

**COSEL**

2020  
2021

**SHORT FORM CATALOG**  
**POWER SUPPLIES / EMI FILTERS**



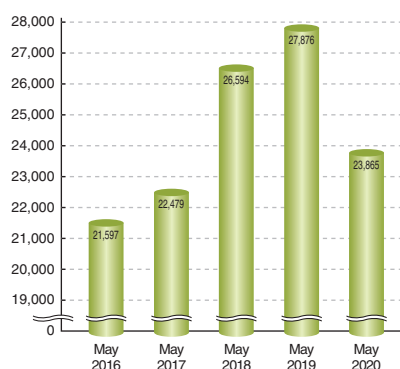
# Company Guidance

- Established : July 26, 1969.
- Paid Capital : 2,055 Million Yen
- CEO : Masato Tanikawa
- Annual Sales : 23,865 Million Yen (As of May 2020)  
(Consolidated)
- Employees : 685 (As of May 2020)
- Subsidiaries : Cosel U.S.A., Inc.  
Cosel Europe GmbH  
Cosel Asia Ltd.  
Cosel (Shanghai) Electronics Co., Ltd.  
Wuxi Cosel Electronics Co., Ltd.  
Shanghai Cosel International Trading Co., Ltd.  
Cosel Vietnam Co., Ltd.  
Powerbox International AB

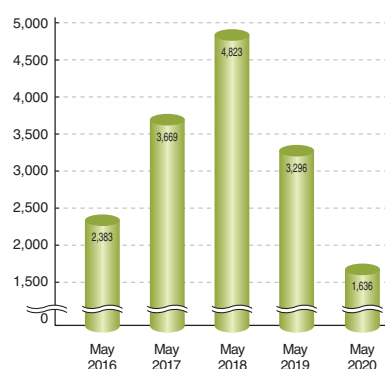
- History :
  - J u l . 1969 Established Elco Co., Ltd.
  - A p r . 1978 Introduced QC circle activities.
  - J u n . 1978 Became Pure-Power Supply Business-Play.
  - M a y . 1982 Introduced TQC activities (Now changed to TQM activities).
  - J u n . 1983 Introduced Hoshin Management (Business Goal Management) activities.
  - M a r . 1988 Introduced Toyota Production System activities.
  - M a r . 1989 Tateyama Factory completed.
  - A p r . 1990 Established Cosel U.S.A., Inc. (Former U. S. Elco Inc.) in San Jose, USA.
  - A p r . 1992 Changed company name to Cosel Co., Ltd. from Elco Co., Ltd.
  - J u n . 1993 Acquired ISO9001.
  - M a y . 1995 Set a representative in Hong Kong, China.
  - M a y . 1996 Introduced TPM (Total Plant Maintenance) activities.
  - J u l . 1997 Established Cosel Europe GmbH in Frankfurt, Germany.
  - M a y . 1998 Established Cosel Asia Ltd. in Hong Kong, China.
  - J a n . 1999 Shares listed on the Second Sections of the Tokyo Stock Exchange and Nagoya Stock Exchange both.
  - Dec. 1999 Acquired ISO14001.
  - M a y . 2000 Shares listed on the First Section of the Tokyo Stock Exchange.
  - N o v . 2002 Established Cosel (Shanghai) Electronics Co., Ltd. in Shanghai, China.
  - M a y . 2005 Entering EMI filter Business.
  - F e b . 2006 Successfully completed the RoHS Directive conformity.
  - N o v . 2011 Established Shanghai Cosel International Trading Co., Ltd. in Shanghai, China.
  - Dec 2011 Established Wuxi Cosel Electronics Co., Ltd. in Wuxi, China.
  - A u g . 2015 Established Cosel Vietnam Co., Ltd. in Ho Chi Minh City, Vietnam.
  - J u n . 2018 Acquired Powerbox International AB.
  - O c t . 2018 Began operations at R&D Center.

## Data

**Annual sales**  
(Consolidated)  
(Unit: Million Yen)



**Net profit/loss before tax**  
(Consolidated)  
(Unit: Million Yen)





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Input Voltage Range	Outputs	Series	Output Power [W]																Released Year	Main Feature	Safety Standard · RoHS					
			10	20	40	60	80	100	150	200	250	300	400	500	600	700	800	900				1000	1500	2500	2500over	
100VAC 200VAC 480VAC	Single	NEW 1	PCA																	'17	Enclosed type power supplies for general purpose.	UL, CE, RoHS				
																				'19						
																				'20						
				1	PBA																		'03	Enclosed type power supplies for general purpose.	UL, CE, RoHS	
																							'04			
																							'05			
				1	PLA																		'14	Low profile and enclosed type power supplies for general purpose. Basic function and economical type.	UL, CE, RoHS	
																							'16			
				NEW 1	PJA																		'16	Enclosed type power supplies for general purpose.	UL, CE, RoHS	
																							'17			
1	ADA																	'03	Convection cooling. High output wattage and peak current function.	UL, CE, RoHS						
																		'07								
NEW 1	FETA																	'13	Low profile front-end power supplies. High power density.	UL, CE, RoHS						
																		'19								
																		'17								
1	FCA																	'00	High input voltage (187-528VAC), Peak current function.	UL, CE, RoHS						
																		'01								
1	SC																	'09	Three-phase input. 10KW high wattage. 48VDC output front-end power supplies.	UL, CE, RoHS						
																		'00								
1	STA																	'09	Three-phase input. High wattage. Power factor corrected and 48VDC output front-end power supplies.	UL, CE, RoHS						
																		'00								
Multiple	2	PBW																	'05	2 outputs of PBA series.	UL, CE, RoHS					
DIN Rail Type	Single	1	KH																	'12	Din rail type. Full function model. 2 types of interface (Block type · Euro type)	UL, CE, RoHS				
																				'13						
																				'15						
Redundancy Module	10-60VDC	1	KR																	'16	Din rail type. Redundancy Module.	UL, CE, RoHS				
																				'16						



Input Voltage Range	Outputs	Series	Output Power [W]	Released Year	Main Feature	Safety Standard · RoHS
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Configurable Type

Multiple

100VAC 200VAC 400VAC	20 40 60 100 200 300 400 500 600 700 800 900 1k 2k 3k 4k	Series	Released Year	Main Feature	Safety Standard · RoHS
NEW	4	AME	'19	Low profile (1U) type. Available to select 4-6 channels among many output · current modules.	UL, D, CE, RoHS
NEW	3	RB	'19	Open frame type 4X6 inches. Available to select 3 channels among many output · current modules.	UL, D, CE, RoHS
	4	ACE	'01	Available to select 4-6 channels among many output · current modules.	UL, CE, RoHS
	5				
	6				

Open Frame/Enclosed Type

Single

100VAC 200VAC 400VAC	5 10 15 20 40 80 100 150 200 300 400 500 1000 1500	Series	Released Year	Main Feature	Safety Standard · RoHS
NEW	1	LHA	'19	Open frame type power supplies for general purpose. Succeeding series of LFA series.	UL, D, CE, RoHS
	1	LFP	'12	Peak current function. Succeeding series of LEP series.	UL, D, CE, RoHS
	1	LEP	'02	Peak current function.	UL, CE, RoHS
	1	LFA	'09	Open frame type power supplies for general purpose. Succeeding series of LEA series.	UL, CE, RoHS
	1	LEA	'99	Open frame type power supplies for general purpose.	UL, CE, RoHS
	1	LDA	'94	Open frame type power supplies for general purpose.	UL, CE, RoHS
	1	LDA	'95		
	1	LDA	'97		UL, CE, RoHS
	1	LGA	'08	100VAC input open frame type power supplies for general purpose.	UL, CE, RoHS

Multiple

	2	LEB	'00	2 Outputs of LEA series.	UL, CE, RoHS
	3	LDC	'94	3 Outputs of LDA series.	UL, CE, RoHS
			'95		

Medical Type

Single

100VAC 200VAC 400VAC	10 20 40 60 80 100 150 200 300 400 500 600 700 800 900 1000 1500er	Series	Released Year	Main Feature	Safety Standard · RoHS
NEW	1	GMA	'17	Open frame type 2X4 inches. For medical applications	UL, D, CE, RoHS
	1	GHA	'13	Open frame type 3X5 inches. Conduction cooling. For medical applications	UL, D, CE, RoHS
			'15		
			'16	-SNF: Optional with FAN.	
	1	LMA	'14	Open frame type Peak current function. For medical applications.	UL, D, CE, RoHS
	1	PMA	'10	Enclosed type For medical applications.	UL, CE, RoHS

Multiple

	4	ACE-H	'11	Multiple output in large power with 1-4CH(ACE300F), 1-5CH(ACE450F,650F) 1-6CH(ACE900F) Harmonic attenuator Universal input voltage range.	UL, CE, RoHS
	5				
	6				

POL Type

Single

Input Voltage Range	Outputs	Series	Output Current [A]										Released Year	Main Feature	Safety Standard · RoHS
			6	12	20	30	40	60	100	120	150				
3-14.4VDC	1	BRNS	●	●	●								'13	Compact size · Wide input	UL CE RoHS
4.5-14.0VDC <b>NEW</b>	1	BRFS				●		●	●				'13	Compact size · Fast transient response	UL CE RoHS
										●	●	'18			
4.5-14.0VDC <b>NEW</b>	1	BRDS					●	●	●				'17	Compact size · Fast transient response, PMBus	UL CE RoHS
										●	●	'18			

Bus Converter · Power Module Type

Single

Input Voltage Range	Outputs	Series	Output Power [W]										Released Year	Main Feature	Safety Standard · RoHS	
			40	80	100	150	200	300	400	500	1000	1500				
3VDC	1	<b>NEW</b> CHS				●							'17	24VDC input, 1/16 brick size	UL CE RoHS	
12VDC							●						'15	24VDC input, 1/8 brick size		
24VDC								●						'18		24VDC input, 1/4 brick size
48VDC				●										'14		48VDC input, 1/32 brick size
110VDC					●									'11		48VDC input, 1/16 brick size
280VDC						●								'16		48VDC input, 1/16 brick size
							●							'11		48VDC input, 1/8 brick size
								●						'17		48VDC input, 1/8 brick size
									●					'13		48VDC input, 1/4 brick size
										●				'14		48VDC input, 1/4 brick size
	1	CES		●	●							'03	24 · 48VDC input, 1/8 brick size	UL CE RoHS		
	1	CQS				●						'03	24 · 48VDC input, 1/4 brick size	UL CE RoHS		
	1	CQHS					●					'14	48VDC input, 1/8 brick size	UL CE RoHS		
								●				'13	48VDC input, 1/4 brick size			
	1	CBS	●	●		●			●	●		'01	24 · 48VDC input, half brick size	UL CE RoHS		
	1	CDS							●			'00	24 · 48VDC input, full brick size	UL CE RoHS		
	1	DHS	●	●	●		●					'10	110VDC input, small brick size	UL CE RoHS		
			●	●								'09	280VDC input, small brick size			
	1	DBS			●	●		●		●		'03	110VDC input, full function and full brick size	UL CE RoHS		
									●	●		'00	280VDC input, full function and full brick size			
100VAC	1	<b>NEW</b> TUXS				●						'15	100/200VAC input. High efficiency. Complied with harmonic regulations. Isolated type.	UL CE RoHS		
200VAC							●								'17	
277VAC	1	<b>NEW</b> TUNS		●	●							'12	100/200VAC input. Complied with harmonic regulations. Isolated type. Brick size	UL CE RoHS		
								●							'14	
										●					'15	
										●		'20	100/200/277VAC input, full function Complied with harmonic regulations	UL CE RoHS		
	1	DPG							●	●		'10	100/200VAC input. Compact size. Complied with harmonic regulations.	UL CE RoHS		
	1	DPF									●	'00	100/200VAC input. High wattage. Complied with harmonic regulations.	UL CE RoHS		

PCB Mount Type

Single

Input Voltage Range	Outputs	Series	Output Power [W]												Released Year	Main Feature	Safety Standard · RoHS
			1.5	3	5	6	10	15	20	25	30	40	80				
5VDC 12VDC 24VDC 28VDC 110VDC 280VDC	1	MGS	•	•	•	•	•	•	•	•	•	•	•	•	'10 '16	Global standard DC/DC converter for general purpose.	UL, CE, RoHS, D, CE, RoHS
	1	MGFS	•	•	•	•	•	•	•	•	•	•	•	•	'10 '17 '19	Wide-input global standard DC/DC converter for general purpose.	UL, CE, RoHS, D, CE, RoHS
	1	MGXS	•		•										'18	Wide-input (6-60VDC) global standard DC/DC converter.	UL, CE, RoHS, D, CE, RoHS
	1	STMG							•					•	'13	Value-added type of MGFS series	CE, RoHS
	1	MHFS		•											'20	DC/DC Converters with 4.2kVDC Isolation	UL, CE, RoHS, D, CE, RoHS
	1	SUS/SUCS	•	•	•	•									'04	Compact and thin DC/DC Converter for general purpose	UL, CE, RoHS
	1	SUTS		•	•	•									'09	Vertical type of SUCS series	UL, CE, RoHS
	1	SFS						•	•					•	'05 '03 '05	Thin SMD/DIP type DC/DC converter	UL, CE, RoHS
	1	SFCS							•					•	'07	SFS series with metal cover	UL, CE, RoHS
	1	SFLS						•	•					•	'07	Thin SMD type DC/DC converter	UL, CE, RoHS
	1	ZUS	•	•	•	•									'96	DC/DC converter for general purpose	UL, CE, RoHS
	1	ZTS	•	•											'98	Vertical type of ZUS series	UL, RoHS

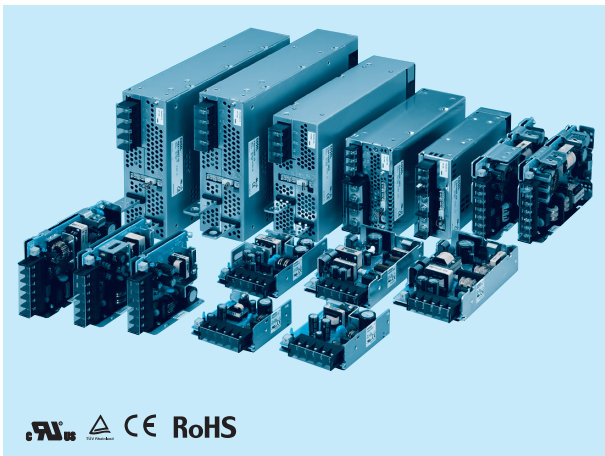
Multiple

Input Voltage Range	Outputs	Series	Output Power [W]												Released Year	Main Feature	Safety Standard · RoHS
			1.5	3	5	6	10	15	20	25	30	40	80				
100VAC 200VAC 270VAC	1	TUHS		•	•			•						•	'14 '15	100/200VAC input, compact size	UL, CE, RoHS, D, CE, RoHS
	1	VAF			•			•							'99	100/200VAC input	UL, CE, RoHS
	1	VAA			•			•							'98	100VAC input	UL, RoHS

Input Voltage Range	Outputs	Series	Output Power [W]												Released Year	Main Feature	Safety Standard · RoHS
			1.5	3	5	6	10	15	20	25	30	40	80				
5VDC 12VDC 24VDC 28VDC 110VDC 280VDC	2	MGW	•	•	•	•	•	•	•	•	•	•	•	•	'10 '16	Global standard DC/DC converter for general purpose.	UL, CE, RoHS, D, CE, RoHS
	2	MGFW	•	•	•	•	•	•	•	•	•	•	•	•	'10 '17 '19	Wide-input global standard DC/DC converter for general purpose.	UL, CE, RoHS, D, CE, RoHS
	2	MGXW	•		•										'18	Wide-input (6-60VDC) global standard DC/DC converter.	UL, CE, RoHS, D, CE, RoHS
	2	STMG							•					•	'13	Value-added type of MGFW series	CE, RoHS
	2	MHFW		•											'20	DC/DC Converters with DC4.2kVDC Isolation	UL, CE, RoHS, D, CE, RoHS
	2	SUW/SUCW	•	•	•	•									'04	Compact and thin DC/DC Converter for general purpose.	UL, CE, RoHS
	2	SUTW		•	•	•									'09	Vertical type of SUCW series	UL, CE, RoHS
	2	ZUW	•	•	•	•									'96	DC/DC Converter for general purpose.	UL, CE, RoHS
	2	ZTW	•	•											'98	Vertical type of ZUW series	UL, RoHS

