,HUMID.AND ALTITUDE /IBRATION MPACT AGENCY APPROVALS CONDUCTED NOISE HARMONIC ATTENUATOR CASE SIZE/WEIGHT COOLING METHOD value that measured on measuring board f 22 µF at 150mm from output terminal. y 20MHz oscilloscope or Ripple-Noise met to KEISOKU-GIKEN: RM103). ducing standby power is built in this unit. the internal switch element is intermitien	REMOTE SENSING         Not provided           REMOTE ON/OFF         Not provided           NPUT-OUTPUT         AC3,000V 1minute, CL           NPUT-OUTPUT         AC2,000V 1minute, CL           NPUT-FG         AC2,000V 1minute, CL           DUTPUT-FG         AC500V 1minute, CL           PERATING TEMP,HUMID.AND ALTITUDE         -10 to +70°C, 20 - 90%           /TORAGE TEMP,HUMID.AND ALTITUDE         -10 to +75°C, 20 - 90%           //IBRATION         10 - 55Hz, 19.6m/s² (20 - 90%)           //IBRATION         10 - 55Hz, 19.6m/s² (20G), 11ms           AGENCY APPROVALS         UL60950-1, C-UL (CS.           CONDUCTED NOISE         Complies with FEC610           CASE SIZE/WEIGHT         50 × 22 × 73.5mm [1.9]           COOLING METHOD         Convection (Refer to "ID           value that measured on measuring board with factor loogy 20MHz oscilloscope or Ripple-Noise meter         *2           value that measured on measuring board with factor loogy 20MHz oscilloscope or Ripple-Noise meter         *2           value that measured on measuring board with factor loogy 20MHz oscilloscope or Ripple-Noise meter         *2           value that measured on measuring board with factor loogy 20MHz oscilloscope or Ripple-Noise meter         *2           value that measured on sepacification in load         a half-ho constant the internal switch element is intermittent	REMOTE SENSING         Not provided           REMOTE ON/OFF         Not provided           NPUT-OUTPUT         AC3,000V 1minute, Cutoff current = 10mA, AC2,000V 1minute, Cutoff current = 10mA, DUTPUT-FG           AC2,000V 1minute, Cutoff current = 10mA, AC2,000V 1minute, Cutoff current = 10mA, AC2,000V 1minute, Cutoff current = 10mA, DUTPUT-FG           AC2,000V 1minute, Cutoff current = 25mA, D           IPERATING TEMP,HUMID.AND ALTITUDE         -10 to +70°C, 20 - 90%RH (Non condensing t0RAGE TEMP,HUMID.AND ALTITUDE           10 - 55Hz, 19.6m/s² (2G), 3minutes period, MPACT         196.1m/s² (2G), 11ms, once each X, Y an QGENCY APPROVALS           VL60950-1, C-UL (CSA60950-1), EN62368 CONDUCTED NOISE         Complies with FCC-B, VCCI-B, CISPR-B, E tARMONIC ATTENUATOR           CASE SIZE/WEIGHT         50 × 22 × 73.5mm [1.97 × 0.87 × 2.89 inche COOLING METHOD           CONVECtion (Refer to "Derating", Instruction value that measured on measuring board with to KEISOKU-GIKEN: RM103). ducing standhy power is built in this unit. the internal switch element is intermittent and the Ripple/Ripple Noise specification in load         *2	REMOTE SENSING         Not provided           REMOTE ON/OFF         Not provided           NPUT-OUTPUT         AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At R           NPUT-FG         AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At R           DUTPUT-FG         AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At R           DUTPUT-FG         AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At R           INPERATING TEMP,HUMID.AND ALTITUDE         -10 to +70°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           ITORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           IDEATING TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) m           IDEATING TEMP,HUMID.AND ALTITUDE         Consection Histore COG), 10, ENC368-1 Complies with DEN-AN           COND	REMOTE SENSING         Not provided           REMOTE ON/OFF         Not provided           NPUT-OUTPUT         AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)           NPUT-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)           PERATING TEMP,HUMID.AND ALTITUDE         -10 to +70°C, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,00           TORAGE TEMP,HUMID.AND ALTITUDE         -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max           /IDRATION         10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis           MPACT         196.1m/s² (20G), 11ms, once each X, Y and Z axis           AGENCY APPROVALS         UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN           CONDUCTED NOISE         Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B           HARMONIC ATTENUATOR         Complies with IEC61000-3-2 (Class A) *6 (Not built-in to active filter) *4           CASE SIZE/WEIGHT         50 ×22 × 73.5mm [1.97 × 0.87 × 2.89 inches] (W × H × D) / 55g max (with chassis & cover : 1           Cooling Method         romeet the specification is not p           value that measured on measuring board with facto Io=0-35% is different.         Please contact us about d           value that measured on measuring			

the IEC61000-3-2. December 27, 2022 Manual.





External view



Be attention not to bump against the attached area by vibration.

% Use the spacer of 8mm length or more regarding insulation. And do not use press-fitting bush.

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

I/O Connector		Mating connector	Terminal		
014	4 4400704 0	1-1123722-5	Chain	1123721-1	
CN1	11-1123724-3	1-1123722-5	Loose	1318912-1	
CNID	1-1123723-2	1-1123722-2	Chain	1123721-1	
CINZ	1-1123723-2	1-1123722-2	Loose	1318912-1	
(Mfr:Tyco Electronics)					

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

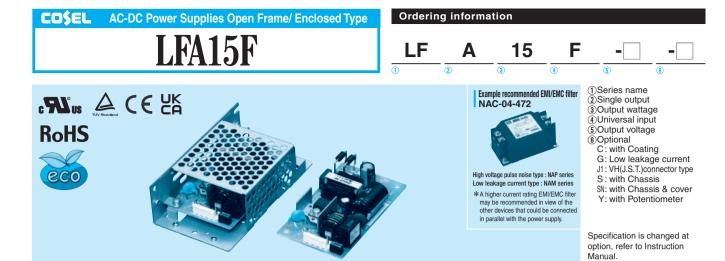
#### <PIN CONNECTION>

CN1		CN2			
Pin No.	Input		Pin No.	Output	
1	AC(L)		1	-V	
2				-v	
3	AC(N)		2	+V	
4			2	+v	
5	FG				

- % Tolerance : ±1 [±0.04]
  % Weight : 55g max (with chassis & cover : 150g max)
  % PCB material / thickness : CEM3 / 1.6mm

※ Optional chassis and cover material : Electric galvanizing steel board. \* Dimensions in mm, [ ]=inches

※ Mounting torque (Mounting hole of chassis): 0.6N \* m (6.3kgf \* cm) max

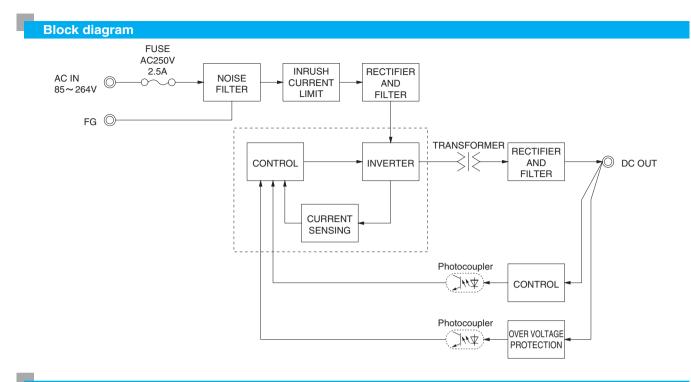


MODEL	LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24
MAX OUTPUT WATTAGE[W]	9.9	15	15.6	15	16.8
DC OUTPUT	3.3V 3A	5V 3A	12V 1.3A	15V 1A	24V 0.7A

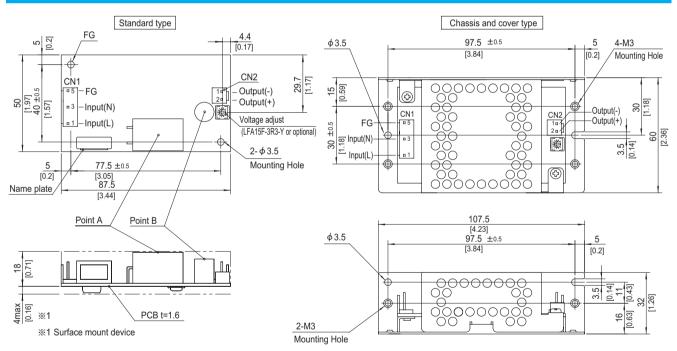
#### **SPECIFICATIONS**

	MODEL		LFA15F-3R3-Y	LFA15F-5	LFA15F-12	LFA15F-15	LFA15F-24	
	VOLTAGE[V]		AC85 - 264 1 ϕ (Refer to "Derating", Instruction Manual 1 and 3) ∗₃					
		ACIN 100V	0.24typ (lo=100%)	0.35typ (lo=100%)				
	CURRENT[A]	ACIN 200V	0.15typ (lo=100%) 0.20typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)	, <b>,</b> , , , , , , , , , , , , , , , , ,				
IPUT		ACIN 100V	68.0typ	73.0typ	76.0typ	77.0typ	78.0typ	
	EFFICIENCY[%]		69.0typ	76.0typ	78.5typ	80.0typ	81.5typ	
		ACIN 100V	15typ (lo=100%) (At co		1.0.0.0	1.0000	1 • · · • / •	
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At co	, , , ,				
	LEAKAGE CURRENT			00V / 240V 60Hz, lo=1	00%. According to IEC	62368-1 and DEN-AN)		
	VOLTAGE[V]	[]	3.3	5	12	15	24	
	CURRENT[A]		3.0	3.0	1.3	1.0	0.7	
	LINE REGULATION[n	nV1 *5	20max	20max	48max	60max	96max	
	LOAD REGULATION	-	40max	40max	100max	120max	150max	
	LOAD HEGGEANON	0 to +50℃		80max	120max	120max	120max	
	RIPPLE[mVp-p]	-10 - 0°C		140max	160max	160max	160max	
	*1	lo=0 - 35%		140max	240max	240max	280max	
		0 to +50℃		120max	150max	150max	150max	
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C						
01901	*1			160max	180max	180max	180max	
		lo=0 - 35%		240max	300max	300max	320max	
	TEMPERATURE REGULATION[mV]	0 to +50℃		50max	120max	150max	240max	
:	-10 to +50°C		60max	60max	150max	180max	290max	
	DRIFT[mV] *2		20max	20max	48max	60max	96max	
	START-UP TIME[ms]		200typ (ACIN 100V, lo=100%) * Start-up time is 700ms typ for less than 1 minute of applying input again from turning off the input voltage					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, lo=100%)         2.85 to 3.63       Fixed ("Y"option is available for adjusting output voltage between ±10%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63		, , ,			
	OUTPUT VOLTAGE SETT		3.30 to 3.40	4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	
	OVERCURRENT PROTE			ting and recovers auton		1		
ROTECTION	OVERVOLTAGE PROTE		4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	
IRCUIT AND	OPERATING INDICAT		Not provided					
THERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided           AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)					
	INPUT-OUTPUT							
OLATION	INPUT-FG		, , ,	toff current = 10mA, DC				
	OUTPUT-FG			off current = 25mA, DC5		, ,		
	OPERATING TEMP., HUMID.AND						00m (10,000 feet) max *3	
NVIRONMENT	STORAGE TEMP., HUMID. AND A	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
	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					
AFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CS)	A60950-1), EN62368-1	Complies with DEN-AN			
OISE	CONDUCTED NOISE		Complies with FCC-B,	VCCI-B, CISPR-B, EN5	5011-B, EN55022-B			
EGULATIONS	HARMONIC ATTENU	ATOR	Complies with IEC610	00-3-2 (Class A) *6 (Not	built-in to active filter)	*4		
THERS	CASE SIZE/WEIGHT		50×22×87.5mm [1.97×0.87×3.44 inches] (W×H×D) / 80g max (with chassis & cover : 190g max)					
COOLING METHOD			Convection (Refer to "I	Derating", Instruction Ma	anual 3) *3			
capacito Measure (Equival A circuit Therefo	e value that measured on mer r of 22 µF at 150mm from outp ed by 20MHz oscilloscope or R ent to KEISOKU-GIKEN: RM10 reducing standby power is bui re, the internal switch elemer I, and the Ripple/Ripple Noise	out terminal. ipple-Noise r 03). It in this unit. nt is intermiti	Please re meter *2 Drift is th a half-ho constant tent *3 Derating	0-35% is different. efer to the Instruction Manual 1 e change in DC output for an e ur warm-up at 25°C, with the in at the rated input/output. is required. o or more units are operating i	ight hour period after *6 put voltage held * *	Please contact us about ar To meet the specifications. Parallel operation is not po Derating is required when	mamic load and input response. nother class. Do not operate over-loaded conditi	





External view



% The back side of P.C.B. of the power supply is assembled some SMDs. Be attention not to bump against the attached area by vibration.

- Use the spacer of 8mm length or more regarding insulation.
   And do not use press-fitting bush.
- % Point A, Point B are thermometry points. Please refer to Instruction Manual 3.

I/O Connector		nector Mating connector		erminal	
014	4 4400704 0	1-1123722-5	Chain	1123721-1	
CINT	1 1-1123724-3	1-1123722-5	Loose	1318912-1	
CNID	1-1123723-2	1-1123722-2	Chain	1123721-1	
CNZ	1-1123723-2	1-1123722-2	Loose	1318912-1	
(Mfr:Tyco Electronics					

※ I/O Connector is Mfr. Tyco Electronics

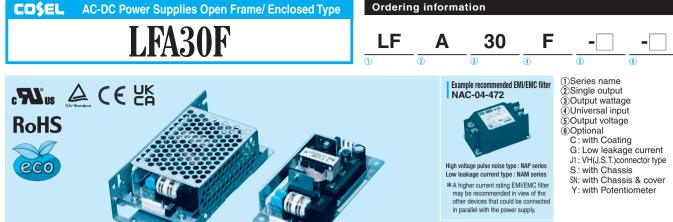
% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

#### <PIN CONNECTION>

CN1		CN2	
Pin No.	Input	Pin No.	Output
1	AC(L)	1	-V
2		1	-v
3	AC(N)	2	+V
4		2	τv
5	FG		

※ Tolerance :	±1 [±0.04]	
---------------	------------	--

- % Weight : 80g max (with chassis & cover : 190g max)
- \* PCB material / thickness : CEM3 / 1.6mm
- ※ Optional chassis and cover material : Electric galvanizing steel board.
   ※ Dimensions in mm, []=inches
- % Mounting torque (Mounting hole of chassis) : 0.6N m (6.3kgf cm) max



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, so 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	LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24
MAX OUTPUT WATTAGE[W]	19.8	30.0	30.0	30.0	31.2
DC OUTPUT	3.3V 6A	5V 6A	12V 2.5A	15V 2A	24V 1.3A

#### SPECIFICATIONS

	MODEL		LFA30F-3R3-Y	LFA30F-5	LFA30F-12	LFA30F-15	LFA30F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Ref	er to "Derating", Ins	truction Manual 1 and 3	*3			
		ACIN 100V	0.50typ (lo=100%)	0.65typ (lo=100%	(6)				
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	.30typ (lo=100%) 0.35typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 440)						
NPUT		ACIN 100V	73typ	76typ	79typ	81typ	82typ		
	EFFICIENCY[%]	ACIN 200V	75typ	79typ	81typ	83typ	84typ		
		ACIN 100V	15typ (lo=100%) (At	/p (lo=100%) (At cold start) (Ta=25°C)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At	Dtyp (lo=100%) (At cold start) (Ta= $25^{\circ}$ C)					
	LEAKAGE CURREN	T[mA]	0.30 / 0.65max (ACI	0.30 / 0.65max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)					
	VOLTAGE[V]		3.3	5	12	15	24		
	CURRENT[A]		6.0	6.0	2.5	2.0	1.3		
	LINE REGULATION	mV] *5	20max	20max	48max	60max	96max		
	LOAD REGULATION	[mV] *5	40max	40max	100max	120max	150max		
		0 to +50℃*1	80max	80max	120max	120max	120max		
	RIPPLE[mVp-p]	-10-0°C *1	140max	140max	160max	160max	160max		
		0 to +50℃*1	120max	120max	150max	150max	150max		
UTPUT	RIPPLE NOISE[mVp-p]	-10-0°C *1	160max	160max	180max	180max	180max		
		0 to +50℃	50max	50max	120max	150max	240max		
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max		
HOLD-UP TI	DRIFT[mV]	*2	20max	20max	48max	60max	96max		
	START-UP TIME[ms]		150typ (ACIN 100V,	lo=100%)		· · ·			
	HOLD-UP TIME[ms]		20typ (ACIN 100V, lo=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	Fixed ("Y"option	is available for adjusting	output voltage between	±10%)		
	OUTPUT VOLTAGE SET	TING[V]	3.30 to 3.40	4.90 to 5.30	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00		
	OVERCURRENT PROT	ECTION	Works over 105% of	rating and recovers	automatically				
ROTECTION	OVERVOLTAGE PROT	ECTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60		
	<b>OPERATING INDICA</b>	TION	Not provided						
THERS	REMOTE SENSING		Not provided						
	<b>REMOTE ON/OFF</b>		Not provided	Not provided					
	INPUT-OUTPUT		AC3,000V 1minute,	Cutoff current = 10n	nA, DC500V 50M $\Omega$ min	(At Room Temperature)			
SOLATION	INPUT-FG		AC2,000V 1minute,	Cutoff current = 10n	nA, DC500V 50M $\Omega$ min	(At Room Temperature)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)						
	OPERATING TEMP., HUMID.AND	) ALTITUDE	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) may						
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max						
	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						
AFETY AND	AGENCY APPROVAL	LS	UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN						
OISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B						
EGULATIONS	HARMONIC ATTENUATOR		Complies with IEC61000-3-2 (Class A) *6 (Not built-in to active filter) *4						
THERS	CASE SIZE/WEIGHT	•	50×26.5×105mm [	1.97×1.04×4.13 ir	nches] (W×H×D) / 130	g max (with chassis & co	over : 260g max)		
	COOLING METHOD		Convection (Refer to	"Derating", Instruct	ion Manual 3) *3				
from ou	the value that measured or tput terminal. ed by 20MHz oscilloscope of	r Ripple-No		ISOKU-GIKEN:	Please contact us for	ut dynamic load and input res			

\*2 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.
 \*3 Derating is required.

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

Parallel operation is not possible.

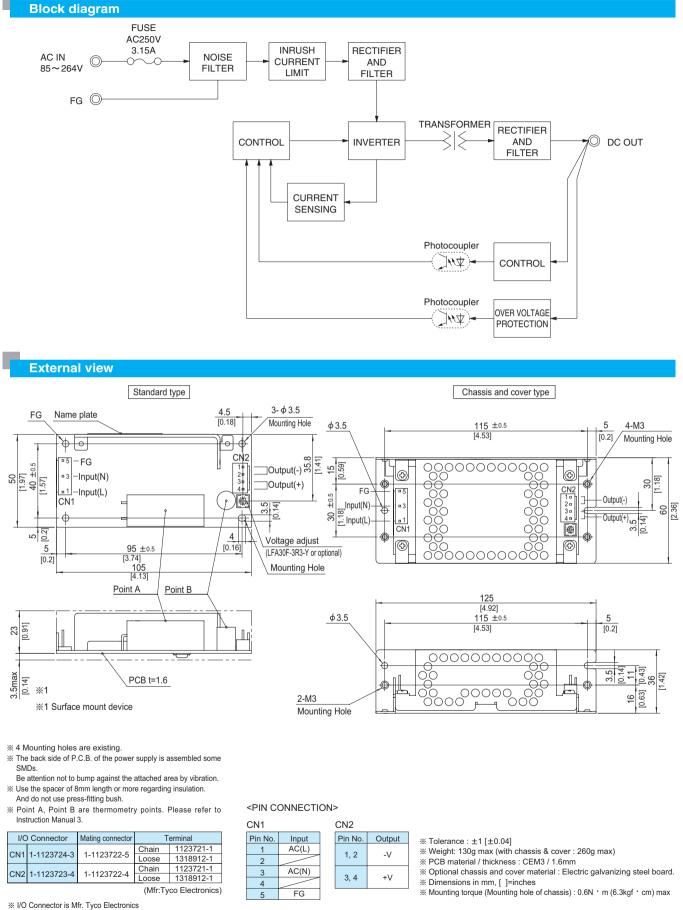
Derating is required when operated with chassis and cover.