COSEL AC-DC Power Supplies Enclosed Type

# PBA, PBW-Series



UL CE RoHS



### Feature

Universal input (85 - 264VAC) : PBA1500T(170 - 264VAC 3φ)  
 Parallel and parallel redundancy operations  
 (PBA300F - 1500F, PBA1500T)  
 Fan alarm, Remote ON/OFF and other functions  
 (PBA300F - 1500F, PBA1500T)

### Safety agency approvals

UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178  
 UL508 (PBA10F-30F: 5, 12, 24V, PBA50F-150F: 24V With  
 Cover) (PBA1500F, PBA1500T: External EMI filter is required.)  
 Complies with DEN-AN  
 EN62368-1 pending

### EMI

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

### CE marking

Low Voltage Directive  
 RoHS Directive

### 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

### 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
			ACIN100V	ACIN200V		
PBA10F	85-264VAC 1φ or 110-370VDC	5	2		31·78·68 (1.22·3.07·2.68)	150
		12	0.9			
		24	0.5			
PBA15F	85-264VAC 1φ or 110-370VDC	3.3	3		31·78·85 (1.22·3.07·3.35)	200
		5	3			
		9	1.7			
		12	1.3			
		15	1			
		24	0.7			
		48	0.35			
PBA30F	85-264VAC 1φ or 110-370VDC	3.3	6		31·78·103 (1.22·3.07·4.06)	270
		5	6			
		9	3.4			
		12	2.5			
		15	2			
		24	1.3			
		48	0.65			
PBA50F	85-264VAC 1φ or 120-370VDC	3.3	10		31·82·120 (1.22·3.23·4.72)	280
		5	10			
		9	5.6			
		12	4.3			
		15	3.5			
		24	2.2			
		36	1.4			
48	1.1					
PBA75F	85-264VAC 1φ or 120-370VDC	3.3	15		32·82·135 (1.26·3.23·5.31)	350
		5	15			
		9	8.4			
		12	6.3			
		15	5			
		24	3.2			
		36	2.1			
48	1.6					
PBA100F	85-264VAC 1φ or 120-370VDC	3.3	20		32·93·147 (1.26·3.66·5.79)	440
		5	20			
		9	10.5			
		12	8.5			
		15	7			
		24	4.5			
		36	2.8			
48	2.1					
PBA150F	85-264VAC 1φ or 120-370VDC	3.3	30		34·93·168 (1.34·3.66·6.61)	560
		5	30			
		9	16.7			
		12	13			
		15	10			
		24	6.5			
		36	4.3			
48	3.3					

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [kg]
			ACIN100V	ACIN200V		
PBA300F	85-264VAC 1φ or 120-350VDC	3.3	60	60	102·42·170 (4.02·1.65·6.69)	1.0
		5	60	60		
		7.5	40	40		
		12	27	27		
		15	22	22		
		24	14	14(16.5) <sup>†</sup>		
		36	9	9		
		48	7	7		
PBA600F	85-264VAC 1φ or 120-350VDC	3.3	120	120	120·61·190 (4.72·2.4·7.48)	1.6
		5	120	120		
		7.5	80	80		
		12	53	53		
		15	43	43		
		24	27	27(31) <sup>†</sup>		
		36	18	18		
48	13	13				
PBA1000F	85-264VAC 1φ or 120-350VDC	3.3	200	200	150·61·240 (5.91·2.4·9.45)	2.2
		5	200	200		
		7.5	134	134		
		12	88	88		
		15	70	70		
		24	44	44(51) <sup>†</sup>		
		36	29	29		
48	22	22				
PBA1500F	85-264VAC 1φ or 120-370VDC	3.3	300	300	178·61·268 (7.01·2.4·10.55)	3.4
		5	300	300		
		7.5	200	200		
		12	125	125		
		15	100	100		
		24	65	70(105) <sup>†</sup>		
		36	42	47(70) <sup>†</sup>		
48	32	35				
PBA1500T	170-264VAC 3φ	5	-	300	178·61·268 (7.01·2.4·10.55)	3.4
		12	-	125		
		24	-	70(105) <sup>†</sup>		
		48	-	35		

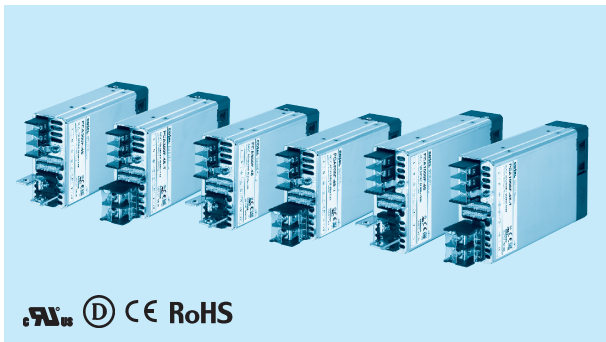
\*Peak current.



MODEL	INPUT VOLTAGE	MAX OUTPUT WATTAGE [W]	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
				CURRENT1	CURRENT2		
PBW15F	85-264VAC 1φ or 110-370VDC	16.8	±12 (+24)	0.7	1.4	31·78·85 (1.22·3.07·3.35)	200
		15.0	±15 (+30)	0.5	1.0		
PBW30F	85-264VAC 1φ or 110-370VDC	15.0	±5 (+10)	1.5	2.0	31·78·103 (1.22·3.07·4.06)	270
		31.2	±12 (+24)	1.3	1.7		
		30.0	±15 (+30)	1.0	1.4		
PBW50F	85-264VAC 1φ or 120-370VDC	30.0	±5 (+10)	3.0	4.0	31·82·120 (1.22·3.23·4.72)	280
		50.4	±12 (+24)	2.1	2.7		
		51.0	±15 (+30)	1.7	2.4		

\* The sum of +power and -power must be less than output power. For details, please see Cosel website. (<https://en.cosel.co.jp>).

COSEL AC-DC Power Supplies Enclosed Type  
**PCA-Series**



RoHS CE RoHS

PCA



**Feature**

- Low profile (41mm, 1.61 inches = Meets 1U height)
- Universal input (85 - 264VAC)
- Operating input voltage: 88-370VDC (Excl. PCA1000F and PCA1500F.)
- For medical applications (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- 2MOPP
- AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
- Constant current function
- Output voltage can be adjusted to approximately 0V
- Many alarm functions
- Parallel and N+1 parallel redundancy operations
- Monitoring function by communication.

**Safety agency approvals**

- UL62368-1, C-UL (CSA62368-1), EN62368-1, ANSI/AAMI EN60601-1, EN60601-1 3rd, IEC60601-1-2 4th
- Complies with DEN-AN

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
PCA600F	85-264VAC 1φ or 88-370VDC	5	120	89·41·152 (3.50·1.61·5.98)	0.84
		12	53		
		15	43		
		24	27		
		32	20		
PCA1000F	85-264VAC 1φ	48	13	102·41·178 (4.02·1.61·7.01)	1.2
		5	200		
		12	88		
		15	70		
		24	44		
32	33	48	22		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
			100VACin	230VACin		
PCA1500F	85-264VAC 1φ	5	300	300	140·41·203 (5.51·1.61·7.99)	1.7
		12	125	125		
		15	100	100		
		24	65	70		
		32	47	52		
		48	32	35		

\*Input derating is required except PCA300F

**CE marking**

- Low Voltage Directive
- RoHS Directive

**EMI**

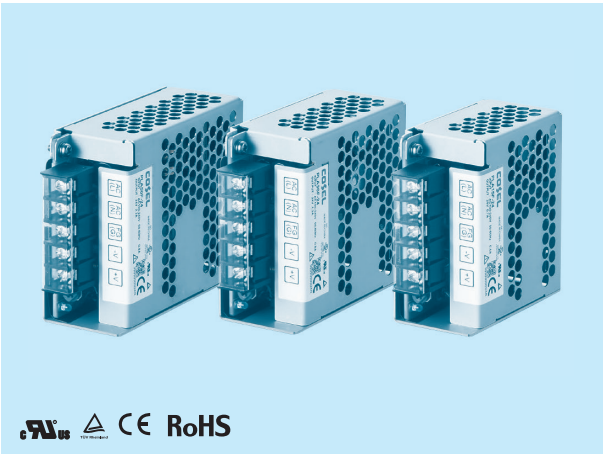
- Complies with FCC-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B (PCA1000F and PCA1500F : External EMI filter is required to meet Class B. Only PCA1000F and PCA1500F : Class A)

**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

**COSEL** AC-DC Power Supplies Enclosed Type

# PLA-Series



PLA



## Feature

- Low profile
- Wide operating ambient temperature (-20°C to +70°C, Derating is required)
- Harmonic attenuator (Complies with IEC61000-3-2 class A)
- Universal input (85 - 264VAC, Derating is required)
- Low power consumption at no load

## Safety agency approvals

- UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178
- UL508 (Except option -J) approved
- Complies with DEN-AN
- EN62368-1 pending

## CE marking

- Low Voltage Directive
- RoHS Directive

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
			85-115VACin	115-264VACin		
PLA15F	85-264VAC 1 φ	5	Derating is required	3	38·80·73 (1.50·3.15·2.87)	0.25
		12		1.3		
		15		1		
		24		0.7		
PLA30F	85-264VAC 1 φ	5	Derating is required	6	38·80·88 (1.50·3.15·3.46)	0.33
		12		2.5		
		15		2		
		24		1.3		
PLA50F	85-264VAC 1 φ	5	Derating is required	8	38·80·99 (1.50·3.15·3.90)	0.4
		12		4.3		
		15		3.5		
		24		2.2		

\* For further information, please see Cosel website. (<https://en.cosel.co.jp>)

## EMI

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

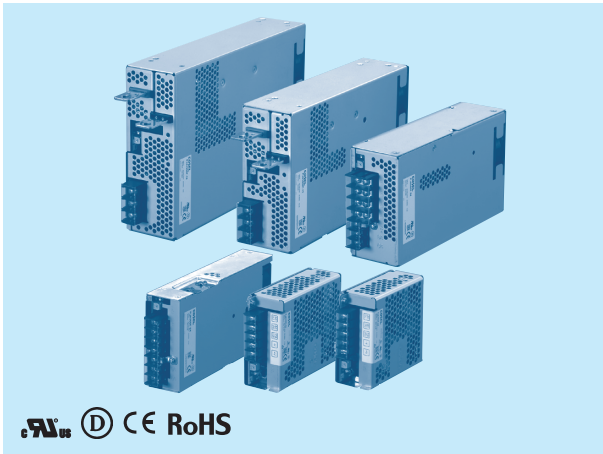
## EMS Compliance : EN61204-3, EN61000-6-2

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

## 5-year warranty

**COSEL** AC-DC Power Supplies Enclosed Type

# PJA-Series



PJA



### Feature

- Low profile
- Wide operating ambient temperature (-20°C to +70°C, Derating is required)
- Harmonic attenuator (Complies with IEC61000-3-2 class A)
- Universal input (85 - 264VAC, Derating is required)
- Low power consumption at no load
- Complies with SEMI F-47

### Safety agency approvals

- UL62368-1, C-UL (CSA62368-1), EN62368-1,
- UL508 (PJA100F and PJA150F, Except option -J) approved
- Complies with DEN-AN

### CE marking

- Low Voltage Directive
- RoHS Directive

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
			85-115VACin	115-264VACin		
PJA100F	85-264VAC 1 φ	12	Derating is required	8.4	41·97·109 (1.61·3.82·4.29)	0.5
		15		6.7		
		24		4.3		
		36		2.8		
		48		2.1		
PJA150F	85-264VAC 1 φ	12	Derating is required	12.5	41·97·129 (1.61·3.82·5.08)	0.6
		15		10		
		24		6.4		
		36		4.2		
		48		3.2		
PJA300F	85-264VAC 1 φ	5	Derating is required	50	102·41·190 (4.02·1.61·7.48)	1.0
		12		25		
		15		20		
		24		12.5		
		36		8.4		
PJA600F	85-264VAC 1 φ	48	Derating is required	6.3	120·61·215 (4.72·2.40·8.46)	2.0
		5		100		
		12		50		
		15		40		
		24		25		
PJA1000F	85-264VAC 1 φ	36	Derating is required	16.7	150·61·240 (5.91·2.40·9.45)	2.8
		48		12.5		
		12		84		
		15		67		
		24		42		
PJA1500F	85-264VAC 1 φ	48	Derating is required	21	178·61·268 (7.01·2.40·10.55)	3.5
		12		125		
		15		100		
		24		64		
		36		42		

\*For further information, please see Cosel website. (<https://en.cosel.co.jp>).

### EMI

- Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B
- (PJA1500F: External EMI filter is required to meet Class B.
- Only PJA1500F: Class A)

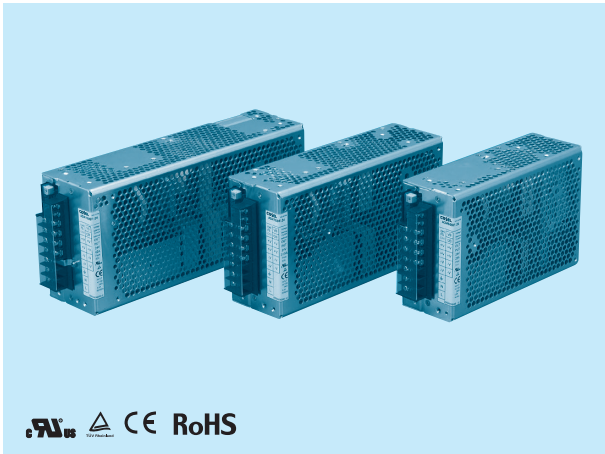
### EMS Compliance

- 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

### 5-year warranty

COSEL AC-DC Power Supplies Enclosed Type

# ADA-Series



MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [kg]	
			100VACin	200VACin			
ADA600F	85 -264VAC 1 φ	24	Convection	14 (25)*	15 (31)*	65·127·195 (2.56·5·7.68)	1.5
			Forced air	21 (25)*	25 (31)*		
	30	Convection	11 (20)*	12 (24.5)*			
		Forced air	16.5 (20)*	20 (24.5)*			
	36	Convection	9 (16.5)*	10 (20.5)*			
		Forced air	14 (16.5)*	16.5 (20.5)*			
	48	Convection	6.5 (12.5)*	7 (15.5)*			
		Forced air	10.5 (12.5)*	12.5 (15.5)*			
ADA750F	85 -264VAC 1 φ	24	Convection	17 (42)*	19 (63)*	70·127·230 (2.76·5·9.06)	1.9
			Forced air	25 (42)*	31.5 (63)*		
	30	Convection	13.5 (33.5)*	15 (50)*			
		Forced air	20 (33.5)*	24.5 (50)*			
	36	Convection	11 (28)*	12.5 (42)*			
		Forced air	16.5 (28)*	20.5 (42)*			
	48	Convection	8 (21)*	9 (31.5)*			
		Forced air	12.5 (21)*	15.5 (31.5)*			
ADA1000F	85 -264VAC 1 φ	24	Convection	21 (63)*	25 (83)*	75·127·280 (2.95·5·11.02)	2.5
			Forced air	33 (63)*	42 (83)*		
	30	Convection	16.5 (50)*	20 (66)*			
		Forced air	26 (50)*	33.5 (66)*			
	36	Convection	14 (42)*	16.5 (55)*			
		Forced air	22 (42)*	28 (55)*			
	48	Convection	10.5 (31.5)*	11.5 (41.5)*			
		Forced air	16.5 (31.5)*	21 (41.5)*			

\*:Peak current.