Sound noise may be generated by power supply in case of pulse load.

December 27, 2022

www.cosel.co.jp/en/

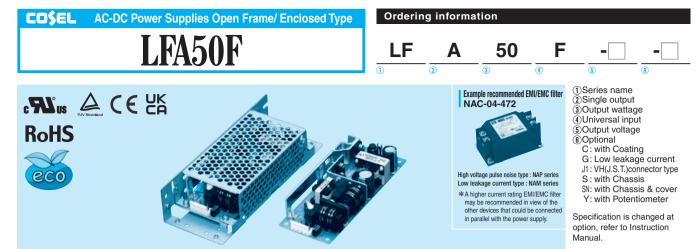




W Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

### % Keep drawing current per pin below 5A for CN2. December 27, 2022

LFA-7



MODEL	LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48
MAX OUTPUT WATTAGE[W]	33	50	51.6	52.5	50.4	50.4	52.8
DC OUTPUT	3.3V 10A	5V 10A	12V 4.3A	15V 3.5A	24V 2.1A	36V 1.4A	48V 1.1A

#### **SPECIFICATIONS**

	MODEL		LFA50F-3R3-Y	LFA50F-5	LFA50F-12	LFA50F-15	LFA50F-24	LFA50F-36	LFA50F-48			
	VOLTAGE[V]		AC85 - 264 1 φ	(Refer to "Derat	ing", Instruction	Manual 1 and 3)	*3					
		ACIN 100V	0.47typ (lo=100%)	0.67typ (lo=100	)%)							
	CURRENT[A]	ACIN 200V	0.27typ (lo=100%)	0.36typ (lo=100	)%)							
	FREQUENCY[Hz]		50 / 60 (47 - 63	)								
		ACIN 100V	73.5typ	77.5typ	80.0typ	80.5typ	81.5typ	82.0typ	81.0typ			
IPUT	EFFICIENCY[%]	ACIN 200V	74.0typ	79.0typ	81.5typ	81.5typ	83.0typ	83.5typ	82.5typ			
		ACIN 100V	0.96typ 0.97typ									
	POWER FACTOR (Io=100%)	ACIN 200V	0.83typ 0.90typ									
		ACIN 100V	15typ (lo=100%) (At cold start) (Ta=25°C)									
	INRUSH CURRENT[A]	ACIN 200V		) (At cold start) (								
	LEAKAGE CURREN	T[mA]	0.40 / 0.75max	(ACIN 100V / 24	0V 60Hz, lo=10	0%, According to	DIEC62368-1 ar	nd DEN-AN)				
	VOLTAGE[V]		3.3	5	12	15	24	36	48			
	CURRENT[A]		10.0	10.0	4.3	3.5	2.1	1.4	1.1			
	LINE REGULATION[	mV] *4	20max	20max	48max	60max	96max	144max	192max			
	LOAD REGULATION	[mV] *4	40max	40max	100max	120max	150max	240max	240max			
		0 to +50℃ *1	80max	80max	120max	120max	120max	150max	150max			
	RIPPLE[mVp-p]	-10-0°C *1	140max	140max	160max	160max	160max	200max	200max			
	RIPPLE NOISE[mVp-p]	0 to +50℃*1	120max	120max	150max	150max	150max	250max	250max			
	RIPPLE NOISE[mvp-p]	-10-0°C *1	160max	160max	180max	180max	180max	300max	300max			
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	120max	150max	240max	360max	480max			
	TEMPERATURE REGULATION[INV]	-10 to +50℃	60max	60max	150max	180max	290max	450max	600max			
	DRIFT[mV] *2		20max	20max	48max	60max	96max	144max	192max			
S	START-UP TIME[ms]		350typ (ACIN 1	00V, lo=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	Fixed ("Y"option	n is available for	adjusting output	voltage between	n ±10%)				
	OUTPUT VOLTAGE SET	TING[V]	3.30 to 3.40	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 50.0			
	OVERCURRENT PROT	ECTION	Works over 105	% of rating and	recovers automa	tically						
ROTECTION	OVERVOLTAGE PROTE	CTION	4.00 to 5.25	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 67.2			
IRCUIT AND	OPERATING INDICA	TION	Not provided									
THERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Not provided									
	INPUT-OUTPUT					00V 50M $\Omega$ min		,				
SOLATION	INPUT-FG					00V 50M $\Omega$ min	<u>.</u>	,				
	OUTPUT-FG		AC500V 1minu	te, Cutoff current	= 25mA, DC500	OV 50M $\Omega$ min (A	t Room Tempera	ature)				
	OPERATING TEMP., HUMID.AND	ALTITUDE			0, (	<b>.</b>		ual 3), 3,000m (1	0,000feet) max			
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE				000m (30,000fee						
	VIBRATION		10 - 55Hz, 19.6	m/s² (2G), 3minu	ites period, 60m	inutes each alon	g X, Y and Z axis	S				
	IMPACT			), 11ms, once ea								
AFETY AND	AGENCY APPROVAL	_S				omplies with DEI						
OISE	CONDUCTED NOISE		Complies with F	CC-B, VCCI-B,	CISPR-B, EN55	011-B, EN55022	-B					
EGULATIONS	HARMONIC ATTENU	ATOR	Complies with I	Complies with IEC61000-3-2 (Class A) *5								
THERS	CASE SIZE/WEIGHT		50×26.5×132	mm [1.97×1.04	×5.20 inches] (V	W×H×D) / 165g	max (with chase	sis & cover : 325	g max)			
	COOLING METHOD		Convection (Re	fer to "Derating",	Instruction Man	ual 3) *3						
from ou		Ripple-No	ise meter (Equivalen		*4 Pl 1: *5 Pl * To	erating is required. ease contact us abou ease contact us abou meet the specificatio	it another class. ons. Do not operate o	input response. over-loaded condition				

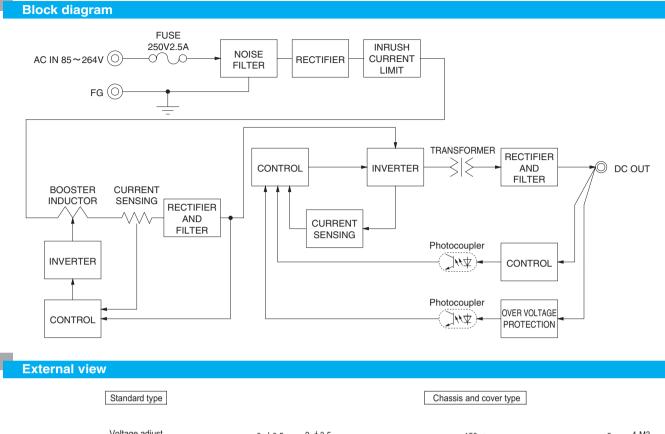
\*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

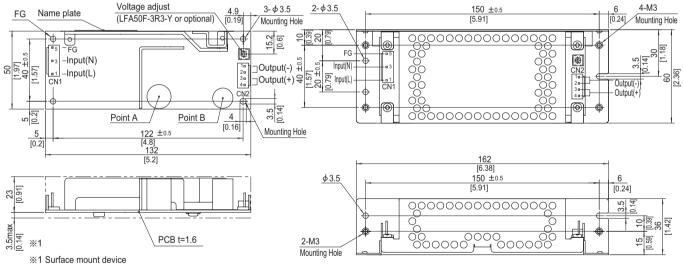
December 27, 2022

Parallel operation is not possible.

Derating is required when operated with chassis and cover







% 4 Mounting holes are existing.

% The back side of P.C.B. of the power supply is assembled some SMDs.

Be attention not to bump against the attached area by vibration. % Use the spacer of 8mm length or more regarding insulation.

And do not use press-fitting bush.

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

I/C	Connector	Mating connector					
0.14	4 4400704 0	1-1123722-5	Chain	1123721-1			
CINT	1-1123724-3	1-1123722-5	Loose	1318912-1			
CNID	1-1123723-4	1-1123722-4	Chain	1123721-1			
CINZ	1-1123723-4	1-1123722-4	Loose	1318912-1			
(Mfr:Tvco Electronics)							

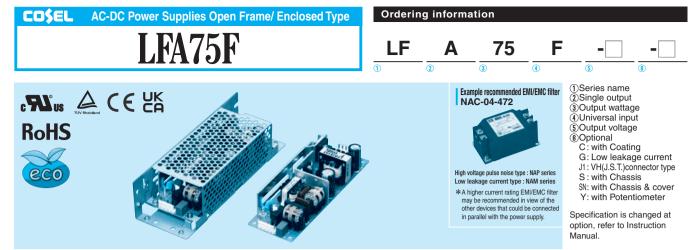
<PIN CONNECTION>

CN	11		CN2		
Pir	n No.	Input	Pin No.	Output	% Tolerance : ±1 [±0.04]
	1	AC(L)	1.0	-V	※ Weight : 165g max (with chassis & cover : 325g max)
	2		1, 2	-v	※ PCB material / thickness : CEM3 / 1.6mm
	3	AC(N)	2.4	+V	* Optional chassis and cover material : Electric galvanizing steel board.
	4		3, 4	÷ν	※ Dimensions in mm, []=inches ※ Muurtise targets (Maurtise hale of chaosis) + 0.6N + m (6.2km) may
	5	FG			Mounting torque (Mounting hole of chassis) : 0.6N • m (6.3kgf • cm) max

※ I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

% Keep drawing current per pin below 5A for CN2.



MODEL	LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48
MAX OUTPUT WATTAGE[W]	49.5	75	75.6	75	76.8	75.6	76.8
DC OUTPUT	3.3V 15A	5V 15A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A

#### **SPECIFICATIONS**

	MODEL		LFA75F-3R3-Y	LFA75F-5	LFA75F-12	LFA75F-15	LFA75F-24	LFA75F-36	LFA75F-48				
	VOLTAGE[V]		AC85 - 264 1 φ	(Refer to "Derat	ing", Instruction	Manual 1 and 3)	*3						
		ACIN 100V	0.70typ (lo=100%)	1.00typ (lo=100	0%)	· · ·							
	CURRENT[A]	ACIN 200V	0.40typ (lo=100%)	0.50typ (lo=100									
	FREQUENCY[Hz]		50 / 60 (47 - 63	)									
		ACIN 100V	73.5typ	78.0typ	81.5typ	81.5typ	82.5typ	82.5typ	82.5typ				
NPUT	EFFICIENCY[%]	ACIN 200V	75.0typ	80.0typ	83.0typ	83.0typ	84.5typ	84.5typ	84.5typ				
-		ACIN 100V	0.96typ 0.97typ										
	POWER FACTOR (lo=100%)	ACIN 200V	0.83typ 0.90typ										
		ACIN 100V	15typ (lo=100%) (At cold start) (Ta=25°C)										
	INRUSH CURRENT[A]	ACIN 200V	21 (	Totyp (I0=100%) (At cold start) ( $Ia=25$ C) 30typ (Io=100%) (At cold start) ( $Ia=25$ C)									
	LEAKAGE CURREN		21 (	, , , , , , , , , , , , , , , , , , , ,	,	00%, According t	o IEC62368-1 ar	d DEN-AN)					
	VOLTAGE[V]	.[]	3.3	5	12	15	24	36	48				
	CURRENT[A]		15.0	15.0	6.3	5.0	3.2	2.1	1.6				
	LINE REGULATION	mV1 *4	20max	20max	48max	60max	96max	144max	192max				
	LOAD REGULATION		40max	40max	100max	120max	150max	240max	240max				
RIPPLE[mVp-p]		0 to +50°C *1	80max	80max	120max	120max	120max	150max	150max				
		-10-0°C *1	140max	140max	160max	160max	160max	200max	200max				
		0 to +50℃*1	120max	120max	150max	150max	150max	250max	250max				
	RIPPLE NOISE[mVp-p]	-10-0°C *1	160max	160max	180max	180max	180max	300max	300max				
		0 to +50℃		50max	120max	150max	240max	360max	480max				
	TEMPERATURE REGULATION[mV]	-10 to +50°C		60max	120max	180max	240max 290max		600max				
	DRIFT[mV] *2			20max	48max	60max	290max 96max	450max	-				
		*2	350typ (ACIN 1		4011182	oumax	901112X	144max	192max				
	START-UP TIME[ms]		20typ (ACIN 10										
	HOLD-UP TIME[ms]	DANOFIN			ia available far a	-	ltone between 1	100/)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63		1	djusting output vo	, <b>°</b>		40.00 +- 50.00				
	OUTPUT VOLTAGE SET		3.30 to 3.40	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 PROT			% of rating and	1		07.001.00.00	44.401.50.40	55 00 1. 07 0				
ROTECTION	OVERVOLTAGE PROTE		4.00 to 5.25	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				
IRCUIT AND		TION	Not provided		-								
IIILNO	REMOTE SENSING		Not provided										
	REMOTE ON/OFF		Not provided				(A) D T						
	INPUT-OUTPUT					500V 50MΩ min		,					
SOLATION	INPUT-FG		,	,	,	500V 50MΩ min	<u> </u>	,					
	OUTPUT-FG					0V 50MΩ min (A		,					
	OPERATING TEMP., HUMID.AND		,	,	0/ (	0		ual 3), 3,000m (1	0,000feet) max				
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALIIIUDE			0,	000m (30,000fee	/						
	VIBRATION					inutes each alon	g X, Y and Z axis	8					
	IMPACT			), 11ms, once ea				_					
AFETY AND	AGENCY APPROVAL	-	,	,	, ·	omplies with DE							
OISE	CONDUCTED NOISE					011-B, EN55022	-B						
EGULATIONS				EC61000-3-2 (C	,								
OTHERS	CASE SIZE/WEIGHT					, 0	max (with chassi	s & cover : 440g	max)				
	COOLING METHOD		Convection (Re	fer to "Derating",	Instruction Man	iual 3) *3							
from ou Measure RM103)	tput terminal. ed by 20MHz oscilloscope or	Ripple-No	ng board with capacitor of 22 µ F at 150mm s board with capacitor o										

\*2 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.

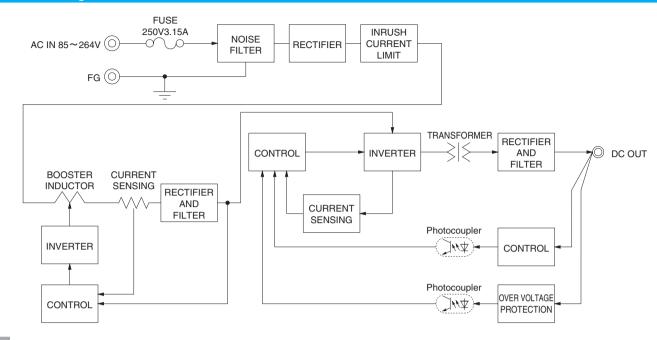
December 27, 2022

Sound noise may be generated by power supply in case of pulse load. 2 WWW.cosel.co.jp/en/

Derating is required when operated with chassis and cover

### LFA75F | CO\$EL

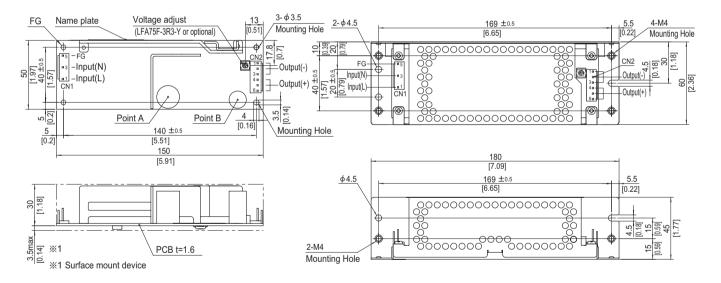




**External view** 

Standard type

Chassis and cover type



% 4 Mounting holes are existing.

- % The back side of P.C.B. of the power supply is assembled some SMDs
- Be attention not to bump against the attached area by vibration.
- % Use the spacer of 8mm length or more regarding insulation.
- And do not use press-fitting bush. % Point A, Point B are thermometry points. Please refer to
- Instruction Manual 3.

I/C	Connector	Mating connector	T	erminal			
014	4 4400704 0	1-1123722-5	Chain	1123721-1			
CINT	1-1123724-3	1-1123722-5	Loose	1318912-1			
CNID	1 1100700 6	1-1123722-6	Chain	1123721-1			
CNZ	1-1123723-6	1-1123722-6	Loose	1318912-1			
(Mfr:Tvco Electronics)							

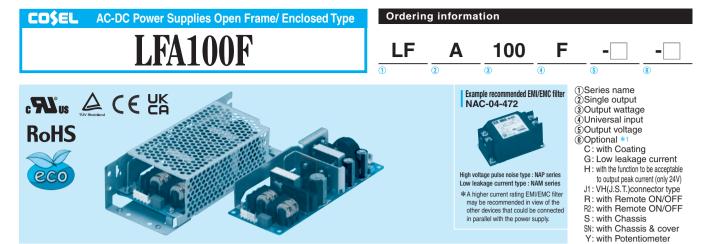
※ I/O Connector is Mfr. Tyco Electronics

% Option:-J1:(J.S.T) connector type. Refer to Instruction Manual 6.

<PIN CONNECTION>

CN1		CN2		
Pin No	. Input	Pin No.	Output	% Tolerance : ±1 [±0.04]
1	AC(L)	44.0		※ Weight : 230g max (with chassis & cover : 440g max)
2		1 to 3	-V	※ PCB material / thickness : CEM3 / 1.6mm
3	AC(N)	44-0		* Optional chassis and cover material : Electric galvanizing steel board
4		4 to 6	+V	* Dimensions in mm, []=inches
5	FG			<sup>J</sup> % Mounting torque (Mounting hole of chassis) :1.5N • m (16kgf • cm) max

% Keep drawing current per pin below 5A for CN2.



MODEL	LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-48	
MAX OUTPUT WATTAGE[W] *5	66	100	102	100.5	103.2	103.2 (129.6)	100.8	100.8	
DC OUTPUT *5	3.3V 20A	5V 20A	12V 8.5A	15V 6.7A	24V 4.3A	24V 4.3 (5.4)A	36V 2.8A	48V 2.1A	
SPECIFICATIONS									
MODEL	I FALOOF ODO V	LEADOR F M	I FAIRAR IA	I FAIRS IN	I FALOOF OA	I FARONE OA II	I FALOOF OO	I BALAGE IG	