## Feature

- Peak power
- Fan optional
- Parallel operation/master-slave operation/N+1 redundant (Option)
- Optional : remote ON/OFF, alarm functions
- Current monitor
- DIN rail (35mm) optional

## Safety agency approvals

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

## EMI

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

## Optional parts

- Harness
- Fan unit
- Attachment

## CE marking

- Low Voltage Directive
- RoHS Directive

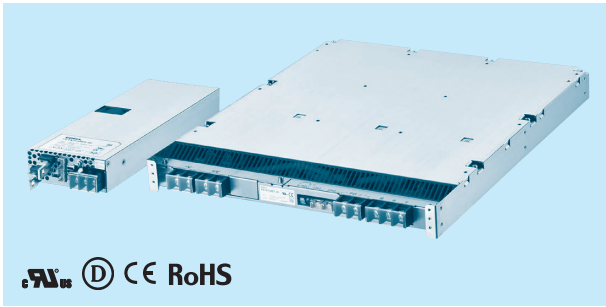
## EMS Compliance : EN61204-3, EN61000-6-2

- EN55022-B
- EN61000-3-2
- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

## 5-year warranty



**COSEL AC-DC Power Supplies Enclosed Type**  
**FETA-Series**



FETA



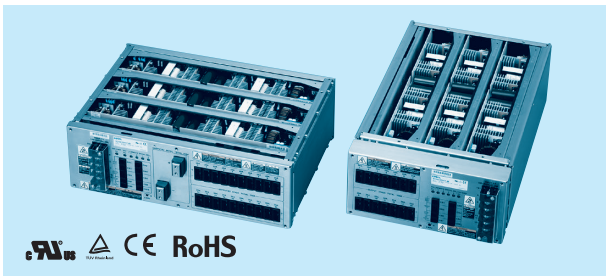
**Feature**

- High power density (2.09W/cm<sup>3</sup> FETA3000BA-48)
- Low profile (Meets 1U height)
- High efficiency (93.0%typ FETA3000BA-48, 230VACin, 50% load)
- Harmonic attenuator (Complies with IEC61000-3-2 class A: FETA2500BA, FETA3000BA, FETA7000ST, Complies with IEC61000-3-12: FETA7000T)
- Complies with SEMI F47
- Parallel and parallel redundancy operations
- Alarm signals, Remote ON / OFF and other functions

**Safety agency approvals**

UL60950-1, C-UL (CSA60950-1), EN60950-1, UL62368-1, C-UL (CSA62368-1), EN62368-1

**COSEL AC-DC Power Supplies Enclosed Type**  
**SC-Series**



SC



**Feature**

- High power, AC-DC front end power supply
- Three-phase input (160 - 264VAC 3 φ)
- High efficiency (90%), high power factor (0.99)
- Complies with SEMI F47
- Wide adjustable output voltage range (approximately 0 to 52.8V) (Option)
- Constant current function (Needs additional external components) (Option)
- Parallel and parallel redundancy operations (SCHA1000T)
- System ON / OFF (Remote ON / OFF)
- Alarm functions
- Output voltage monitor
- Parallel control (Start in / out)
- Remote signal ON / OFF

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
			170-180VACin	180-264VACin		
FETA2500BA	170-264VAC 1 φ	36	Derating is required	55	102·41·340 (4.02·1.61·13.39)	2.3
FETA3000BA		48		52		
FETA7000T	170-264VAC 3 φ	48		Derating is required		
		144	148.2		52	388·43·475 (15.28·1.69·18.70)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
			300-320VACin	320-480VACin		
FETA7000ST	300-480VAC 3 φ 4-Wire	48	Derating is required	148.2	388·43·475 (15.28·1.69·18.70)	11
		144		52		

**CE marking**

Low Voltage Directive  
 RoHS Directive

**EMI**

Complies with FCC Part15-A, CISPR32-A, EN55011-A, EN55032-A, VCCI-A (FETA7000ST External EMI filter is required.)

**EMS Compliant** : 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

**3-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	OUTPUT WATTAGE [W]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [kg]
SCHA1000T	160-264VAC 3 φ	48	208	9,984	495·150·320 (18.07·5.91·12.6)	23
SCDA1000T	160-264VAC 3 φ	48	208	9,984	310.5·150·510 (12.22·5.91·20.08)	20

**Safety agency approvals**

UL60950-1, C-UL, EN60950-1  
 EN62368-1 pending

**CE marking**

Low Voltage Directive  
 RoHS Directive

**EMI**

Complies with EN55011 Group1-A, EN55022-A, CISPR22-A, FCC Part15 classA

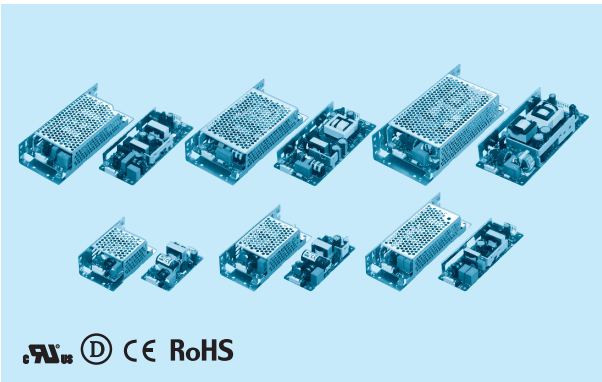
**EMS Compliance:** EN61204-3, EN61000-6-2

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

**3-year warranty**

**COSEL** AC-DC Power Supplies Open Frame Type

# LHA-Series



## Feature

- EN62477-1 (OVC III) : LHA150F, 300F
- Low profile
- Compact open frame type
- High efficiency
- Low noise
- Harmonic attenuator (Complies with IEC61000-3-2)
- Power factor correction (LHA75F-300F)
- Universal input (85-264VAC)
- Inrush current, overcurrent and overvoltage protection

## Safety agency approvals

- UL62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), EN62368-1
- EN62477-1 (OVC III) : LHA150F, 300F
- Complies with DEN-AN

## CE marking

- Low Voltage Directive
- RoHS Directive

## EMI

- Complies with FCC-B, CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B

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

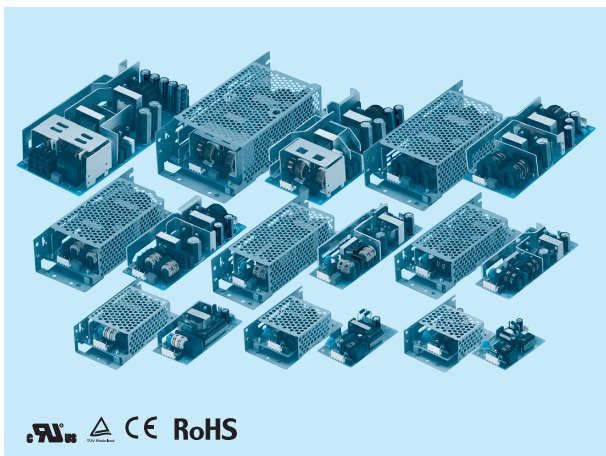
- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
LHA30F	85-264VAC 1 φ	3.3	6	50·27·87.5 (1.97·1.07·3.44)	100
		5	6		
		12	2.5		
		15	2		
		24	1.3		
LHA50F	85-264VAC 1 φ	3.3	8	50·27·112 (1.97·1.07·4.41)	140
		5	8		
		12	4.3		
		15	3.5		
		24	2.1		
		36	1.4		
LHA75F	85-264VAC 1 φ	3.3	12	50·27·150 (1.97·1.07·5.91)	190
		5	12		
		12	6.3		
		15	5		
		24	3.2		
		36	2.1		
LHA100F	85-264VAC 1 φ	48	1.6	62·27·155 (2.44·1.07·6.10)	250
		5	15		
		12	8.5		
		15	6.7		
		24	4.3		
LHA150F	85-264VAC 1 φ	36	2.8	75·27·160 (2.95·1.07·6.30)	320
		48	2.1		
		12	12.5		
		24	6.3		
LHA300F	85-264VAC 1 φ	36	4.2	84·37·180 (3.31·1.46·7.09)	580
		48	3.2		
		12	25		
		24	12.5		
		48	6.3		

COSEL AC-DC Power Supplies Open Frame Type

# LFA-Series



UL CE RoHS

LFA



### Feature

- Universal input (85-264VAC)
- Power factor correction (LFA50F-300F)
- Low standby power consumption  
(Normal: 10, 15W Optional: 100, 150, 240, 300W)

### Safety agency approvals

- UL60950-1, C-UL (CSA60950-1), EN60950-1, EN62368-1, EN50178, EN60065
- Complies with DEN-AN

### EMI

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

### CE marking

- Low Voltage Directive
- RoHS Directive

### 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

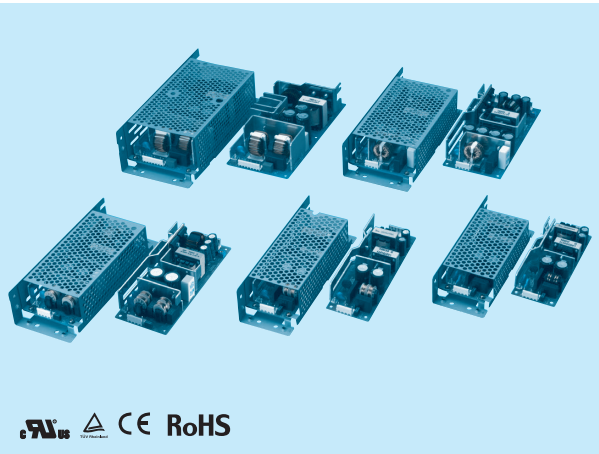
### 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
LFA10F	85-264VAC 1 φ	3.3	2	50·22·73.5 (1.97·0.87·2.89)	55
		5	2		
		12	0.9		
		15	0.7		
LFA15F	85-264VAC 1 φ	3.3	3	50·22·87.5 (1.97·0.87·3.44)	80
		5	3		
		12	1.3		
		15	1		
LFA30F	85-264VAC 1 φ	3.3	6	50·26.5·105 (1.97·1.04·4.13)	130
		5	6		
		12	2.5		
		15	2		
LFA50F	85-264VAC 1 φ	3.3	10	50·26.5·132 (1.97·1.04·5.20)	165
		5	10		
		12	4.3		
		15	3.5		
LFA75F	85-264VAC 1 φ	3.3	15	50·33.5·150 (1.97·1.32·5.91)	230
		5	15		
		12	6.3		
		15	5		
LFA100F	85-264VAC 1 φ	3.3	20	62·33.5·155 (2.44·1.32·6.10)	280
		5	20		
		12	8.5		
		15	6.7		
LFA150F	85-264VAC 1 φ	3.3	30	75·37·160 (2.95·1.46·6.30)	390
		5	30		
		12	12.5		
		15	10		
LFA240F	85-264VAC 1 φ	24	6.3	84·46.5·180 (3.31·1.83·7.09)	550
		24	6.3		
		36	(7.9)*		
		48	4.2		
LFA300F (Convection)	85-264VAC 1 φ	24	10	95·52.5·222 (3.74·2.07·8.74)	810
		24	12.5		
		24	12.5		
		30	(19)*		
LFA300F (Forced air)	85-264VAC 1 φ	3.3	60	95·52.5·222 (3.74·2.07·8.74)	810
		5	60		
		12	27		
		15	22		
		24	14		
		24	14		
		30	(19)*		
		36	9.4		
		48	7		
		48	7		

\*Peak current (Optional: -H).

**COSEL** AC-DC Power Supplies Open Frame Type

# LGA-Series



UL CE RoHS

LGA



### Feature

Inrush current, overcurrent and overvoltage protection

### Safety agency approvals

UL60950-1, C-UL(CSA60950-1) recognized, EN60950-1 approved

Complies with DEN-AN  
EN62368-1 pending

### EMI

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

### CE marking

Low Voltage Directive  
RoHS Directive

### 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

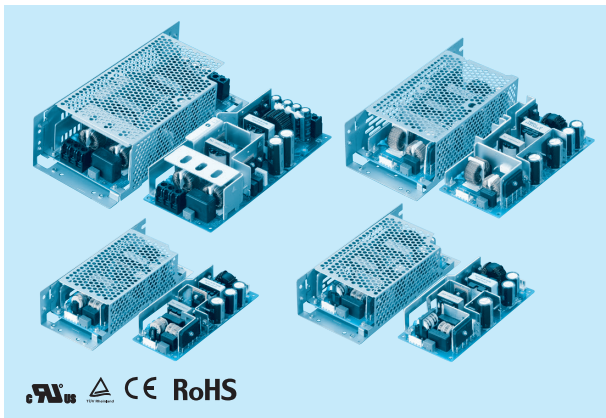
### 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
LGA50A	85-132VAC 1 φ	3.3	10	50·28.5·132 (1.97·1.12·5.2)	160
		5	10		
		12	4.3		
		15	3.5		
		24	2.5		
		24	2.5(3.2)*		
LGA75A	85-132VAC 1 φ	3.3	15	50·34.5·150 (1.97·1.36·5.91)	200
		5	15		
		12	6.3		
		15	5		
		24	3.2		
		24	3.2(4.2)*		
LGA100A	85-132VAC 1 φ	3.3	20	62·35.5·155 (2.44·1.4·6.1)	300
		5	20		
		12	8.5		
		15	7		
		24	4.3		
		24	4.3(5.4)*		
LGA150A	85-132VAC 1 φ	3.3	30	75·39·160 (2.95·1.54·6.3)	420
		5	30		
		12	12.5		
		15	10		
		24	6.3		
		24	6.3(7.9)*		
LGA240A	85-132VAC 1 φ	24	10	84·48.5·180 (3.31·1.91·7.09)	590
		24	10(12.5)*		

\* Peak current (Optional:-H).



**COSEL** AC-DC Power Supplies Open Frame Type  
**LFP-Series**



UL, CE, RoHS

LFP



**Feature**

Peak power  
Low power consumption at no load (Option)

**Safety agency approvals**

UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178  
Complies with DEN-AN  
EN62368-1 pending

**EMI**

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

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]	
			100VACin	200VACin			
LFP100F	85-264VAC 1 φ	24	4.3(8.6)*	4.3(8.6)*	62·33·155 (2.44·1.30·6.10)	290	
		36	2.8(5.6)*	2.8(5.6)*			
		48	2.1(4.2)*	2.1(4.2)*			
LFP150F	85-264VAC 1 φ	24	6.3(12.6)*	6.3(12.6)*	75·36.5·160 (2.95·1.44·6.30)	380	
		36	4.2(8.4)*	4.2(8.4)*			
		48	3.2(6.4)*	3.2(6.4)*			
LFP240F	85-264VAC 1 φ	24	Convection	10 (20)*	10 (20)*	84·46·180 (3.31·1.81·7.09)	540
			Forced air	12.5(20)*	12.5(20)*		
		30	Convection	8 (16)*	8 (16)*		
			Forced air	10 (16)*	10 (16)*		
		36	Convection	6.7(13.4)*	6.7(13.4)*		
			Forced air	8.4(13.4)*	8.4(13.4)*		
48	Convection	5 (10)*	5 (10)*				
	Forced air	6.3(10)*	6.3(10)*				
LFP300F	85-264VAC 1 φ	24	Convection	12.5(22)*	12.5(25)*	95·52.5·222 (3.74·2.07·8.74)	810
			Forced air	15 (22)*	15 (25)*		
		30	Convection	10 (18)*	10 (20)*		
			Forced air	12 (18)*	12 (20)*		
		36	Convection	8.4(14.6)*	8.4(16.8)*		
			Forced air	10 (14.6)*	10 (16.8)*		
48	Convection	6.3(11)*	6.3(12.6)*				
	Forced air	7.5(11)*	7.5(12.6)*				

\*:Peak current.

**CE marking**

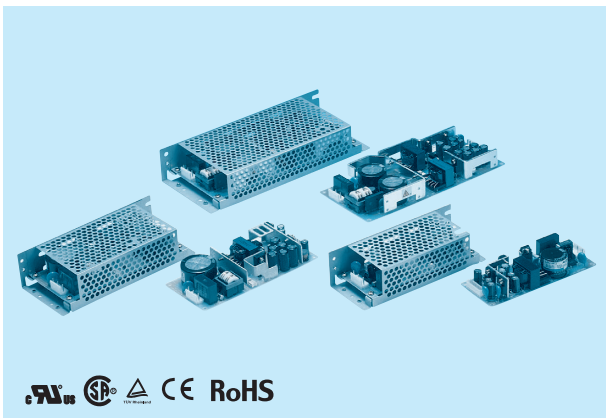
Low Voltage Directive  
RoHS Directive

**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

**5-year warranty**

**COSEL** AC-DC Power Supplies Open Frame Type  
**LDC-Series**



UL, CE, RoHS

LDC



**Feature**

Universal input (85 - 264VAC)  
Inrush current, overcurrent and overvoltage protection

MODEL		INPUT VOLTAGE	OUTPUT VOLTAGE/ OUTPUT CURRENT			CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
			V1[V]/[A]	V2[V]/[A]	V3[V]/[A]		
LDC15F	-1	85-264VAC 1 φ	+5(V) 2.0(A) (3.0A)*	+12(V) 0.3(A) (0.6A)*	-12(V) 0.2(A) (0.3A)*	50·26·127 (1.97·1.02·5.00)	150
	-2	110-370VDC	+5(V) 2.0(A) (3.0A)*	+15(V) 0.3(A) (0.6A)*	-15(V) 0.2(A) (0.3A)*		
LDC30F	-1	85-264VAC 1 φ	+5(V) 3.0(A) (4.5A)*	+12(V) 1.2(A) (2.0A)*	-12(V) 0.3(A) (0.45A)*	65·26·140 (2.56·1.02·5.11)	220
	-2	110-370VDC	+5(V) 3.0(A) (4.5A)*	+15(V) 1.0(A) (2.0A)*	-15(V) 0.3(A) (0.45A)*		
LDC60F	-1	85-264VAC 1 φ	+5(V) 5.0(A) (7.0A)*	+12(V) 2.5(A) (3.5A)*	-12(V) 0.5(A) (0.7A)*	83·26·185 (3.27·1.02·7.28)	300
	-2	110-370VDC	+5(V) 5.0(A) (7.0A)*	+15(V) 2.0(A) (3.5A)*	-15(V) 0.5(A) (0.7A)*		

\*Peak current.

**Safety agency approvals**

UL60950-1, EN62368-1, CSA C22.2 No.60950-1, EN60950-1, EN50178  
Complies with DEN-AN

**EMI**

FCC-B, VCCI-B, CISPR22-B, EN55022-B

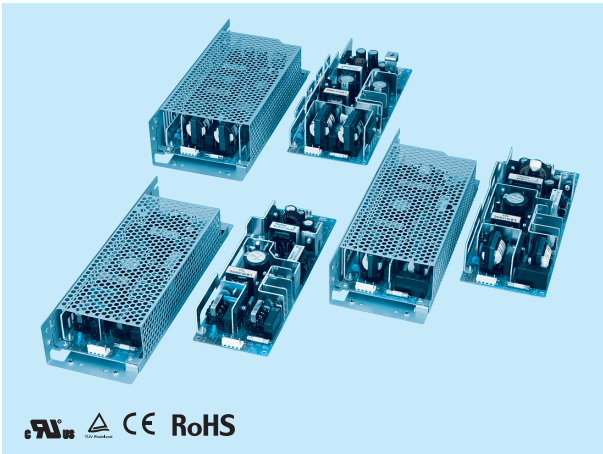
**CE marking**

Low Voltage Directive  
RoHS Directive

**2-year warranty**

COSEL AC-DC Power Supplies Open Frame Type

# LEB-Series



UL CE RoHS

LEB



### Feature

Universal input (85 - 264VAC)  
Remote ON/OFF (Option)

### Safety agency approvals

UL60950-1, C-UL recognized, TÜV approved  
Complies with DEN-AN  
EN62368-1 pending

### EMI

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

### CE marking

Low Voltage Directive  
RoHS Directive

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

- EN55022-B
- EN61000-3-2
- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

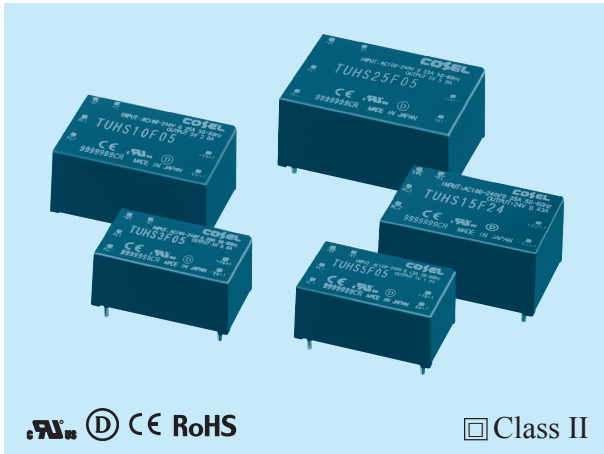
### 2-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE / OUTPUT CURRENT		CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]	
		V1[V]/[A]	V2[V]/[A]			
LEB100F	-0512	85-264VAC 1 φ or 120-370VDC	5(V) 5(A)	12(V) 5.0(A) (10.0A)*	75 · 35 · 222 (2.95·1.38·8.74)	420
	-0324		3.3(V) 5(A)	24(V) 4.0(A) (7.0A)*		
	-0524		5(V) 5(A)	24(V) 4.0(A) (7.0A)*		
	-0530		5(V) 5(A)	30(V) 3.2(A) (5.6A)*		
	-0536		5(V) 5(A)	36(V) 2.7(A) (4.7A)*		
LEB150F	-0512	85-264VAC 1 φ or 120-370VDC	5(V) 5(A)	12(V) 7.5(A) (14.0A)*	85 · 40 · 222 (3.35·1.57·8.74)	530
	-0324		3.3(V) 5(A)	24(V) 6.0(A) (10.0A)*		
	-0524		5(V) 5(A)	24(V) 6.0(A) (10.0A)*		
	-0530		5(V) 5(A)	30(V) 4.8(A) (8.0A)*		
	-0536		5(V) 5(A)	36(V) 4.0(A) (6.7A)*		
LEB225F	-0512	85-264VAC 1 φ or 120-370VDC	5(V) 5(A)	12(V) 10.0(A) (20.0A)*	95 · 45 · 222 (3.74·1.77·8.74)	700
	-0324		3.3(V) 5(A)	24(V) 9.0(A) (14.0A)*		
	-0524		5(V) 5(A)	24(V) 9.0(A) (14.0A)*		
	-0530		5(V) 5(A)	30(V) 7.2(A) (11.0A)*		
	-0536		5(V) 5(A)	36(V) 6.0(A) (9.3A)*		

\*Peak current.

**COSEL** AC-DC Power Supplies PCB Mount Type

# TUHS-Series



RoHS CE RoHS

Class II

TUHS



**Feature**

- PCB mount type AC-DC converter
- A lot of design flexibility about hold-up time and expected life
- Small size
- Overcurrent and overvoltage protection
- High efficiency by synchronous rectification technology (TUHS25)
- No built-in aluminum and tantalum electrolytic capacitor

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]		OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		5	12			
TUHS3	85-264VAC 1φ or 120 - 370VDC	5	0.6	28.7·12.7·17.5 (1.13·0.50·0.69)	15	
		12	0.25			
		15	0.20			
TUHS5	85-264VAC 1φ or 120 - 370VDC	5	1	28.7·12.7·17.5 (1.13·0.50·0.69)	15	
		12	0.45			
		15	0.34			
TUHS10	85-264VAC 1φ or 120 - 370VDC	5	2	33.0·15.0·22.0 (1.3·0.59·0.86)	25	
		12	0.9			
		15	0.67			
TUHS15	85-264VAC 1φ or 120 - 370VDC	12	1.25	33.0·15.0·22.0 (1.3·0.59·0.86)	25	
		15	1			
		24	0.63			
TUHS25	85-264VAC 1φ or 120 - 370VDC	5	5	36.0·16.5·25.4 (1.42·0.65·1.0)	40	
		12	2.1			
		15	1.7			
		24	1.1			

**Safety agency approvals**

UL60950-1, C-UL, EN60950-1  
EN62368-1 pending

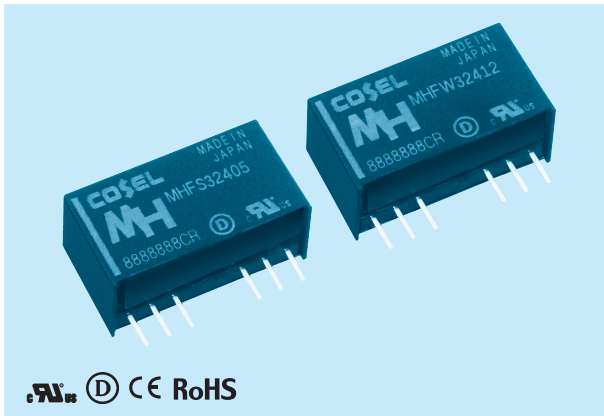
**CE marking**

Low voltage directive  
RoHS Directive

**5-year warranty**

**COSEL** DC-DC Converters PCB Mount Type

# MH-Series



RoHS CE RoHS

MHFS



MHFW



**Feature**

- Industry Standard SIP8
- Wide input 4.5-18VDC/9-36VDC/18-76VDC
- I/O isolation voltage 3,000VAC (1 minute), 4,200VDC (1 minute)
- Overcurrent protection (Auto recovery type)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]					CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	9[V]	12[V]	15[V]		
MHFS3	4.5-18VDC	0.8	0.6	0.33	0.25	0.2	22·12·9.5 (0.87·0.47·0.37)	7
	9-36VDC	0.8	0.6	0.33	0.25	0.2		
	18-76VDC	0.8	0.6	0.33	0.25	0.2		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		±12 (+24) [V]	±15 (+30) [V]		
MHFW3	4.5-18VDC	0.13	0.1	22·12·9.5 (0.87·0.47·0.37)	7
	9-36VDC	0.13	0.1		
	18-76VDC	0.13	0.1		

**CE marking**

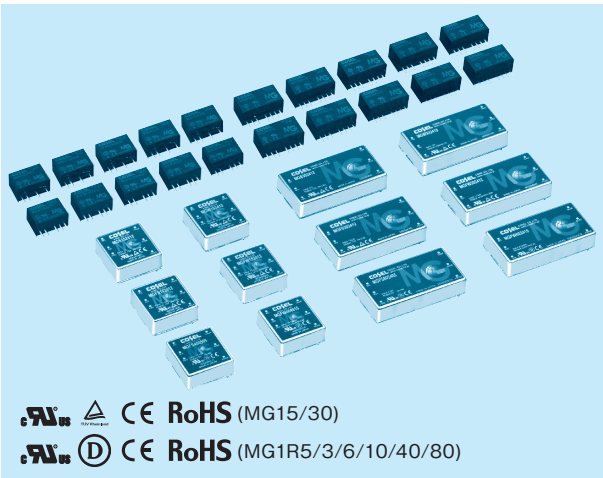
Low Voltage Directive  
RoHS Directive

**Safety agency approvals**

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

**5-year warranty**

# MG-Series



CE RoHS (MG15/30)

CE RoHS (MG1R5/3/6/10/40/80)



## Feature

- Industrial standard SIP6 (MG1R5/3), SIP8 (MG6/10), 1"X1" (MG15/MG40), 1"X2" (MG30/MG80)
- Wide input 9-36VDC/18-76VDC (MGFS/MGFW)
- Ultra wide input 6-60VDC (MGXS/MGXW)
- 6 sided shield (MG15/30/40/80)
- I/O Isolation voltage 1,500VDC (1minute)
- Overcurrent protection (Auto recovery type)
- Overvoltage protection (MG30/40/80)
- Remote ON/OFF (MG6/10/15/30/40/80)
- Output voltage adjustable by external variable resistor (MG15/30/40/80 Single output)
- High reliability: No built-in aluminum and tantalum electrolytic capacitor

## Safety agency approvals

- UL60950-1, C-UL, EN60950-1 (MG1R5/3/6/10/15/30)
- UL62368-1, C-UL, EN62368-1 (MG40/80)
- EN62368-1 pending

## CE marking

- Low Voltage Directive
- RoHS Directive

## 10-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]				CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	12[V]	15[V]		
MGXS1R5	6-60VDC	0.4	0.3	0.13	0.1	17·12·8.5 (0.67·0.47·0.34)	4
MGXS6	6-60VDC	1.6	1.2	0.5	0.4	22·12·9.5 (0.87·0.47·0.37)	7

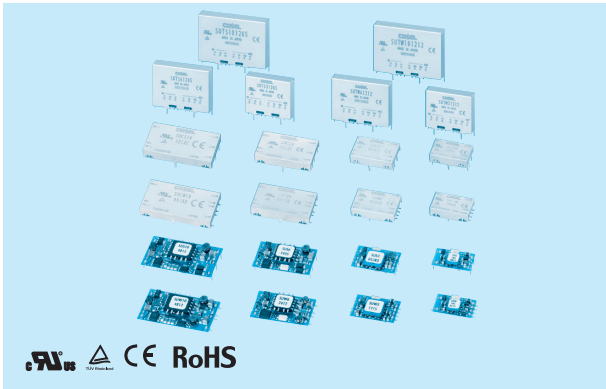
MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]			CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
		±5 (+10) [V]	±12 (+24) [V]	±15 (+30) [V]		
MGXW1R5	6-60VDC	-	0.065	0.05	17·12·8.5 (0.67·0.47·0.34)	4
MGXW6	6-60VDC	-	0.25	0.2	22·12·9.5 (0.87·0.47·0.37)	7

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]				CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	12[V]	15[V]		
MGS1R5	4.5-9VDC	0.4	0.3	0.13	0.1	17·12·8.5 (0.67·0.47·0.34)	4
	9-18VDC	0.4	0.3	0.13	0.1		
	18-36VDC	0.4	0.3	0.13	0.1		
	36-76VDC	0.4	0.3	0.13	0.1		
MGS3	4.5-9VDC	0.8	0.6	0.25	0.2	17·12·8.5 (0.67·0.47·0.34)	4
	9-18VDC	0.8	0.6	0.25	0.2		
	18-36VDC	0.8	0.6	0.25	0.2		
MGS6	4.5-9VDC	1.6	1.2	0.5	0.4	22·12·9.5 (0.87·0.47·0.37)	7
	9-18VDC	1.6	1.2	0.5	0.4		
	18-36VDC	1.6	1.2	0.5	0.4		
	36-76VDC	1.6	1.2	0.5	0.4		
MGS10	4.5-9VDC	2.6	2	0.9	0.7	22·12·9.5 (0.87·0.47·0.37)	7
	9-18VDC	2.6	2	0.9	0.7		
	18-36VDC	2.6	2	0.9	0.7		
	36-76VDC	2.6	2	0.9	0.7		
MGS15	9-18VDC	4	3	1.3	1	25.4·9.9·25.4 (1·0.39·1)	20
	18-36VDC	4	3	1.3	1		
	36-76VDC	4	3	1.3	1		
MGS30	9-18VDC	8	6	2.5	2	25.4·9.9·50.8 (1·0.39·2)	40
	18-36VDC	8	6	2.5	2		
	36-76VDC	8	6	2.5	2		
MGFS1R5	9-36VDC	0.4	0.3	0.13	0.1	17·12·8.5 (0.67·0.47·0.34)	4
	18-76VDC	0.4	0.3	0.13	0.1		
MGFS3	9-36VDC	0.8	0.6	0.25	0.2	17·12·8.5 (0.67·0.47·0.34)	4
	18-76VDC	0.8	0.6	0.25	0.2		
MGFS6	9-36VDC	1.6	1.2	0.5	0.4	22·12·9.5 (0.87·0.47·0.37)	7
	18-76VDC	1.6	1.2	0.5	0.4		
MGFS10	9-36VDC	2.6	2	0.9	0.7	22·12·9.5 (0.87·0.47·0.37)	7
	18-76VDC	2.6	2	0.9	0.7		
MGFS15	9-36VDC	4	3	1.3	1	25.4·9.9·25.4 (1·0.39·1)	20
	18-76VDC	4	3	1.3	1		
MGFS30	9-36VDC	7.5	6	2.5	2	25.4·9.9·50.8 (1·0.39·2)	40
	18-76VDC	7.5	6	2.5	2		
MGFS40	4.5-13VDC	8	6	2.5	2	25.4·9.9·25.4 (1·0.39·1)	30
	9-36VDC	10	8	3.4	2.7		
	18-76VDC	10	8	3.4	2.7		
MGFS80	9-36VDC	10	8	3.4	2.7	25.4·9.9·50.8 (1·0.39·2)	50
	18-76VDC	10	8	3.4	2.7		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]			CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
		±5 (+10) [V]	±12 (+24) [V]	±15 (+30) [V]		
MGW1R5	4.5-9VDC	-	0.065	0.05	17·12·8.5 (0.67·0.47·0.34)	4
	9-18VDC	-	0.065	0.05		
	18-36VDC	-	0.065	0.05		
	36-76VDC	-	0.065	0.05		
MGW3	4.5-9VDC	-	0.13	0.1	17·12·8.5 (0.67·0.47·0.34)	4
	9-18VDC	-	0.13	0.1		
	18-36VDC	-	0.13	0.1		
	36-76VDC	-	0.13	0.1		
MGW6	4.5-9VDC	-	0.25	0.2	22·12·9.5 (0.87·0.47·0.37)	7
	9-18VDC	-	0.25	0.2		
	18-36VDC	-	0.25	0.2		
	36-76VDC	-	0.25	0.2		
MGW10	4.5-9VDC	-	0.42	0.34	22·12·9.5 (0.87·0.47·0.37)	7
	9-18VDC	-	0.42	0.34		
	18-36VDC	-	0.42	0.34		
	36-76VDC	-	0.42	0.34		
MGW15	9-18VDC	1.5	0.65	0.5	25.4·9.9·25.4 (1·0.39·1)	20
	18-36VDC	1.5	0.65	0.5		
	36-76VDC	1.5	0.65	0.5		
MGW30	9-18VDC	2.5	1.25	1	25.4·9.9·50.8 (1·0.39·2)	40
	18-36VDC	2.5	1.25	1		
	36-76VDC	2.5	1.25	1		
MGFW1R5	9-36VDC	-	0.065	0.05	17·12·8.5 (0.67·0.47·0.34)	4
	18-76VDC	-	0.065	0.05		
MGFW3	9-36VDC	-	0.13	0.1	17·12·8.5 (0.67·0.47·0.34)	4
	18-76VDC	-	0.13	0.1		
MGFW6	9-36VDC	-	0.25	0.2	22·12·9.5 (0.87·0.47·0.37)	7
	18-76VDC	-	0.25	0.2		
MGFW10	9-36VDC	-	0.42	0.34	22·12·9.5 (0.87·0.47·0.37)	7
	18-76VDC	-	0.42	0.34		
MGFW15	9-36VDC	1.5	0.65	0.5	25.4·9.9·25.4 (1·0.39·1)	20
	18-76VDC	1.5	0.65	0.5		
MGFW30	9-36VDC	2	1.25	1	25.4·9.9·50.8 (1·0.39·2)	40
	18-76VDC	2	1.25	1		
MGFW40	4.5-13VDC	-	1.3	1	25.4·9.9·25.4 (1·0.39·1)	30
	9-36VDC	-	1.7	1.4		
	18-76VDC	-	1.7	1.4		
MGFW80	9-36VDC	-	3.4	2.7	25.4·9.9·50.8 (1·0.39·2)	50
	18-76VDC	-	3.4	2.7		