	MODEL		LFA100F-3R3-Y	LFA100F-5-Y	LFA100F-12	LFA100F-15	LFA100F-24	LFA100F-24-H	LFA100F-36	LFA100F-48	
	VOLTAGE[V]		AC85 - 264 1	φ (Refer to "D	erating", Instru	ction Manual 1	and 3) *4				
		ACIN 100V	0.9typ (lo=100%)	1.3typ (lo=10			· · ·				
	CURRENT[A]	ACIN 200V	0.5typ (lo=100%)	0.7typ (lo=10	0%)						
	FREQUENCY[Hz]		50 / 60 (47 - 6	53)							
		ACIN 100V	77.0typ	82.0typ	82.0typ	83.0typ	84.0typ	84.0typ	84.0typ	84.5typ	
INPUT	EFFICIENCY[%]	ACIN 200V	79.0typ	84.0typ	84.5typ	85.5typ	87.0typ	87.0typ	87.0typ	87.0typ	
		ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR (Io=100%)	ACIN 200V	0.92typ 0.95typ								
		ACIN 100V	15typ (lo=100	)%) (At cold sta	rt) (Ta=25℃)						
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100	%) (At cold sta	rt) (Ta=25℃)						
	LEAKAGE CURREN	T[mA]	0.40 / 0.75ma	ax (ACIN 100V	/240V 60Hz,	lo=100%, Acco	ording to IEC6	2368-1 and DE	EN-AN)		
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48	
	CURRENT[A]	*5	20	20	8.5	6.7	4.3	4.3 (Peak 5.4)	2.8	2.1	
	LINE REGULATION	mV] *7	20max	20max	48max	60max	96max	96max	144max	192max	
	LOAD REGULATION	[mV] *7	40max	40max	100max	120max	150max	150max	240max	240max	
		0 to +50℃*2	80max	80max	120max	120max	120max	240max	150max	150max	
	RIPPLE[mVp-p]	-10-0°C *2	140max	140max	160max	160max	160max	320max	200max	200max	
		0 to +50℃*2	120max	120max	150max	150max	150max	300max	250max	250max	
OUTPUT RIPPLE NOISE[mVp-p]		-10-0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	
		0 to +50℃	50max	50max	120max	150max	240max	240max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max	60max	150max	180max	290max	290max	450max	600max	
	DRIFT[mV]	*3	20max 20max 48max 60max 96max 96max 144max 192max								
	START-UP TIME[ms]		350typ (ACIN	100V, lo=100°	%)	^					
	HOLD-UP TIME[ms]		20typ (ACIN ·	100V, lo=100%	)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 to 3.63	4.50 to 5.50	Fixed ("Y"opti	on is available	for adjusting of	output voltage)			
	OUTPUT VOLTAGE SET	TING[V]	3.30 to 3.40	5.00 to 5.15	11.50 to 12.50	14.40 to 15.60	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00	
	OVERCURRENT PROT	ECTION	Works over 1	05% of rating (	· · · · · · · · · · · · · · · · · · ·	1% of peak cur	rent at option ·	· '	rs automatical	у	
PROTECTION	OVERVOLTAGE PROTE	ECTION	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND	OPERATING INDICA	TION	Not provided								
OTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF		Option (Refer to Instruction Manual)								
	INPUT-OUTPUT-RC	*6				, DC500V 50M			1		
ISOLATION	INPUT-FG		,	,		, DC500V 50M			,		
	OUTPUT·RC-FG	*6	AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)								
	OUTPUT-RC	*6		,	,	DC100V 10MΩ	<u>`</u>	/			
	OPERATING TEMP., HUMID.AND					g) (Refer to "D			3), 3,000m (10,	000feet) max	
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE				g), 9,000m (30					
	VIBRATION					, 60minutes ea	ch along X, Y a	and Z axis			
	IMPACT				e each X, Y an						
SAFETY AND	AGENCY APPROVAL					8-1 Complies v					
NOISE REGULATIONS	CONDUCTED NOISE		· ·			EN55011-B, El	N55022-B				
REGULATIONS	HARMONIC ATTENU	-		1 IEC61000-3-2	· /				400		
OTHERS	CASE SIZE/WEIGHT					es] (W×H×D	) / 280g max (	with chassis &	cover : 480g n	lax)	
	COOLING METHOD	a last of	, , , , , , , , , , , , , , , , , , ,		ng", Instruction I	vianual 3) *4	dia Di		anthen also		
<ul> <li>*2 This is the capacitor of Measured (Equivalent *3)</li> </ul>	on is changed at option, refer t e value that measured on t of 22 JF at 150mm from outpu' I by 20MHz oscilloscope o t to KEISOKU-GIKEN: RM103 change in DC output for an e varm-up at 25°C, with the inpu	measuring   t terminal. r Ripple-No ). eight hour pe	board with *4 *5 bise meter riod after a *6	device is damaged contact us about th Applicable when R	d. urrent. There is a p d when the specific ne detail. emote ON/OFF (opt	ossibility that an in ation is exceeded. F ional) is added. and input response	* To m ternal cond Please * Paral * Derat * Soun	ition. Iel operation is not p ting is required whe	tions. Do not op possible. n operated with cha	erate over-loaded ssis and cover. r supply in case of	

LFA-12

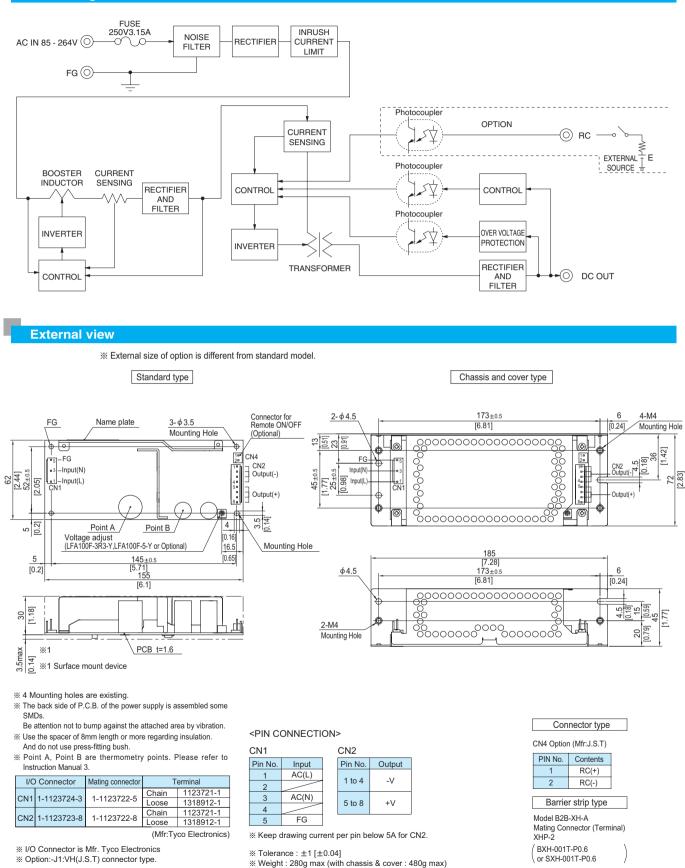
December 27, 2022

Please refer to Instruction

manual 6.



**Block diagram** 



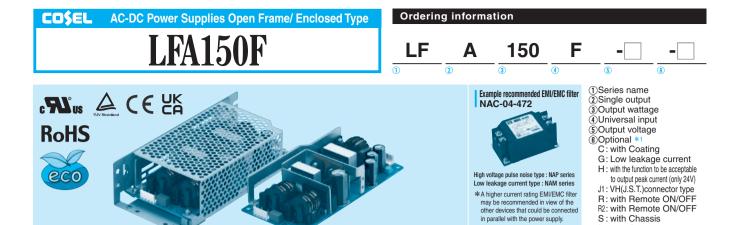
\* PCB material : CEM3

\* Optional chassis and cover material : Electric galvanizing steel board.

※ Dimensions in mm, [ ]=inches

※ Mounting torque (Mounting hole of chassis) :1.5N • m (16kgf • cm) max

#### December 27, 2022



MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48
MAX OUTPUT WATTAGE[W]	*5	99	150	150	150	151.2	151.2 (189.6)	151.2	153.6
DC OUTPUT	*5	3.3V 30A	5V 30A	12V 12.5A	15V 10A	24V 6.3A	24V 6.3 (7.9)A	36V 4.2A	48V 3.2A
SPECIFICATIONS									
MODEL		LFA150F-3R3-Y	LFA150F-5-Y	LFA150F-12	LFA150F-15	LFA150F-24	LFA150F-24-H	LFA150F-36	LFA150F-48
VOLTAGE[V]		AC85 - 264 1	φ (Refer to "D	erating", Instru	ction Manual 1	and 3) *4			
CURRENTIAL	ACIN 100V		2.0typ (lo=10	0%)					
CURRENT[A]	ACIN 200V	0.7typ (lo=100%)	1.0typ (lo=10	0%)					

	CONTENTIA	ACIN 200V	0.7typ (lo=100%)	1.0typ (lo=10	0%)							
	FREQUENCY[Hz]		50 / 60 (47 - 6	63)								
		ACIN 100V	80.0typ	82.5typ	82.5typ	84.0typ	85.0typ	85.0typ	85.0typ	85.5typ		
INPUT	PUT EFFICIENCY[%] POWER FACTOR (lo=100%	ACIN 200V	82.0typ	85.5typ	85.0typ	86.5typ	87.5typ	87.5typ	87.5typ	88.0typ		
		ACIN 100V	0.98typ	0.99typ								
	POWER FACTOR (IO=100%)	ACIN 200V	0.92typ 0.95typ									
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start) (Ta=25°C)									
		ACIN 200V	11	0%) (At cold sta	, ,		-					
	LEAKAGE CURREN	T[mA]			/240V 60Hz,					1		
	VOLTAGE[V]		3.3	5	12	15	24	24	36	48		
	CURRENT[A]	*5	30	30	12.5	10	6.3	6.3 (Peak 7.9)	4.2	3.2		
	LINE REGULATION		20max	20max	48max	60max	96max	96max	144max	192max		
	LOAD REGULATION	<u> </u>	40max	40max	100max	120max	150max	150max	240max	240max		
	RIPPLE[mVp-p]	0 to +40℃*2		80max	120max	120max	120max	240max	150max	150max		
		-10-0°C *2		140max	160max	160max	160max	320max	200max	200max		
	RIPPLE NOISE[mVp-p]	0 to +40°C *2	120max	120max	150max	150max	150max	300max	250max	250max		
OUTPUT		-10-0°C *2	160max	160max	180max	180max	180max	360max	300max	300max		
	TEMPERATURE REGULATION[mV]	0 to +40℃		50max	120max	150max	240max	240max	360max	480max		
		-10 to +40℃	60max	60max	150max	180max	290max	290max	450max	600max		
	DRIFT[mV]	*3	20max	20max	48max	60max	96max	96max	144max	192max		
	START-UP TIME[ms]			100V, Io=100								
	HOLD-UP TIME[ms]			20typ (ACIN 100V, Io=100%) 2.85 to 3.63 4.50 to 5.50 Fixed ("Y"option is available for adjusting output voltage)								
H	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]					1	, , ,		1	1		
	OUTPUT VOLTAGE SET		3.30 to 3.40	5.00 to 5.15		14.40 to 15.60	23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00		
	OVERCURRENT PROT				works over 10		<b>!</b>		1	,		
PROTECTION	OVERVOLTAGE PROTE		4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20		
CIRCUIT AND OTHERS	OPERATING INDICA	TION	Not provided									
UTHERS	REMOTE SENSING		Not provided		N							
	REMOTE ON/OFF	*6		to Instruction	wanual) current = 10mA		O min (At Da	am Tamparatu	ro)			
	INPUT-FG	*0	,	,	current = 10mA		(		,			
ISOLATION	OUTPUT·RC-FG	*6	,	,	rrent = $25mA$ , I				/			
	OUTPUT-RC	*6		,	rrent = 25mA, I		(		,			
	OPERATING TEMP., HUMID.AND	ALTITUDE *4			Non condensir			<u> </u>	,	.000feet) max		
	STORAGE TEMP., HUMID.AND				Non condensir	0, (			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,		
ENVIRONMENT	VIBRATION		10 - 55Hz, 19	.6m/s² (2G), 3	minutes period	, 60minutes ea	ich along X, Y	and Z axis				
	IMPACT		196.1m/s² (20	)G), 11ms, ond	e each X, Y ar	nd Z axis						
SAFETY AND	AGENCY APPROVAL	LS	UL60950-1, 0	C-UL (CSA609	50-1), EN6236	8-1 Complies	with DEN-AN					
NOISE	CONDUCTED NOISE		Complies with	h FCC-B, VCC	I-B, CISPR-B,	EN55011-B, E	N55022-B					
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with	h IEC61000-3-	2 (Class A) *8							
OTHERS	CASE SIZE/WEIGHT		75×37.0×16	60mm [2.95×1	.46×6.30 inche	es] (W×H×D)	/ 390g max (w	vith chassis & c	cover : 650g m	ax)		
	COOLING METHOD		, , , , , , , , , , , , , , , , , , ,		ing", Instruction	n Manual 3) *4						
<ul> <li>*2 This is the capacitor of Measured (Equivalen</li> <li>*3 Drift is the half-hour ways and the second s</li></ul>	on is changeed at option, refer e value that measured on r of 22 µ F at 150mm from output I by 20MHz oscilloscope o to KEISOKU-GIKEN: RM103) change in DC output for an e varm-up at 25°C, with the input	measuring   t terminal. r Ripple-No ). eight hour pe	board with *4 *5 bise meter riod after a *6	device is damaged contact us about th Applicable when re Please contact us	d. urrent. There is a p d when the specific he detail. emote control (option about dynamic load	ation is exceeded. nal) is added. and input response	* To n nternal conc Please * Para * Dera * Sour	se contact us about neet the specifica lition. Ilel operation is not ting is required whe nd noise may be g e load.	ations. Do not op possible. en operated with cha	assis and cover.		
IFA_1/				Docc	mhor 27/2	0000				col co in/or		

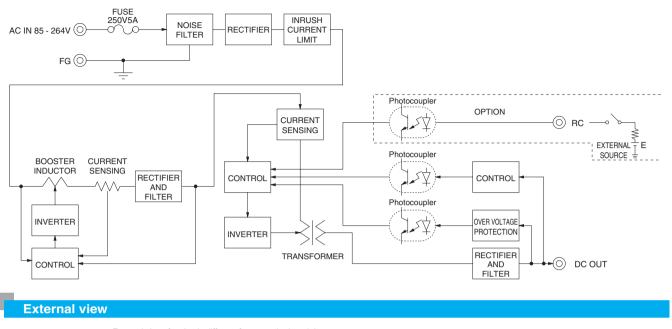
SN: with Chassis & cover Y: with Potentiometer Please refer to Instruction

manual 6.



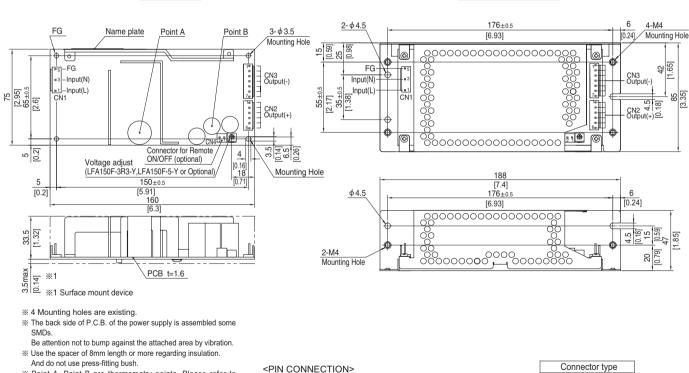
Chassis and cover type

**Block diagram** 



% External size of option is different from standard model.

Standard type



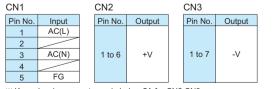
% Point A, Point B are thermometry points. Please refer to Instruction Manual 3.

I/C	Connector	Mating connector	Terminal				
CNIA	1-1123724-3	1-1123722-5	Chain	1123721-1			
CINT	1-1123724-3	1-1123722-5	Loose	1318912-1			
010	4 4400700 0	1-1123722-6	Chain	1123721-1			
CNZ	CN2 1-1123723-6	1-1123722-6	Loose	1318912-1			
010	4 4400700 7	4 4400700 7	Chain	1123721-1			
CN3 1-1123723-7	1-1123722-7	Loose	1318912-1				
(MfwType Electronics)							

(Mfr:Tyco Electronics)

% I/O Connector is Mfr. Tyco Electronics

\* Option:-J1:VH(J.S.T) connector type.



% Keep drawing current per pin below 5A for CN2,CN3.

- % Tolerance : ±1 [±0.04]
- Weight : 390g max (with chassis & cover : 650g max)
- ※ PCB material : CEM3

※ Optional chassis and cover material : Electric galvanizing steel board.

※ Dimensions in mm, [ ]=inches % Mounting torque (Mounting hole of chassis) :1.5N • m (16kgf • cm) max

December 27, 2022

**LFA-15** 

CN4 Option (Mfr. J S T)

PIN No. Contents

Barrier strip type

Mating Connector (Terminal) XHP-2

2

Model B2B-XH-A

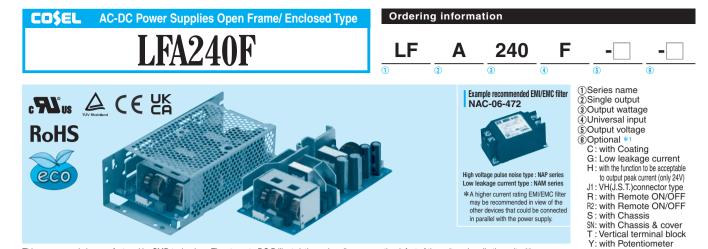
BXH-001T-P0.6

or SXH-001T-P0.6

RC(+)

RC(-)

www.cosel.co.jp/en/



MODEL	LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48
MAX OUTPUT WATTAGE[W] *5	240	240 (300)	241.2	240
DC OUTPUT *5	24V 10A	24V 10 (12.5)A	36V 6.7A	48V 5A

#### **SPECIFICATIONS**

	MODEL		LFA240F-24	LFA240F-24-H	LFA240F-36	LFA240F-48					
	VOLTAGE[V]		AC85 - 264 1 ¢ (Refer to	"Derating", Instruction Manu	ual 1 and 3) *4	·					
		ACIN 100V		3.3typ (lo=100%)							
	CURRENT[A]	ACIN 200V	1.7typ (lo=100%)								
	FREQUENCY[Hz]	1	50 / 60 (47 - 63)								
		ACIN 100V	84.5typ	84.5typ	84.5typ	84.5typ					
INPUT	EFFICIENCY[%]	ACIN 200V	87.5typ	87.5typ	87.5typ	87.5typ					
		ACIN 100V	0.99typ	onotyp	0.100	0.1039					
	POWER FACTOR (lo=100%)	ACIN 200V									
		ACIN 100V	15 / 30typ (lo=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start)								
	INRUSH CURRENT[A]	ACIN 200V	30 / 30typ (lo=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start)								
	LEAKAGE CURREN				6, According to IEC62368-1 a	,					
	VOLTAGE[V]	1[11]	24	24	36	48					
	CURRENT[A]	*5	10	10 (Peak12.5)	6.7	5					
	LINE REGULATION			96max	144max	192max					
		-									
	LOAD REGULATION			150max	240max	240max					
	RIPPLE[mVp-p]	0 to +40℃*2		240max	150max	150max					
		-10-0°C *2		320max	200max	200max					
	RIPPLE NOISE[mVp-p]	0 to +40°C *2		300max	250max	250max					
		-10-0°C *2		360max	300max	300max					
	TEMPERATURE REGULATION[mV]	0 to +40℃		240max	360max	480max					
		-10 to +40℃		290max	450max	600max					
	DRIFT[mV]	*3	96max 96max 144max 192max								
	START-UP TIME[ms]		350typ (ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, lo=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]			le for adjusting output voltag	5,						
	OUTPUT VOLTAGE SETTING[V]		23.00 to 25.00	23.00 to 25.00	34.50 to 37.50	46.00 to 50.00					
	OVERCURRENT PROTECTION		Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically								
PROTECTION	OVERVOLTAGE PROTECTION			27.60 to 33.60 27.60 to 33.60 41.40 to 50.40 55.20 to 67.20							
CIRCUIT AND	OPERATING INDICA	TION	Not provided								
OTHERS	REMOTE SENSING		Not provided								
	<b>REMOTE ON/OFF</b>		Option (Refer to Instruction Manual)								
	INPUT-OUTPUT-RC	*6	AC3,000V 1minute, Cuto	off current = 10mA, DC500	V 50M $\Omega$ min (At Room Temp	perature)					
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)								
ISOLATION	OUTPUT·RC-FG	*6	AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)								
	OUTPUT-RC	*6	AC100V 1minute, Cutoff current = 25mA, DC100V 10M $\Omega$ min (At Room Temperature)								
	OPERATING TEMP., HUMID.AND	ALTITUDE *4	-10 to +70°C, 20 - 90%RH (Non condensing) (Refer to "Derating", Instruction Manual 3), 3,000m (10,000feet) max								
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max								
ENVIRONMENT	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								
SAFETY AND	AGENCY APPROVA	LS	UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN								
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B								
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with IEC61000	)-3-2 (Class A) *8							
OTUEDO	CASE SIZE/WEIGHT		84×46.5×180mm [3.31×1.83×7.09 inches] (W×H×D) / 550g max (with chassis & cover : 880g max)								
OTHERS	COOLING METHOD			erating", Instruction Manual							
*1 Specification is changeed at option, refer to Instruct *2 This is the value that measured on measuring capacitor of 22 µ F at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-N (Equivalent to KEISOKU-GIKEN: RM103).			board with *4 Derating is required. * To meet the specifications. Do not operate over-loade *5 () means peak current. There is a possibility that an internal condition.								
*3 Drift is the	e change in DC output for an e warm-up at 25°C, with the inpu	, eight hour pe	eriod after a *6 Applicable wh	en remote control (optional) is adde t us about dynamic load and input re	d. * Sound noise m	ay be generated by power supply in case					

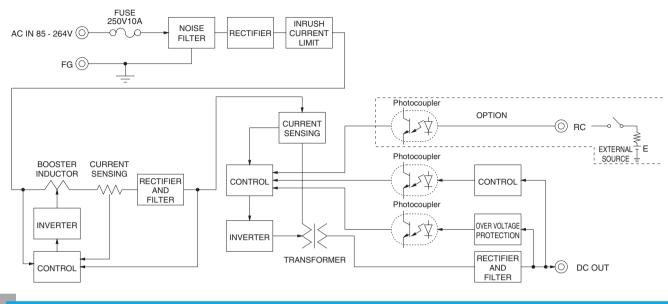
LFA-16

Please refer to Instruction

manual 6.