**COSEL** DC-DC Converters PCB Mount Type  
**SU,SUC,SUT-Series**



**Feature**

- SMD mounting type and through-hole mounting type
- High efficiency (synchronous rectifier circuit)
- Remote ON/OFF (SU/SUC/SUT 3-10)
- High reliability : No built-in aluminum and tantalum electrolytic capacitor

**Safety agency approvals**

- UL60950-1, C-UL, EN60950-1
- EN62368-1 pending

**CE marking**

- Low Voltage Directive
- RoHS Directive

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]				CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	12[V]	15[V]		
SUTS3	4.5-9VDC	0.6	0.6	0.25	0.2	30·23.4·9.15 (1.18·0.92·0.36)	8
	9-18VDC	0.6	0.6	0.25	0.2		
	18-36VDC	0.6	0.6	0.25	0.2		
	36-76VDC	0.6	0.6	0.25	0.2		
SUTS6	4.5-9VDC	1.2	1	0.5	0.4	37.6·26.4·9.15 (1.48·1.04·0.36)	11
	9-18VDC	1.35	1.2	0.5	0.4		
	18-36VDC	1.35	1.2	0.5	0.4		
	36-76VDC	1.35	1.2	0.5	0.4		
SUTS10	4.5-9VDC	2.6	2	0.9	0.7	45.2·29.3·9.15 (1.78·1.15·0.36)	14
	9-18VDC	2.6	2	1	0.8		
	18-36VDC	2.6	2	1	0.8		
	36-76VDC	2.6	2	1	0.8		

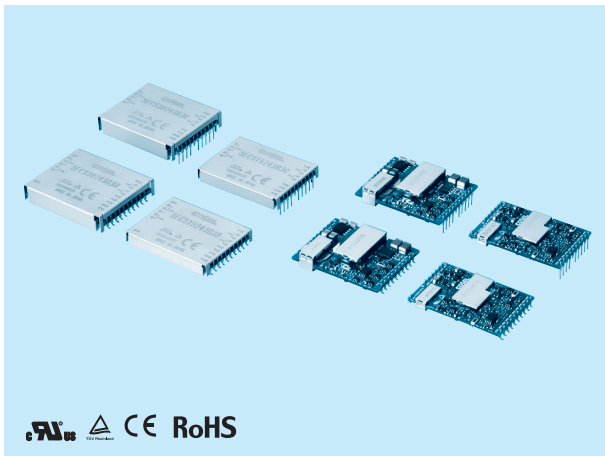
MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		±12 (+24) [V]	±15 (+30) [V]		
SUTW3	4.5-9VDC	0.13	0.1	30·23.4·9.15 (1.18·0.92·0.36)	8
	9-18VDC	0.13	0.1		
	18-36VDC	0.13	0.1		
	36-76VDC	0.13	0.1		
SUTW6	4.5-9VDC	0.25	0.2	37.6·26.4·9.15 (1.84·1.04·0.36)	11
	9-18VDC	0.25	0.2		
	18-36VDC	0.25	0.2		
	36-76VDC	0.25	0.2		
SUTW10	4.5-9VDC	0.45	0.35	45.2·29.3·9.15 (1.78·1.15·0.36)	14
	9-18VDC	0.45	0.35		
	18-36VDC	0.45	0.35		
	36-76VDC	0.45	0.35		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]				CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	12[V]	15[V]		
SUS1R5	4.5-9VDC	0.4	0.3	0.13	0.1	21.4·6.5·12.2 (0.84·0.26·0.48)	2
	9-18VDC	0.4	0.3	0.13	0.1		
	18-36VDC	0.4	0.3	0.13	0.1		
	36-76VDC	0.4	0.3	0.13	0.1		
SUS3	4.5-9VDC	0.6	0.6	0.25	0.2	24·6.5·15.1 (0.94·0.26·0.59)	3
	9-18VDC	0.6	0.6	0.25	0.2		
	18-36VDC	0.6	0.6	0.25	0.2		
	36-76VDC	0.6	0.6	0.25	0.2		
SUS6	4.5-9VDC	1.2	1	0.5	0.4	31.6·6.5·18.1 (1.24·0.26·0.71)	4
	9-18VDC	1.35	1.2	0.5	0.4		
	18-36VDC	1.35	1.2	0.5	0.4		
	36-76VDC	1.35	1.2	0.5	0.4		
SUS10	4.5-9VDC	2.6	2	0.9	0.7	39.2·6.5·21.0 (1.54·0.26·0.83)	6
	9-18VDC	2.6	2	1	0.8		
	18-36VDC	2.6	2	1	0.8		
	36-76VDC	2.6	2	1	0.8		
SUCS1R5	4.5-9VDC	0.4	0.3	0.13	0.1	22.4·7.0·13.2 (0.88·0.28·0.52)	3
	9-18VDC	0.4	0.3	0.13	0.1		
	18-36VDC	0.4	0.3	0.13	0.1		
	36-76VDC	0.4	0.3	0.13	0.1		
SUCS3	4.5-9VDC	0.6	0.6	0.25	0.2	25·7.0·16.1 (0.98·0.28·0.63)	5
	9-18VDC	0.6	0.6	0.25	0.2		
	18-36VDC	0.6	0.6	0.25	0.2		
	36-76VDC	0.6	0.6	0.25	0.2		
SUCS6	4.5-9VDC	1.2	1	0.5	0.4	32.6·7.0·19.1 (1.28·0.28·0.75)	7
	9-18VDC	1.35	1.2	0.5	0.4		
	18-36VDC	1.35	1.2	0.5	0.4		
	36-76VDC	1.35	1.2	0.5	0.4		
SUCS10	4.5-9VDC	2.6	2	0.9	0.7	40.2·7.0·22.0 (1.58·0.28·0.87)	10
	9-18VDC	2.6	2	1	0.8		
	18-36VDC	2.6	2	1	0.8		
	36-76VDC	2.6	2	1	0.8		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]		CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		±12 (+24) [V]	±15 (+30) [V]		
SUW1R5	4.5-9VDC	0.065	0.05	21.4·6.5·12.2 (0.84·0.26·0.48)	2
	9-18VDC	0.065	0.05		
	18-36VDC	0.065	0.05		
	36-76VDC	0.065	0.05		
SUW3	4.5-9VDC	0.13	0.1	24·6.5·15.1 (0.94·0.26·0.59)	3
	9-18VDC	0.13	0.1		
	18-36VDC	0.13	0.1		
	36-76VDC	0.13	0.1		
SUW6	4.5-9VDC	0.25	0.2	31.6·6.5·18.1 (1.24·0.26·0.71)	4
	9-18VDC	0.25	0.2		
	18-36VDC	0.25	0.2		
	36-76VDC	0.25	0.2		
SUW10	4.5-9VDC	0.45	0.35	39.2·6.5·21.0 (1.54·0.26·0.83)	6
	9-18VDC	0.45	0.35		
	18-36VDC	0.45	0.35		
	36-76VDC	0.45	0.35		
SUCW1R5	4.5-9VDC	0.065	0.05	22.4·7.0·13.2 (0.88·0.28·0.52)	3
	9-18VDC	0.065	0.05		
	18-36VDC	0.065	0.05		
	36-76VDC	0.065	0.05		
SUCW3	4.5-9VDC	0.13	0.1	25·7.0·16.1 (0.98·0.28·0.63)	5
	9-18VDC	0.13	0.1		
	18-36VDC	0.13	0.1		
	36-76VDC	0.13	0.1		
SUCW6	4.5-9VDC	0.25	0.2	32.6·7.0·19.1 (1.28·0.28·0.75)	7
	9-18VDC	0.25	0.2		
	18-36VDC	0.25	0.2		
	36-76VDC	0.25	0.2		
SUCW10	4.5-9VDC	0.45	0.35	40.2·7.0·22.0 (1.58·0.28·0.87)	10
	9-18VDC	0.45	0.35		
	18-36VDC	0.45	0.35		
	36-76VDC	0.45	0.35		

**COSEL** DC-DC Converters PCB Mount Type

# SFS, SFCS-Series



UL, CE, RoHS

SFS



SFCS



### Feature

- SMD mounting type and through-hole mounting type
- High efficiency (Synchronous rectifier circuit)
- Parallel operation
- Overcurrent, overvoltage and low voltage protection
- Remote ON/OFF, alarm functions
- High reliability : No built-in aluminum and tantalum electrolytic capacitor

### Safety agency approvals

- UL60950-1, C-UL, EN60950-1
- EN62368-1 pending

### CE marking

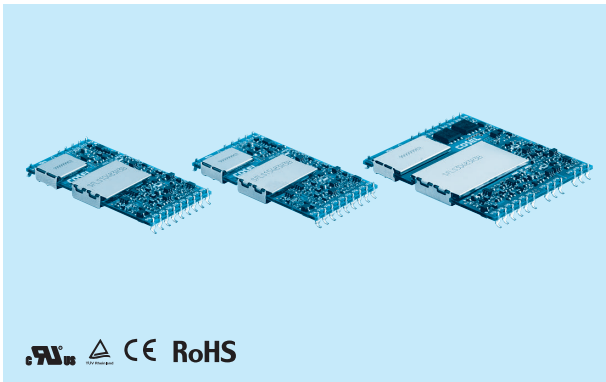
- Low Voltage Directive
- RoHS Directive

### 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
SFS10	36-76VDC	1.2	3.5	38.7·5.0·27.2 (1.52·0.20·1.07)	12
		1.5	3.5		
		1.8	3		
		2.5	3		
		3.3	3		
		5	2		
		12	0.9		
		15	0.7		
SFS15	18-36VDC	2.5	4.5	38.7·5.0·27.2 (1.52·0.20·1.07)	12
		3.3	4.5		
		5	3		
		12	1.25		
		15	1		
	36-76VDC	1.2	5.2		
		1.5	5.2		
		1.8	4.5		
		2.5	4.5		
		3.3	4.5		
		5	3		
		12	1.25		
		15	1		
		15	1		
SFS20	36-76VDC	1.5	9	38.7·5.0·27.2 (1.52·0.20·1.07)	12
		1.8	8		
		2.5	7		
		3.3	6		
		5	4		
SFS30	18-36VDC	2.5	9	38.7·8.0·31.2 (1.52·0.31·1.23)	20
		3.3	9		
		5	6		
		12	2.5		
		15	2		
	36-76VDC	1.2	10.4		
		1.5	10.4		
		1.8	9		
		2.5	9		
		3.3	9		
		5	6		
		10	3		
		12	2.5		
		15	2		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
SFCS15	18-36VDC	3.3	4.5	39.1·6.8·29.5 (1.54·0.27·1.16)	16
		5	3		
		12	1.25		
		15	1		
	36-76VDC	3.3	4.5		
		5	3		
		12	1.25		
		15	1		
SFCS30	18-36VDC	3.3	9	39.3·8.8·33.5 (1.55·0.35·1.32)	25
		5	6		
		12	2.5		
	36-76VDC	15	2		
		3.3	9		
		5	6		
		12	2.5		
		15	2		

**COSEL** DC-DC Converters PCB Mount Type  
**SFLS-Series**



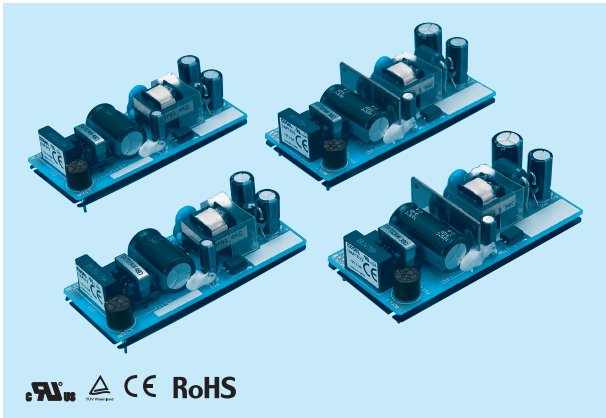
SFLS



**Feature**

- Low profile SMD mounting type
- High efficiency (Synchronous rectifier circuit)
- Parallel operation
- Overcurrent, overvoltage and low voltage protection
- Remote ON/OFF, alarm functions
- Power ready / Sequence control

**COSEL** AC-DC Power supplies PCB Mount Type  
**VAF-Series**



VAF



**Feature**

- PCB mount type AC-DC converter
- Inrush current and overcurrent protection

**Safety agency approvals**

UL60950-1, EN62368-1, C-UL recognized TÜV approved  
 Complies with DEN-AN

**EMI**

FCC-B, VCCI-B, CISPR22-B (EN55022-B)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
SFLS10	36-76VDC	2.5	3	38.7·4.2·22.4 (1.52·0.166·0.88)	8
		3.3	3		
		5	2		
SFLS15	36-76VDC	1.2	5.2	38.7·4.2·22.4 (1.52·0.166·0.88)	8
		1.5	5.2		
		1.8	4.5		
		2.5	4.5		
		3.3	4.5		
		5	3		
		5.2	3		
SFLS30	36-76VDC	1.2	12	41.2·4.4·36.2 (1.62·0.174·1.43)	16
		1.5	11		
		1.8	11		
		2.5	10		
		3.3	9		
		5	6		

**Safety agency approvals**

UL60950-1, C-UL, EN60950-1  
 EN62368-1 pending

**CE marking**

Low Voltage Directive  
 RoHS Directive

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
VAF5	85-264VAC 1 φ or 110-370VDC	3.3	1.0 (1.20)*	32·20·72.5 (1.26·0.79·2.85)	30
		5	1.0 (1.20)*		
		12	0.45(0.54)*		
		15	0.35(0.42)*		
		24	0.22(0.27)*		
VAF10	85-264VAC 1 φ or 110-370VDC	3.3	2.0 (2.40)*	36·21·78 (1.42·0.83·3.07)	40
		5	2.0 (2.40)*		
		12	0.9 (1.08)*		
		15	0.7 (0.84)*		
		24	0.45(0.54)*		

\*Peak current.

**EMS Compliance**

- EN55022-B
- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

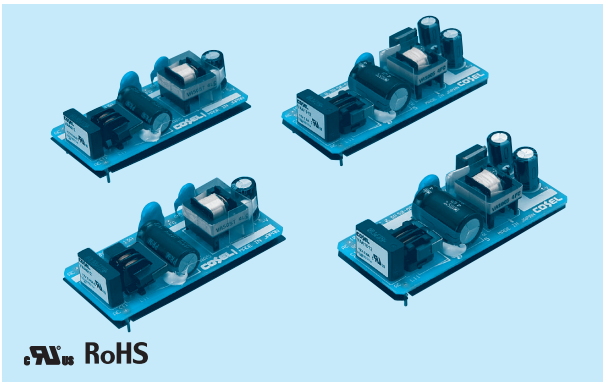
**CE marking**

Low Voltage Directive  
 RoHS Directive

**3-year warranty**

**COSEL** AC-DC Power supplies PCB Mount Type

# VAA-Series



RoHS

VAA



**Feature**

PCB mount type AC-DC converter  
Inrush current and overcurrent protection

**Safety agency approvals**

UL60950-1, C-UL recognized  
Complies with DEN-AN

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
VAA5	85-132VAC 1 φ	5	1.0	32·18·65 (1.26·0.71·2.56)	30
		12	0.45		
VAA10	or 110-170VDC	5	2.0	32·18·72.5 (1.26·0.71·2.85)	35
		12	0.9		

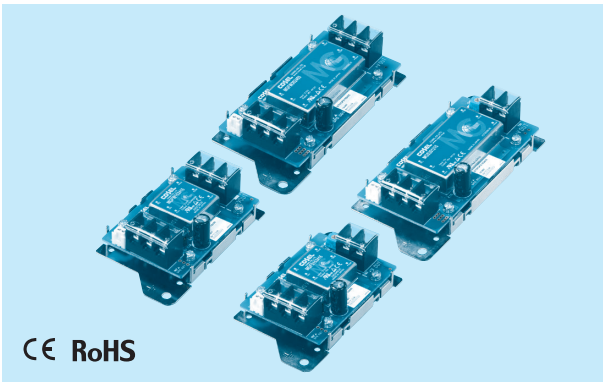
**EMI**

FCC-B, VCCI-A  
(Additional capacitors required for meeting VCCI classB)

**2-year warranty**

**COSEL** DC-DC Converters PCB Mount Type Value-added Type

# STMG-Series



CE RoHS

STMGFS



STMGFW



**Feature**

Isolated PCB mount type DC-DC converter  
Wide input 9-36VDC/18-76VDC  
Connector interface available (Option)  
Case cover available (Option)  
DIN rail attachment available (Option)  
Overcurrent protection (Auto recovery type)  
Overvoltage protection (for STMG30)  
Remote ON/OFF  
Output voltage adjustment (Single output only, ±10%)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]				CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		3.3[V]	5[V]	12[V]	15[V]		
STMGFS15	9-36VDC	4	3	1.3	1	52·27·93 (2.05·1.06·3.66)	110
	18-76VDC	4	3	1.3	1		
STMGFS30	9-36VDC	7.5	6	2.5	2	52·27·117 (2.05·1.06·4.61)	140
	18-76VDC	7.5	6	2.5	2		

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE[V]/ OUTPUT CURRENT[A]			CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
		± 5 (+10) [V]	± 12 (+24) [V]	± 15 (+30) [V]		
STMGFW15	9-36VDC	1.5	0.65	0.5	52·27·93 (2.05·1.06·3.66)	110
	18-76VDC	1.5	0.65	0.5		
STMGFW30	9-36VDC	2	1.25	1	52·27·117 (2.05·1.06·4.61)	140
	18-76VDC	2	1.25	1		

**Safety agency approvals**

Complies with UL60950-1 C-UL EN60950-1

**CE marking**

Low Voltage Directive  
RoHS Directive

**5-year warranty**

COSEL DC-DC Converters POL Type

## BRNS-Series



BRNS



## Feature

Small size and high efficiency non-isolated DC-DC converter  
 Wide input voltage 3.0VDC to 14.4VDC  
 No need adjustment of gain control by external capacitor  
 Remote ON/OFF, power good, frequency synchronization  
 Overcurrent and thermal protection (Auto recovery type)

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
BRNS6	3.0-14.4VDC	0.6-5.5	6	12.2·7.2·12.2 (0.48·0.28·0.48)	4
BRNS12			12	12.2·7.2·12.2 (0.48·0.28·0.48)	4
BRNS20			20	20.3·8.5·11.4 (0.80·0.35·0.45)	6

## Safety agency approvals

UL60950-1, C-UL, EN60950-1, EN62368-1

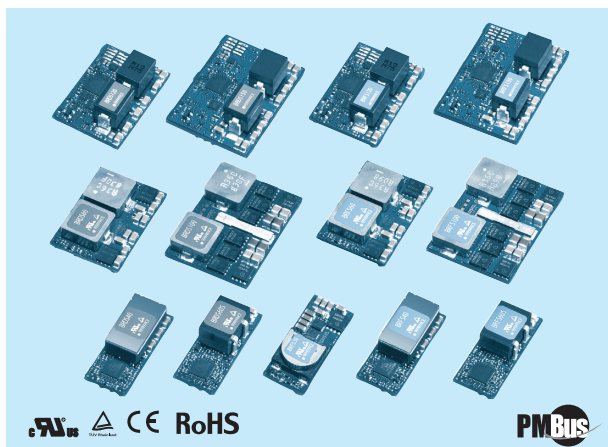
## CE marking

Low Voltage Directive  
 RoHS Directive

## 5-year warranty

COSEL DC-DC Converters POL Type

## BRFS/BRDS-Series



BRFS



BRDS



## Feature

Small size and high efficiency non-isolated DC-DC converter  
 Wide input 4.5VDC to 14.0VDC  
 Fast transient response by robust control  
 Remote ON/OFF, power good, start-up sequence  
 Overcurrent and thermal protection (Auto recovery type)  
 PMBus (BRDS series)

## Safety agency approvals

UL60950-1, C-UL, EN60950-1  
 EN62368-1 pending

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]	
BRFS30	4.5-14.0VDC	0.8-3.63	30	33.0·9.5·13.5 (1.30·0.37·0.53)	10	
BRFS40		0.6-2.0	40	33.0·10.9·13.5 (1.30·0.43·0.53)	12	
BRFS60		0.7-2.0	60	33.0·8.0·22.9 (1.30·0.31·0.90)	15	
BRFS60S		0.6-2.0	60	33.0·12.7·13.5* (1.30·0.5·0.53)*	12*	
BRFS100		0.7-2.0	100	38.0·8.5·27.7 (1.50·0.33·1.09)	22	
BRFS120		0.6-1.8	120	33.0·12.7·22.9 (1.30·0.50·0.90)	14	
BRFS150				38.0·13.8·27.7 (1.50·0.54·1.09)	21	
BRDS40				4.5-14.0VDC	0.6-2.0	40
BRDS60		0.7-2.0	60		33.0·8.0·22.9 (1.30·0.31·0.90)	15
BRDS60S		0.6-2.0	60		33.0·12.7·13.5* (1.30·0.5·0.53)*	12*
BRDS100	0.7-2.0	100	38.0·8.5·27.7 (1.50·0.33·1.09)		22	
BRDS120	0.6-1.8	120	33.0·12.7·22.9 (1.30·0.50·0.90)		14	
BRDS150			38.0·13.8·27.7 (1.50·0.54·1.09)		21	

\*Small type: BRFS60S, BRDS60S

## CE marking

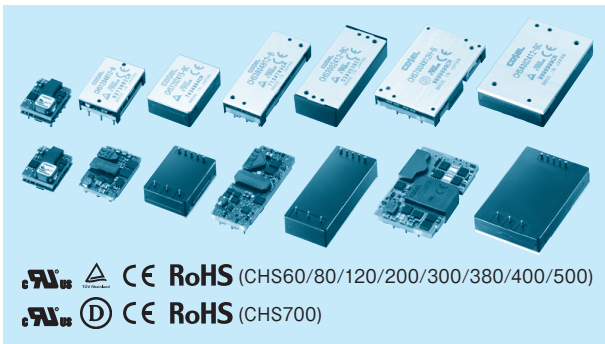
Low Voltage Directive  
 RoHS Directive

## 5-year warranty



COSEL DC-DC Converters Bus Converter/Power Module Type

# CHS-Series



## Feature

- High efficiency 96% (CHS7004812H)
- For telecommunication, server and factory automation market
- High density
- High reliability : No built-in aluminum and tantalum electrolytic capacitor
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF
- PMBus (Option : -)
- (CHS3004810/CHS3004812/CHS4004812/CHS5004812)

## Safety agency approvals

- UL60950-1, C-UL, EN60950-1 approved
- UL62368-1, C-UL, EN62368-1 approved (Only CHS700)
- EN62368-1 pending

## CE marking

- Low Voltage Directive
- RoHS Directive

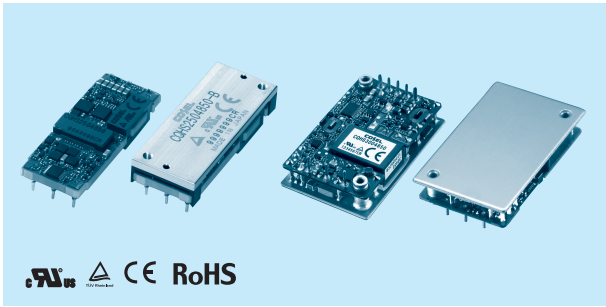
## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
CHS60	36-76VDC	3.3	18	19.05·12.7·23.36 (0.75·0.50·0.92)	15
		5	12		
		12	6		
CHS80	36-76VDC	3.3	25	33·10.5·22.76 (1.30·0.41·0.90)	21
		5	16		
		12	7.5		
CHS120	18-36VDC	5	24	33·10.5·22.86 (1.30·0.41·0.90)	19
		12	10		28*
		15	8		32**
		24	4.2		36.5·12.7·26.5** (1.44·0.50·1.04)**
	36-76VDC	3.3	30	33·10.5·22.86 (1.30·0.41·0.90)	19
		5	24		28*
		12	10		33.5·12.7·23.36* (1.32·0.50·0.92)*
		15	8		
		24	4.2		
CHS200	36-76VDC	3.3	50	57.9·10.5·22.76 (2.28·0.41·0.90)	30
		5	40		45*
		12	16		58.4·12.7·23.26* (2.30·0.50·0.92)*
CHS300	18-36VDC	5	40	58.4·11.0·22.86 (2.30·0.43·0.90)	38
		12	16.7		50*
		15	13.5		57**
		24	10.5		61.1·14.3·26.1** (2.41·0.56·1.03)**
		28	9		
		32	7.9		
	36-76VDC	48	5.3	58.4·11.0·22.86 (2.30·0.43·0.90)	38
		10	30		50*
		12	25		
		15	20		
		24	12.5		
		28	10.8		
CHS380	36-76VDC	10	38	58.4·11.0·22.86 (2.30·0.41·0.90)	38
		12	32		50*
CHS400	18-36VDC	12	26.5	58.4·9.5·36.8 (2.30·0.37·1.45)	60
		15	26.5		
		24	14.5		
		28	12.5		
		32	11		
		48	6.3		
	36-76VDC	10	40	58.9·12.7·37.3* (2.32·0.50·1.47)*	90*
		12	33		90**
		15	26.5		61.6·12.7·40.3** (2.43·0.50·1.59)**
		24	16.5		
		28	14		
		32	12.5		
CHS500	36-76VDC	12	42	58.4·9.5·36.8 (2.30·0.37·1.45)	60
					90*
CHS700	36-76VDC	12	58.5	58.4·10.5·36.8 (2.30·0.41·1.45)	72
					100*

\* Baseplate option.  
\*\* Baseplate and case option



COSEL DC-DC Converters Bus Converter/Power Module Type  
**CQHS-Series**



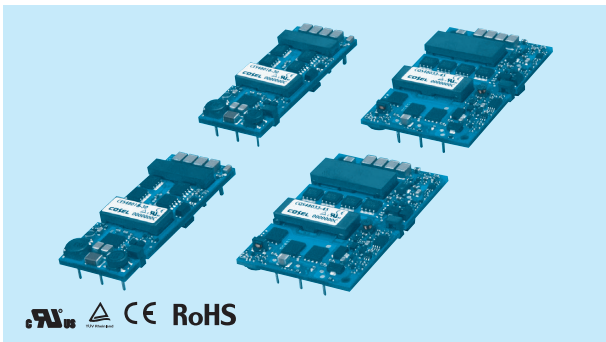
CQHS



**Feature**

- For telecommunication market
- High efficiency (Synchronous rectifier circuit)
- High density
- High reliability : No built-in aluminum and tantalum electrolytic capacitor
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF

COSEL DC-DC Converters Bus Converter/Power Module Type  
**CES/CQS-Series**



CES



CQS



**Feature**

- For telecommunication market
- High efficiency
- High density
- High reliability : No built-in aluminum and tantalum electrolytic capacitor
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF

**Safety agency approvals**

UL60950-1, C-UL recognized, TÜV approved  
 EN62368-1 pending

**CE marking**

Low Voltage Directive  
 RoHS Directive

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
CQHS250	36-76VDC	32	7.9	57.9·10.5·22.76 (2.28·0.41·0.90) 58.4·12.7·23.26* (2.30·0.50·0.92)*	30
		50	5		45*
CQHS300	36-76VDC	32	9.4	57.9·12.7·36.8 (2.28·0.5·1.45)	75
		50	6		
CQHS350	36-65VDC	32	11	57.9·12.7·36.8 (2.28·0.5·1.45)	75
		50	7.0		

\*Baseplate option.

**Safety agency approvals**

UL60950-1, C-UL, EN60950-1  
 EN62368-1 pending

**CE marking**

Low Voltage Directive  
 RoHS Directive

**Optional parts**

Heat sink (CQHS300/350)

**5-year warranty**

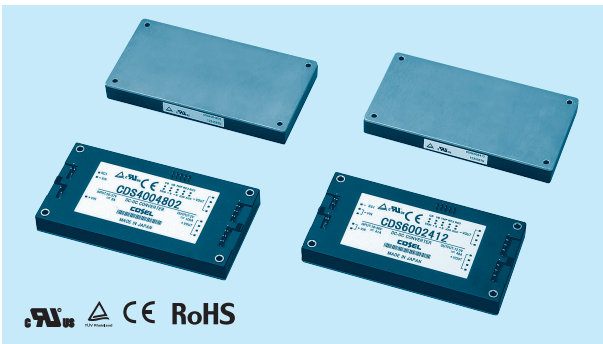
MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
CES	18-36VDC	3.3	25	57.9·8.5·22.76 (2.28·0.33·0.9)	26
		5	16		
		12	6		
	20-33VDC	15	4		
		36-76VDC	1.5		
	1.8		30		
	2.5		25		
	3.3		25		
	3.3		30		
	5		16		
	5		20		
	6		17		
40-60VDC	12	6			
	15	4			
CES-P	36-76VDC	3.3	30	57.9·8.5·22.76 (2.28·0.33·0.9) 57.9·12.7·36.8* (2.28·0.5·1.45)*	26 50*
		5	20		
		12	7		
CQS	18-36VDC	3.3	40	57.9·8.5·36.8 (2.28·0.33·1.45)	40
		5	28		
		12	12		
	20-33VDC	15	8		
		36-76VDC	1.5		
	1.8		50		
	2.5		45		
	3.3		45		
	5		28		
	12		14		
	40-60VDC		15		

\*Baseplate option.