LFA240F | CO\$EL

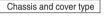
#### **Block diagram**

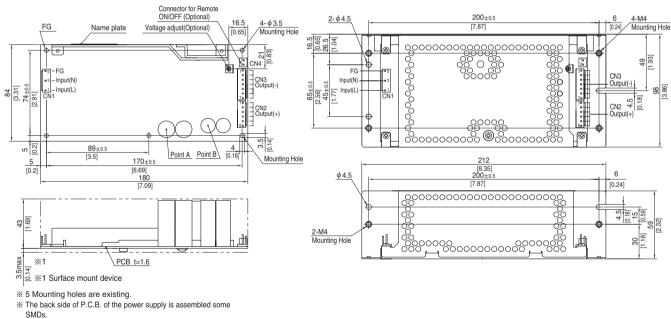


External view

※ External size of option is different from standard model.

#### Standard type





SMDs. Be attention not to bump against the attached area by vibration.

% Use the spacer of 8mm length or more regarding insulation.

And do not use press-fitting bush.

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

I/C	O Connector	Mating connector	Terminal					
CNH	1-1123724-3	1-1123722-5	Chain	1123721-1				
CIVI	1-1123724-3	1-1123/22-5	Loose	1318912-1				
010	4 4400700 0	1-1123722-6	Chain	1123721-1				
CIN2	CN2 1-1123723-6	1-1123/22-6	Loose	1318912-1				
010	4 4400700 7	1-1123722-7	Chain	1123721-1				
CN3	1-1123723-7	1-1123/22-7	Loose	1318912-1				

(Mfr:Tyco Electronics)

% I/O Connector is Mfr. Tyco Electronics

% Option:-J1:VH(J.S.T) connector type.

% Weight : 550g max (with chassis & cover : 880g max) % PCB material : CEM3

CN2

Pin No.

1 to 6

% Keep drawing current per pin below 5A for CN2, CN3.

<PIN CONNECTION>

Input AC(L)

AC(N)

FG

% Tolerance : ±1 [±0.04]

CN1

Pin No.

1

3 4

5

\* Optional chassis and cover material : Electric galvanizing steel board.

Output

+V

CN3

Pin No.

1 to 7

Output

-V

X Dimensions in mm, []=inches

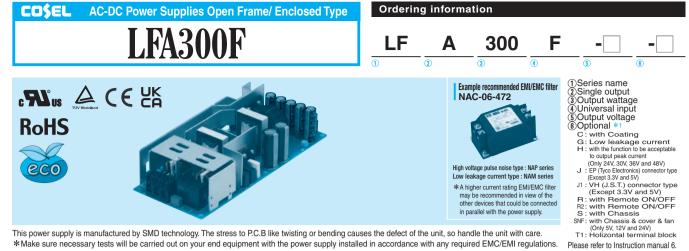
% Mounting torque (Mounting hole of chassis) :1.5N \* m (16kgf \* cm) max

December 27, 2022

CI4 Option (IVIII.J.S.T)						
PIN No.	Contents					
1	RC(+)					
2	RC(-)					

Barrier strip type

Model B2B-XH-A Mating Connector (Terminal) XHP-2 (BXH-001T-P0.6 or SXH-001T-P0.6



MODEL		LFA300F-3R3-TY	LFA300F-5-TY	LFA300F-12-TY	LFA300F-15-TY	LFA300F-24-TY	LFA300F-24-HTY	LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-TY
MAX OUTPUT WATTAGE[W] *5		198	300	324	330	336	336 (456)	330	338.4	336
DC OUTPUT *5	Convection	3.3V 40A	5V 40A	12V 17A	15V 14A	24V 12.5A	24V 12.5 (19)A	30V 10A	36V 8.4A	48V 6.3A
	Forced air	3.3V 60A	5V 60A	12V 27A	15V 22A	24V 14A	24V 14 (19)A	30V 11A	36V 9.4A	48V 7A

#### **SPECIFICATIONS**

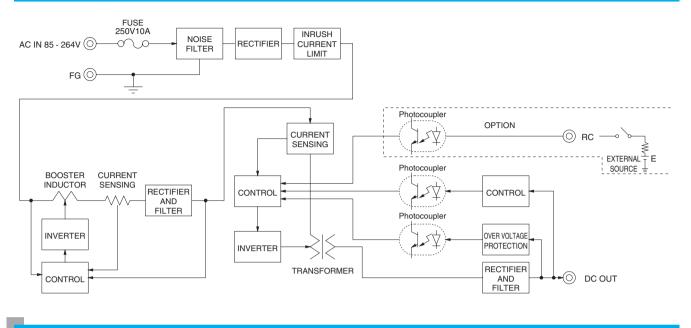
	MODEL		LFA300F-3R3-TY	LFA300F-5-TY	LFA300F-12-TY	LFA300F-15-TY	LFA300F-24-TY	LFA300F-24-HTY	LFA300F-30-TY	LFA300F-36-TY	LFA300F-48-T	
	VOLTAGE[V]		AC85 - 264	1 φ (Refer to	o "Derating", I	nstruction Ma	anual 1 and 3	) *4				
		ACIN 100V	2.7typ (lo=100%)	4.1typ (lo=1	100%)							
	CURRENT[A]	ACIN 200V	1.4\pp (lo=100%) 2.0typ (lo=100%)									
	FREQUENCY[Hz]		50 / 60 (47 -	63)								
		ACIN 100V	75.0typ	79.0typ	80.0typ	81.5typ	85.0typ	85.0typ	85.5typ	85.5typ	85.5typ	
INPUT	EFFICIENCY[%]	ACIN 200V	77.0typ	82.5typ	83.0typ	84.5typ	88.0typ	88.0typ	88.0typ	88.0typ	88.0typ	
		ACIN 100V	0.98typ	0.99typ		, ,,	, ,,		, ,,	, ,,		
	POWER FACTOR (lo=100%)	ACIN 200V	0.92typ									
		ACIN 100V			rimary inrush o	current /Seco	ndarv inrush c	urrent) (More	than 3 sec. to	o re-start)		
	INRUSH CURRENT[A]		15 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start) 30 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start)									
	LEAKAGE CURREN				00V/240V 6							
	VOLTAGE[V]	.[]	3.3	5	12	15	24	24	30	36	48	
		Convection		40	17	14	12.5	12.5 (Peak19)	10	8.4	6.3	
	CURRENT[A] *5	Forced air		60	27	22	14	14 (Peak19)	11	9.4	7	
	LINE REGULATION		20max	20max	48max	60max	96max	96max	144max	144max	, 192max	
	LOAD REGULATION[mV] *7		40max	40max	100max	120max	150max	150max	240max	240max	240max	
		0 to +40°C *2		80max	120max	120max	120max	240max	150max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0°C *2		140max	160max	160max	160max	320max	200max	200max	200max	
		0 to +40°C *2	120max	120max	150max	150max	150max	300max	250max	250max	250max	
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *2	160max	160max	180max	180max	180max	360max	300max	300max	300max	
		0 to +40℃	50max	50max	120max	150max	240max	240max	360max	360max	480max	
	TEMPERATURE REGULATION[mV]	-10 to +40℃	60max	60max	150max	180max	240max	240max	450max	450max	600max	
			20max	20max							192max	
S	DRIFT[mV] *3 START-UP TIME[ms]											
		350typ (ACIN 100V, lo=100%) 20typ (ACIN 100V, lo=100%)										
	HOLD-UP TIME[ms]				· ·	10 50 10 50	01 00 4- 07 50	01 00 4- 07 50	07 00 1- 00 00	00.40 to 00.00	00.00 += 50	
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V] OUTPUT VOLTAGE SETTING[V]		2.85 to 3.63	4.50 to 5.50	10.80 to 13.20				27.00 to 33.00		39.60 to 52.	
			3.30 to 3.40	5.00 to 5.15	12.00 to 12.48		24.00 to 24.96		30.00 to 31.20	36.00 to 37.44	48.00 to 49.	
	OVERCURRENT PROT				ng (works ove		7	· · · ·	1	· · · · · ·	55.00 1.07	
ROTECTION	OVERVOLTAGE PROTE		4.00 to 5.25 5.75 to 7.00 13.80 to 16.80 17.25 to 21.00 27.60 to 33.60 27.60 to 33.60 34.50 to 42.00 41.40 to 50.40 55.20 to 67.2									
	OPERATING INDICA	TION	Not provided									
THERS	REMOTE SENSING		Not provided									
	REMOTE ON/OFF		Option (Refer to Instruction Manual)									
	INPUT-OUTPUT-RC	*6										
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At Room Temperature)									
	OUTPUT-RC-FG	*6										
	OUTPUT-RC	*6	,									
	OPERATING TEMP., HUMID.AND		,									
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max									
-	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 UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN									
AFETY AND	AGENCY APPROVAL		,									
OISE	CONDUCTED NOISE				CCI-B, CISPI		1-B, EN5502	2-B				
EGULATIONS	HARMONIC ATTENU		Complies with IEC61000-3-2 (Class A) *8									
THERS	CASE SIZE/WEIGHT	-			2.07×8.74 inche	,		/	g max (with ch	assis & cover :	1,270g ma	
	COOLING METHOD		Convection	/ Forced air	(Refer to "De	rating", Instru	uction Manua	3) *4				
*2 This is the capacitor of Measured (Equivalent)	on is changeed at option, refer e value that measured on a f 22 µ F at 150mm from outpui l by 20MHz oscilloscope o t to KEISOKU-GIKEN: RM103 change in DC output for an e	measuring   t terminal. r Ripple-No ). eight hour pe	board with *4 *9 bise meter	<ul> <li>() means per device is dam contact us about</li> </ul>	quired. ak current. There naged when the s	pecification is ex	ceeded. Please	<ul> <li>* To meet the condition.</li> <li>* Parallel ope</li> <li>* Derating is</li> </ul>	tact us about ano ne specification eration is not poss required when op se may be gene	is. Do not oper ible. erated with chass	is and cover.	

\*3 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
 \*6 Applicable when remote control (optional) is added.
 \*7 Please contact us about dynamic load and input response.

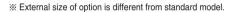
December 27, 2022



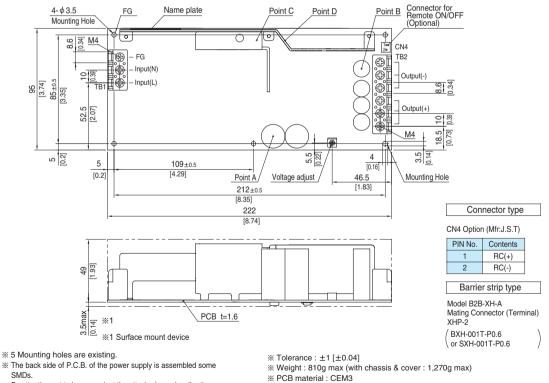
#### **Block diagram**



External view



Standard type



- % The back side of P.C.B. of the power supply is assembled some SMDs.
- Be attention not to bump against the attached area by vibration. % Use the spacer of 8mm length or more regarding insulation.
- And do not use press-fitting bush.
- \* Point A, Point B, Point C, Point D are thermometry points.
- Please refer to Instruction Manual 3.
- % Keep drawing current per pin below 20A for TB2.

% Dimensions in mm, [ ]=inches % Screw tightening torque : M4 1.6N \* m (16.9kgf \* cm) max

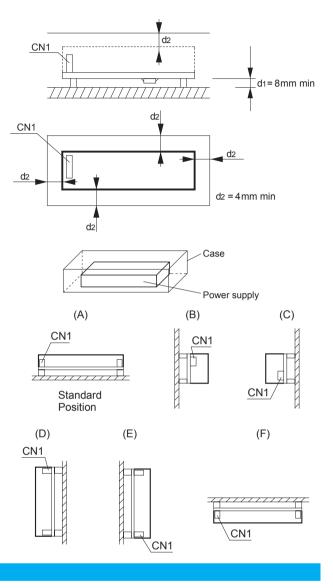
www.cosel.co.jp/en/

### **COȘEL** | LFA-series

#### Assembling and Installation Method

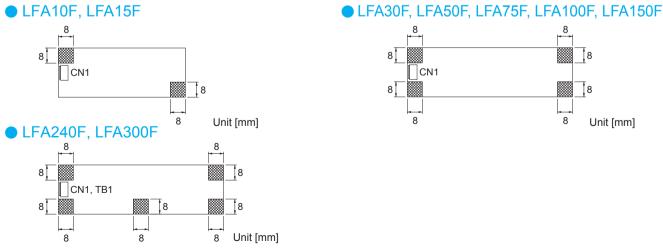
#### Installation method

- This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.
- In case of metal chassis, keep the distance between d1 & d2 for to insulate between lead of component and metal chassis, use the spacer of 8mm or more between d1. If it is less than d1 & d2, insert the insulation sheet between power supply and metal chassis.
- There is a possibility that it is not possible to cool enough when the power supply is used by the sealing up space as showing in right figure.Please use it after confi rming the temperature of point A and point B of Instruction Manual 3.
- (F) mounting is not possible when unit is with case cover, but if need to operate unit by (F) positioning with case cover, temperature / load derating is necessary. For more details, please contact our sales or engineering departments.



#### Mounting screw

The mounting screw should be M3. The hatched area shows the allowance of metal parts for mounting.

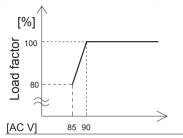


- If metallic fi ttings are used on the component side of the board, ensure there is no contact with surface mounted components.
- This product uses SMD technology.Please avoid the PCB installation method which includes the twisting stress or the bending stress. \*Recommendation to electrically connect FG to metal chassis for reducing noise.

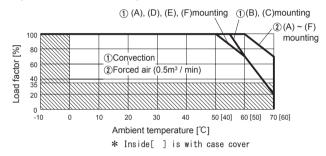
LFA-series | CO\$EL

#### Derating

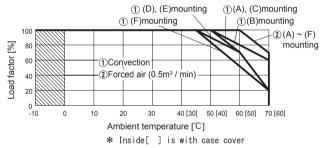




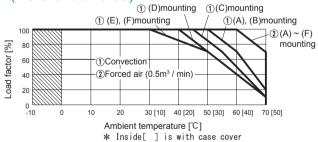
#### LFA10F Ambient temperature derating curve (Reference value)



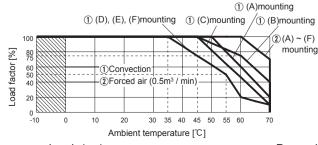
#### LFA30F Ambient temperature derating curve (Reference value)



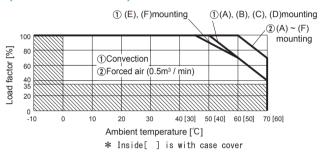
### LFA75F Ambient temperature derating curve (Reference value)



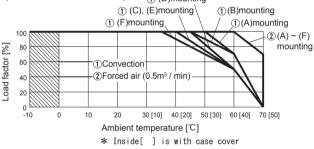
#### LFA100F Ambient temperature derating curve (Reference value)



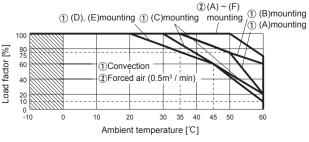
#### LFA15F Ambient temperature derating curve (Reference value)



#### LFA50F Ambient temperature derating curve (Reference value) (D)mounting



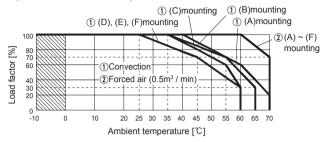
### ●LFA100F-□-SN Ambient temperature derating curve (Reference value)



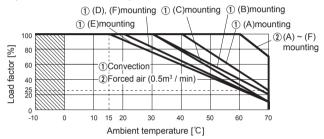
### **COSEL** | LFA-series

#### Derating

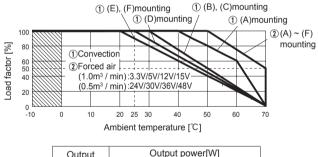
#### LFA150F Ambient temperature derating curve (Reference value)



#### LFA240F Ambient temperature derating curve (Reference value)



#### LFA300F Ambient temperature derating curve (Reference value)



<ol> <li>Convection</li> </ol>	②Forced air				
132.0	198.0				
200.0	300.0				
204.0	324.0				
210.0	330.0				
300.0	336.0				
300.0	330.0				
302.4	338.4				
302.4	336.0				
	①Convection           132.0           200.0           204.0           210.0           300.0           300.0           302.4				

The operative ambient temperature is different by with / without chassis cover or mounting position.

Note: In the hatched area, the specification of Ripple, Ripple Noise is different from other area.

Make sure the temperature at point A and point B is less than the temperatures shown in Instruction Manual 3.

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.

#### **Instruction Manual**

◆ It is neccessary to read the "Instruction Manual" and "Before using our product" before you use our product.

Instruction Manual Before using our produc

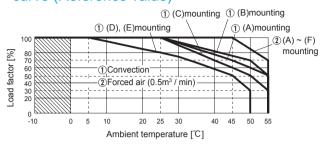
https://www.cosel.co.jp/redirect/catalog/en/LFA/ https://en.cosel.co.jp/technical/caution/index.html



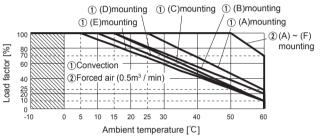
## NOTICE

www.cosel.co.jp/en/

#### ●LFA150F-□-SN Ambient temperature derating curve (Reference value)



#### LFA240F--SN Ambient temperature derating curve (Reference value)





Basic Characteristics Data										
Madal	Circuit method	Switching	Input current	Inrush	PCB/Pattern			Series/Parallel operation availability *2		
Model	Circuit method	frequency [kHz]	*1 [A]	current protection	Material	Single sided	Double sided	Series operation	Parallel operation	
LFA10F	Flyback converter	100	0.26	LF	CEM-3	Yes		Yes	No	
LFA15F	Flyback converter	100	0.35	Thermistor	CEM-3	Yes		Yes	No	
LFA30F	Flyback converter	130	0.65	Thermistor	CEM-3	Yes		Yes	No	
	Active filter	60-440	0.67	Thermistor	CEM-3	Yes		Yes	No	
LFA50F	Flyback converter	130						tes	INO	
LFA75F	Active filter	60-440	1.0	Thermistor	CEM-3	Yes		Yes	No	
LIA/JI	Flyback converter	130	1.0		CEM-5	165		165	NO	
LFA100F	Active filter	60	1.3	Thormistor	CEM-3		Yes	Yes	No	
LFATUUF	Forward converter	140	1.5	Thermistor	CEIVI-3		165	ies	INO	
LFA150F	Active filter	60	2.0	Thermistor	CEM-3		Yes	Yes	No	
LFAISUF	Forward converter	140	2.0	Thermistor	CEIVI-3		res	tes	INO	
	Active filter	60	0.0	005	CEM-3		Vee	Yes	No	
LFA240F	Forward converter	140	3.3	SCR	GEIVI-3		Yes	res	No	
	Active filter	60	4.4	000			Vee	Mar	No	
LFA300F	Forward converter	140	4.1	SCR	CEM-3		Yes	Yes	No	

\*1 The value of input current is at ACIN 100V and rated load.\*2 Refer to Instruction Manual 2.