**5-year warranty**

COSEL DC-DC Converters Bus Converter/Power Module Type

# CDS-Series



UL CE RoHS

CDS

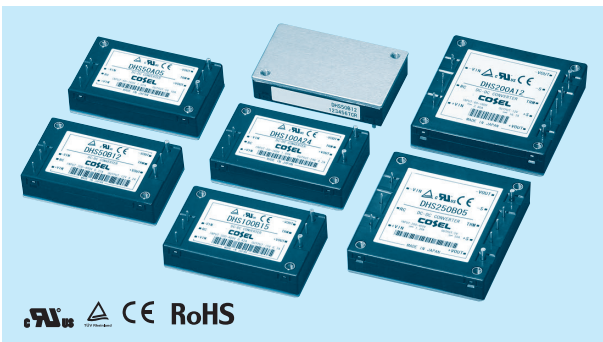


### Feature

- Ideal for distributed power systems
- Thin and small size
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF (Both sides of input and output)
- Inverter operating monitoring (IOG)
- Mounting hole (φ 3.4 thru)

COSEL DC-DC Converters Bus Converter/Power Module Type

# DHS-Series



UL CE RoHS

DHS



### Feature

- Ideal for distributed power systems
- Thin and small size
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF
- Mounting hole (M3 tapped)

### Safety agency approvals

- UL60950-1, C-UL, EN60950-1
- EN62368-1 pending

### CE marking

- Low Voltage Directive
- RoHS Directive

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
CDS400	36-76VDC	2	100	61·12.7·116.8 (2.4·0.5·4.6)	180
		3.3	100		
		5	80		
		7.5	54		
		12.5	40		
		15	34		
		24	21		
28	18				
CDS500	18-36VDC	28	18	61·12.7·116.8 (2.4·0.5·4.6)	200
CDS600	18-36VDC	12.5	48	61·12.7·116.8 (2.4·0.5·4.6)	200
		28	22		
	20.5-36VDC	12.5	48		
		28	22		
	36-76VDC	12.5	56		
28		25			

### Safety agency approvals

- UL60950-1, C-UL, EN60950-1, EN62368-1

### CE marking

- Low Voltage Directive
- RoHS Directive

### 5-year warranty

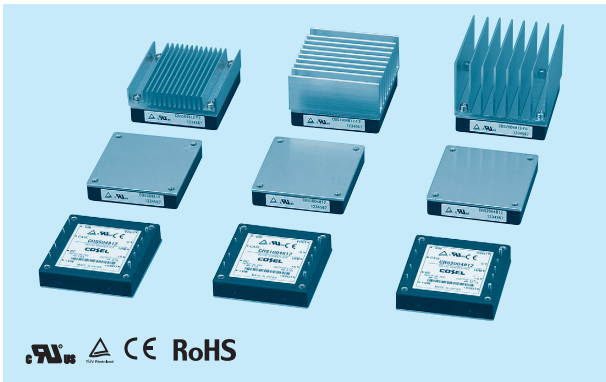
MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
DHS50A	60-160VDC	5	10	58.4·12.7·37.3 (2.3·0.5·1.47)	60
		12	4.2		
		15	3.4		
		24	2.1		
DHS100A	60-160VDC	5	20	58.4·12.7·37.3 (2.3·0.5·1.47)	60
		12	8.4		
		15	6.7		
		24	4.2		
DHS200A	60-160VDC	5	40	58.4·12.7·61 (2.3·0.5·2.4)	100
		12	16.7		
		15	13.4		
		24	8.4		
DHS50B	200-400VDC	3.3	10	58.4·12.7·37.3 (2.3·0.5·1.47)	60
		5	10		
		12	4.2		
		15	3.4		
		24	2.1		
		28	1.8		
DHS100B	200-400VDC	3.3	20	58.4·12.7·37.3 (2.3·0.5·1.47)	60
		5	20		
		12	8.4		
		15	6.7		
		24	4.2		
		28	3.6		
DHS250B	200-400VDC	3.3	50	58.4·12.7·61 (2.3·0.5·2.4)	100
		5	50		
		7.5	33		
		12	21		
		15	16.5		
		24	10.5		
		28	9		
		48	5.2		

### Optional parts

- Heat sink

### 5-year warranty

**COSEL** DC-DC Converters Bus Converter/Power Module Type  
**CBS-Series**



**Feature**

- For telecommunication market
- High efficiency
- High density
- High reliability : No built-in aluminum and tantalum electrolytic capacitor
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF
- Mounting hole (M3 tapped)

**Safety agency approvals**

- UL60950-1, C-UL recognized, TÜV approved
- EN62368-1 pending

**CE marking**

- Low Voltage Directive
- RoHS Directive

**Optional parts**

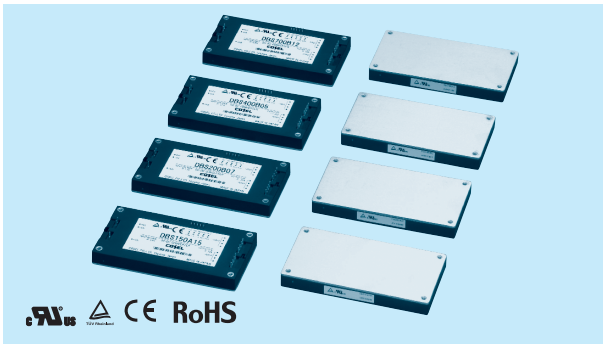
- Heat sink

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
CBS50	18-36VDC	1.8	11.7	57.9·12.7·61 (2.28·0.5·2.4)	83
		2.5	11.7		
		3.3	11.7		
		5	10.0		
		12	4.2		
		15	3.4		
		24	2.1		
	36-76VDC	28	1.8		
		1.8	11.7		
		2.5	11.7		
		3.3	11.7		
		5	10.0		
		12	4.2		
		15	3.4		
CBS100	18-36VDC	24	2.1	57.9·12.7·61 (2.28·0.5·2.4)	83
		28	1.8		
		1.8	23.4		
		2.5	23.4		
		3.3	23.4		
		5	20.0		
		12	8.4		
	36-76VDC	15	6.7		
		24	4.2		
		28	3.6		
		1.8	23.4		
		2.5	23.4		
		3.3	23.4		
		5	20.0		
CBS200	18-36VDC	12	8.4	57.9·12.7·61 (2.28·0.5·2.4)	83
		15	6.7		
		24	4.2		
		28	3.6		
		1.8	35.0		
		2.5	35.0		
		3.3	35.0		
	36-76VDC	5	30.0		
		12	16.7		
		15	13.4		
		24	8.4		
		28	7.2		
		1.8	35.0		
		2.5	35.0		
CBS350	20-36VDC	3.3	35.0	57.9·12.7·61 (2.28·0.5·2.4)	83
		5	30.0		
		12	16.7		
		15	13.4		
	36-76VDC	24	8.4		
		28	7.2		
		48	4.2		
	36-60VDC	48	4.2		
		12	25.0		
		24	14.5		
CBS450	38-60VDC	28	12.5	57.9·12.7·61 (2.28·0.5·2.4)	83
		32	11.0		
		48	6.3		
	36-76VDC	12	29.0		
		24	14.5		
		28	12.5		
36-60VDC	32	11.0	57.9·12.7·61 (2.28·0.5·2.4)	83	
	48	7.3			
CBS450	36-76VDC	24	19	57.9·12.7·61 (2.28·0.5·2.4)	83
		28	16		
		32	12.5		

**COSEL** DC-DC Converters Bus Converter/Power Module Type

# DBS-Series



## Feature

- Ideal for distributed power systems
- Thin and small size
- Overcurrent, overvoltage and thermal protection
- Remote ON/OFF (Both sides of input and output)
- Inverter operating monitoring (IOG)
- Mounting hole (M3 tapped)
- Low beat noise (By crystal oscillator) (DBS700)

## Safety agency approvals

- UL, C-UL recognized, TÜV approved
- EN62368-1 pending

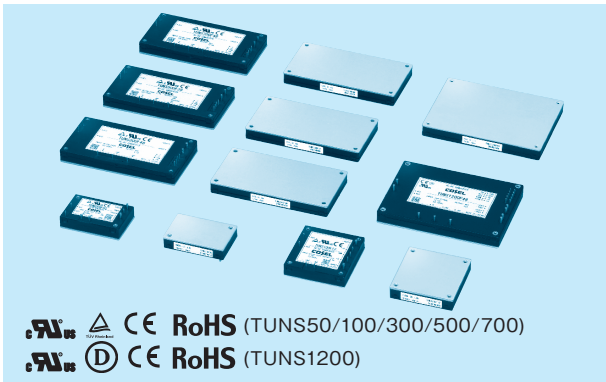
## CE marking

- Low Voltage Directive
- RoHS Directive

## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D (mm) (inches)	WEIGHT [g]
DBS100A	45-160VDC	5	20	61·12.7·116.8 (2.4·0.5·4.6)	150
		13.8	7.3		
DBS150A	66-160VDC	12	12.5	61·12.7·116.8 (2.4·0.5·4.6)	150
		15	10		
		24	6.3		
DBS200B	200-400VDC	3.3	50	61·12.7·116.8 (2.4·0.5·4.6)	150
		5	40		
		7.5	28		
		12	20		
DBS400B	200-400VDC	3.3	80	61·12.7·116.8 (2.4·0.5·4.6)	180
		5	80		
		7.5	54		
		12	34		
		15	27		
		18	22		
		24	17		
DBS700B	200-400VDC	28	14.5	61·12.7·116.8 (2.4·0.5·4.6)	180
		12	58		
		24	29		
		28	25		
		36	19.5		
		48	14.5		

**COSEL** AC-DC Power Supplies Bus Converter/Power Module Type  
**TUNS-Series**



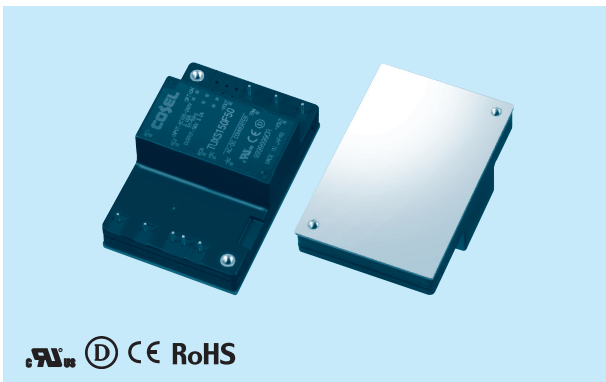
TUNS



**Feature**

- AC-DC power module type converter
- Harmonic attenuator (Complies with IEC61000-3-2 class A)
- Thin and small size
- Overcurrent, overvoltage and thermal protection
- Universal input 85-264VAC (TUNS50/100/300/500/700)
- Wide input 85 - 305VAC (TUNS1200)
- For medical applications (TUNS1200)
- Constant current function (TUNS1200)
- Output voltage can be adjusted to approximately 0V (TUNS1200)
- Parallel operation (TUNS1200) (-P option : TUNS700)

**COSEL** AC-DC Power Supplies Bus Converter/Power Module Type  
**TUXS-Series**



TUXS



**Feature**

- AC-DC power module type converter
- Harmonic attenuator (Complies with IEC61000-3-2 class A)
- Overcurrent, overvoltage and thermal protection
- PMBus (Option : -I / TUXS200F50)

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
TUNS50	85-264VAC 1 φ	5	10	58.4·12.7·37.3 (2.3·0.5·1.47)	80
		12	4.2		
		24	2.1		
TUNS100	85-264VAC 1 φ	5	20	58.4·12.7·61.0 (2.3·0.5·2.4)	120
		12	8.4		
		24	4.2		
TUNS300	85-264VAC 1 φ	12	25	117.3·12.7·61.5 (4.62·0.5·2.42)	190
		28	11		
		48	6.5		
TUNS500	85-264VAC 1 φ	12	42 (55)*	117.3·12.7·61.5 (4.62·0.5·2.42)	190
		28	18 (24)*		
		48	10.5 (14)*		
TUNS700	85-264VAC 1 φ	12	58.4	117.3·12.7·61.5 (4.62·0.5·2.42)	190
		28	25		
		48	14.6		
TUNS1200	85-305VAC 1 φ	12	84	117.3·12.7·86.8 (4.62·0.5·3.42)	280
		28	43		
		48	25		

\*Peak current.

**Safety agency approvals**

- UL60950-1, C-UL, EN60950-1, EN62368-1 pending (TUNS50/100/300/500/700)
- UL62368-1, C-UL, EN62368-1 (TUNS1200)
- ANSI/AAMI ES60601-1, EN60601-1 3rd (TUNS1200)

**CE marking**

- Low Voltage Directive
- RoHS Directive

**Optional parts**

- Heat sink (TUNS50/TUNS100)

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
TUXS150	85-264VAC 1 φ	50	3	76.2·28.5·50.8 (3.0·1.12·2.0)	150
TUXS200	85-264VAC 1 φ	50	4	76.2·28.5·50.8 (3.0·1.12·2.0)	150
		42	4.7		
		32	6.2		
		28	7		
		24	8.3		

**Safety agency approvals**

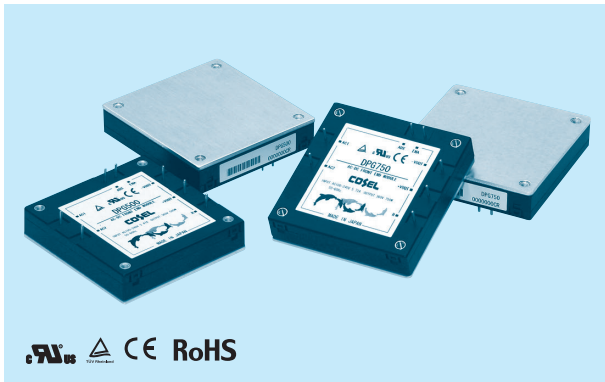
- UL60950-1, C-UL, EN60950-1
- EN62368-1 pending

**CE marking**

- Low Voltage Directive
- RoHS Directive

COSEL AC-DC Power Supplies Bus Converter/Power Module Type

# DPG-Series



DPG



■ Power factor correction module

■ Feature

- Harmonic attenuator (Complies with IEC61000-3-2)
- High efficiency 93% (100VAC), 96% (200VAC)
- Universal input (85 - 264VAC)
- Inrush current protection
- Overvoltage and thermal protection
- Enable signal (ENA)
- Auxiliary power supply for external signal (AUX)
- Ideal for distributed power systems

MODEL	INPUT VOLTAGE	OUTPUT WATTAGE [W]	OUTPUT VOLTAGE [V]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
DPG500	85-264VAC 1 φ	300	360	58.4·12.7·61 (2.3·0.5·2.4)	100
	170-264VAC 1 φ	500	360		
DPG750	85-264VAC 1 φ	500	360	58.4·12.7·61 (2.3·0.5·2.4)	100
	170-264VAC 1 φ	750	360		

■ Safety agency approvals

UL, C-UL recognized, TÜV approved  
EN62368-1 pending

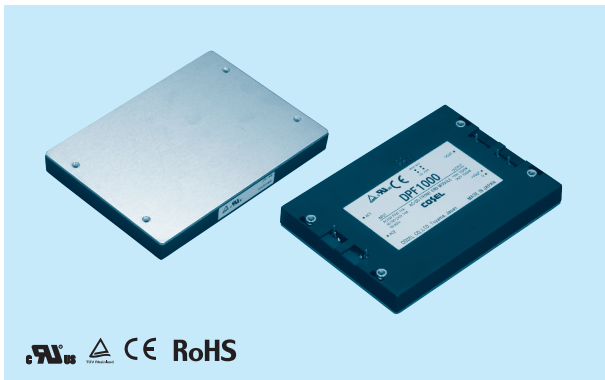
■ CE marking

Low Voltage Directive  
RoHS Directive

■ 5-year warranty

COSEL AC-DC Power Supplies Bus Converter/Power Module Type

# DPF-Series



DPF



■ Power factor correction module

■ Feature

- Harmonic attenuator (Complies with IEC61000-3-2)
- High efficiency 90% (100VAC), 95% (200VAC)

MODEL	INPUT VOLTAGE	MAX OUTPUT WATTAGE [W]	OUTPUT VOLTAGE [V]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
DPF1000	85-264VAC 1 φ	1000	DC360	118.6·12.7·85 (4.67·0.5·3.35)	200
	170-264VAC 1 φ	1500			

- Universal input voltage (85 - 264VAC)
- Inrush current protection
- Parallel operation (Current balancing function)
- Overvoltage and thermal protection
- Inverter operation monitoring (IOG)
- Enable signal (ENA)
- Auxiliary power supply for external signal (AUX)
- Ideal for distributed power systems

■ Safety agency approvals

UL, C-UL recognized, TÜV approved  
EN62368-1 pending

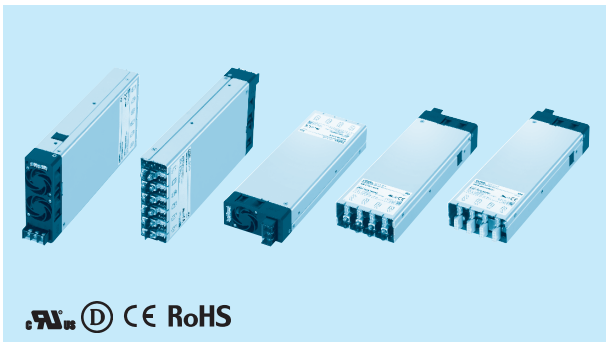
■ CE marking

Low Voltage Directive  
RoHS Directive

■ 5-year warranty



**COSEL** AC-DC Power Supplies Configurable Type  
**AME-Series**



RoHS CE RoHS

AME



**Feature**

- Configurable type power supply
- Low profile (41mm, 1.61 inches = Meets 1U height)
- Universal input (85-264VAC)
- For medical applications  
(ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- AUX output 5V 1A
- Global inhibit, remote ON/OFF control
- Connector type (Output terminal) (Option)

**Safety agency approvals**

- UL62368-1, ANSI/AAMI ES60601-1
- C-UL (CAN/CSA62368-1), C-UL (CAN/CSA60601-1)
- EN62368-1, EN60601-1 3rd

**CE marking**

- Low Voltage Directive
- RoHS Directive

**EMI**

- Complies with FCC-B, CISPR32-B,
- EN55011-B, EN55032-B, VCCI-B

MODEL [TYPE]	INPUT VOLTAGE	NUMBER OF SLOT	TOTAL OUTPUT WATTAGE [W]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [kg]
AME400F (AM04)	85-264VAC 1 φ	4	250 (90-150VACin)	89·41.5·257 (3.50·1.61·10.12)	1.2
			400 (170-264VACin)		
AME600F (AM06)	85-264VAC 1 φ	4	400 (90-150VACin)	89·41.5·257 (3.50·1.61·10.12)	1.2
			600 (170-264VACin)		
AME800F (AM08)	85-264VAC 1 φ	6	600 (90-150VACin)	127·41·257 (5.00·1.61·10.12)	1.8
			800 (170-264VACin)		
AME1200F (AM12)	85-264VAC 1 φ	6	1000 (90-150VACin)	127·41·257 (5.00·1.61·10.12)	1.8
			1200 (170-264VACin)		

**OUTPUT MODULE**

OUTPUT		
CODE	VOLTAGE[V]	CURRENT[A]
A	5	12
B	12	8.5
C	24	5
D	48	2.5
E	5	32
F	12	20
G	24	10(15)*
H	48	5(7.5)*

\*Peak current.

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

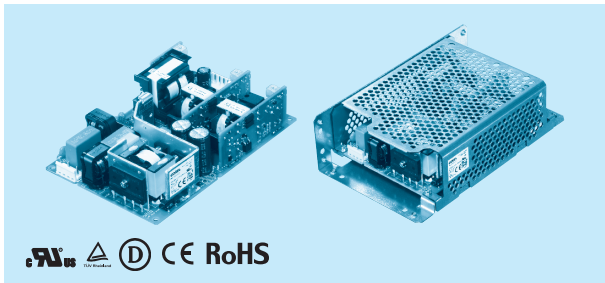
IEC60601-1-2 (2014), EN60601-1-2 (2015)

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

**5-year warranty**

**COSEL** AC-DC Power Supplies Configurable Type

# RB-Series



### Feature

- Configurable type power supply
- Multiple outputs combination (driving and control systems) for robot controller applications
- Meets OVC III (Complies with EN60204-1)
- Reinforced isolation between SLOT3 and SLOT1, 2

### Safety agency approvals

- UL62368-1
- C-UL (CAN/CSA-C22.2 No.62368-1)
- EN62368-1
- EN62477-1 (OVC III)
- Complies with EN61558-2-16 (OVC III)

### CE marking

- Low Voltage Directive
- RoHS Directive

### EMI

- Complies with FCC-B, CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B

### 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

### 5-year warranty

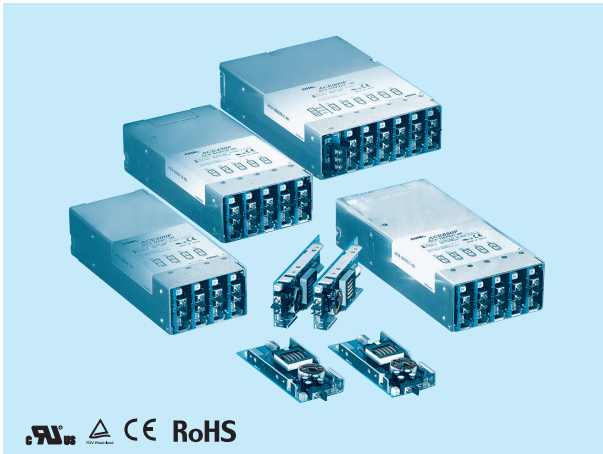
MODEL	INPUT VOLTAGE	NUMBER OF SLOT	TOTAL OUTPUT WATTAGE [W]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
RBC200F	85-264VAC 1 φ	3	207	101·38.3·152 (3.98·1.51·5.98)	450

### OUTPUT MODULE

CODE	OUTPUT	
	VOLTAGE[V]	CURRENT[A]
V	12	10
W	15	8.5
Y	24	6
Z	48	3
B	5	3
C	12	1.3
D	24	0.65
E	±12	0.6
F	±15	0.5
G	3.3	5
H	5	5
J	12	2.5
K	16.5	1.9
L	24	1.3
M	48	0.65
P	±12	0.7
Q	±15	0.7

**COSEL** AC-DC Power Supplies Configurable Type

# ACE-Series



CE RoHS

ACE



### Feature

Configurable type power supply  
Remote ON/OFF control, alarm functions

### Safety agency approvals

UL60950-1, C-UL (CSA60950-1), EN60950-1, EN62368-1, EN50178  
Complies with DEN-AN  
UL60601-1, C-UL (CSA601.1), EN60601-1 approvals (optional: -H)

### EMI

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

### CE marking

Low Voltage Directive  
RoHS Directive

### 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

ICE60601-1-2 (2014), EN60601-1-2 (2015) (optional: -H)

### 3-year warranty

MODEL [TYPE]	INPUT VOLTAGE	NUMBER OF SLOT	TOTAL OUTPUT WATTAGE [W]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [kg]
<b>ACE300F</b> (AC3)	85-264VAC 1 φ / 120-350VDC	4	250 (90-150VACin)	103·63.5·254 (4.06·2.5·10)	1.7
			300 (170-264VACin)		
<b>ACE450F</b> (AC4)	85-264VAC 1 φ / 120-350VDC	5	400 (90-150VACin)	127·63.5·254 (5·2.5·10)	2.2
			450 (170-264VACin)		
<b>ACE650F</b> (AC6)	85-264VAC 1 φ / 120-350VDC	5	600 (90-150VACin)	127·63.5·279 (5·2.5·10.98)	2.4
			650 (170-264VACin)		
<b>ACE900F</b> (AC9)	85-264VAC 1 φ / 120-350VDC	6	800(Peak 1K) (90-150VACin)	177.5·63.5·254 (6.99·2.5·10)	3.0
			900(Peak 1K) (170-264VACin)		

### OUTPUT MODULE

OUTPUT				OUTPUT			
CODE	VOLTAGE[V]	CURRENT1[A]	CURRENT2[A]	CODE	VOLTAGE[V]	CURRENT1[A]	CURRENT2[A]
A	2	26	—	2A	2	60	—
B	3.3	26	—	2B	3.3	60	—
C	5	26	—	2C	5	60	—
D	7.5	18	—	2D	7.5	40	—
E	12	13	—	2E	12	25	—
F	15	10	—	2F	15	20	—
G	18	8.5	—	2G	18	17	—
H	24	6.5	—	2H	24	14	—
J	34	4.5	—	2J	34	10	—
K	48	3.2	—	2K	48	7	—
L	3.3	10	—	S	V1:+5 ; V2: +5	10	5
M	5	10	—	T	V1:+5 ; V2:+12	10	4.2
N	12	5	—	U	V1:+5 ; V2:+24	10	2.1
P	15	4	—	Q	±12	6.4	8
R	24	2.5	—	V	±15	5.5	7
Y	± 5	3	7	I	INPUT MODULE Contact us for details.		
W	±12	3.2	4.2				
Z	±15	2.5	3.5				
9	±24	1.6	2.5				

**COSEL** AC-DC Power Supplies DIN Rail Type

# KH-Series



## Feature

- DIN (35mm) rail type (Full function series)
- Attachment available with DIN EN60715
- TH35 (35x7.5mm) (Top hat shaped DIN rail)
- Convection cooling
- Wide operating ambient temperature (Derating is required)
- 2 types of I/O terminal (Euro style and barrier blocks style)
- Overcurrent protection, overvoltage protection
- KHEA30F/60F/90F, KHNA30F/60F/90F
- Low power consumption at no load
- Complies with SEMI F-47 (Derating is required)
- KHEA120F/240F/480F, KHNA120F/240F/480F
- Remote ON/OFF
- Relay signal for checking output voltage
- Complies with SEMI F-47

## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
KHEA30F/ KHNA30F	85-264VAC 1 φ or 88-370VDC	5	5	22.5·75·90 (0.89·2.95·3.54)	165
		12	2.3		
		24	1.3		
KHEA60F/ KHNA60F	85-264VAC 1 φ or 88-370VDC	12	4.5	32·90·90 (1.26·3.54·3.54)	270
		24	2.5		
KHEA90F/ KHNA90F	85-264VAC 1 φ or 88-250VDC	12	6.8	50·90·90 (1.97·3.54·3.54)	405
		24	3.8		
KHEA120F/ KHNA120F	85-264VAC 1 φ or 88-370VDC	24	5 (7.5)*	37·124·117 (1.46·4.88·4.61)	580
KHEA240F/ KHNA240F	85-264VAC 1 φ or 88-350VDC	24	10 (15)*	50·124·117 (1.97·4.88·4.61)	900
KHEA480F/ KHNA480F	85-264VAC 1 φ or 88-350VDC	24	20 (30)*	70·124·117 (2.76·4.88·4.61)	1200
		48	10 (15)*		

\*Peak current.

## Safety agency approvals

- 30-90F: <AC input>
  - UL60950-1, C-UL (CSA60950-1), EN60950-1, UL508 (NEC Class2 per UL1310)※, ANSI/ISA12.12.01, ATEX
  - Complies with DEN-AN
  - ※90F: Only option -E
  - <DC input>
  - UL60950-1, C-UL(CSA60950-1), EN60950-1
  - EN62368-1 pending
- 120-480F: <AC input>
  - UL60950-1, C-UL (CSA60950-1), EN60950-1, UL508, ANSI/ISA12.12.01, GL (Except 480F-48), ATEX
  - Complies with DEN-AN
  - <DC input>
  - UL60950-1, C-UL (CSA60950-1), EN60950-1
  - EN62368-1 pending

## CE marking

- Low Voltage Directive
- RoHS Directive

## EMI

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

## 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

**COSEL AC-DC Power Supplies DIN Rail Type**  
**KL-Series**



**Feature**

- DIN (35mm) rail type (Basic function series)
- Attachment available with DIN EN60715
- TH35 (35x7.5mm) (Top hat shaped DIN rail)
- Convection cooling
- Wide operating ambient temperature (Derating is required)
- 2 types of I/O terminal (Euro style and barrier blocks style)
- Harmonic attenuator (Complies with IEC61000-3-2 Class A)
- Overcurrent and overvoltage protection

**COSEL Redundancy Module DIN Rail Type**  
**KR-Series**



**Feature**

- DIN(35mm) rail type (Redundancy module)
- Attachment available with DIN EN60715
- TH 35 (35 x 7.5 mm) (Top hat shaped DIN rail)
- Convection cooling
- Wide operating ambient temperature (Derating is required)
- LED signal for checking input voltage balance
- Relay signal for checking input voltage

**Safety agency approvals**

UL60950-1, UL508, C-UL (CSA60950-1), EN60950-1  
 EN62368-1 pending

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
KLEA120F/ KLNA120F	85-264VAC 1 φ	24	5	38·124·117 (1.50·4.88·4.61)	580
		48	2.5		
KLEA240F/ KLNA240F	85-264VAC 1 φ	24	10	50·124·117 (1.97·4.88·4.61)	750
		48	5		

**Safety agency approvals**

UL60950-1, UL508, C-UL (CSA60950-1), EN60950-1  
 Complies with DEN-AN  
 EN62368-1 pending

**CE marking**

Low Voltage Directive  
 RoHS Directive

**EMI**

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

**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

**5-year warranty**

MODEL	INPUT VOLTAGE	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
KRE-20A	10-60VDC	20 (30)*	38·124·117 (1.50·4.88·4.61)	480
KRE-40A	10-30VDC	40 (60)*		610

\*Peak current.

**CE marking**

Low Voltage Directive  
 RoHS Directive

**EMI**

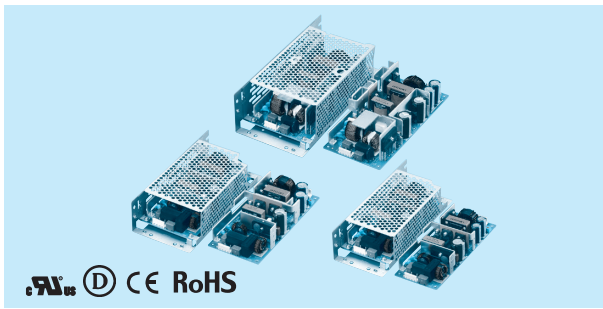
Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B

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

- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6

**5-year warranty**

# LMA-Series



LMA



## Feature

- For medical applications
- Internal dual fuses
- Low leakage current
- High power and peak power (Option)
- Compact open frame type
- Inrush current, overcurrent and overvoltage protection
- Harmonic attenuator (Complies with IEC61000-3-2 class A)
- Universal input (85-264VAC)
- Power factor correction

## Safety agency approvals

ANSI/AAMI ES60601, EN60601-1 3rd

## CE marking

- Low Voltage Directive
- RoHS Directive

## EMI

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

**EMS Compliant** : 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

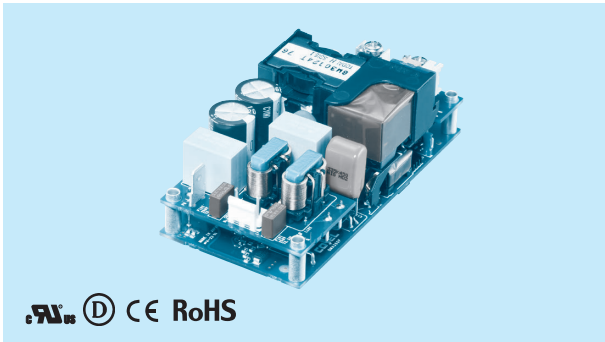
## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]	
<b>LMA100F</b>	85-264VAC 1φ	24	4.3 (8.6)*	62·33·155 (2.44·1.30·6.10)	290	
<b>LMA150F</b>	85-264VAC 1φ	24	6.3 (12.6)*	75·36.5·160 (2.95·1.44·6.30)	370	
<b>LMA240F</b>	85-264VAC 1φ	24	Convection	10 (20)*	84·46·180 (3.31·1.81·7.09)	540
			Forced air	12.5 (20)*		

\*Peak current (Optional: -H)



# GMA-Series



**Feature**

Maximum 300W  
 For medical applications (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)  
 For type BF medical applications  
 (Output-FG : 1MOPP, Input-Output : 2MOPP)  
 2"X4"standard footprint  
 Remote ON/OFF (Option)  
 AUX1(12V 1A), AUX2(5V 1A) (Option)

**Safety agency approvals**

UL62368-1, ANSI/AAMI ES60601-1  
 C-UL (CSA62368-1, CAN/CSA60601-1)  
 EN62368-1, EN60601-1 3rd  
 Complies with IEC60601-1-2 4th Ed.

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
GMA300F	85-264VAC 1φ	12	Forced air	25	50.8·37·101.6 (2.00·1.46·4.00)	230
		24	Forced air	12.5		
		48	Forced air	6.3		
		56	Forced air	5.4		

**CE marking**

Low Voltage Directive  
 RoHS Directive

**EMI**

Complies with FCC-B, CISPR11-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B

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

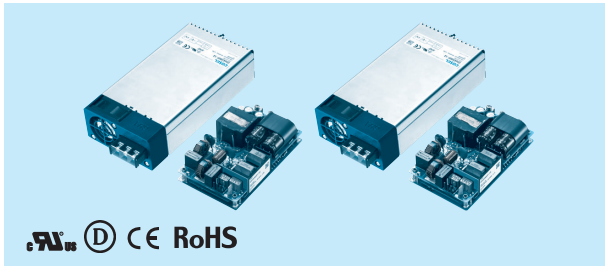
IEC60601-1-2 (2014), EN60601-1-2 (2015)

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

**5-year warranty**

**COSEL** AC-DC Power Supplies Medical Type

# GHA-Series



## Feature

- Maximum 500W
- Conduction cooling (GHA500F)
- 3"X5"standard footprint
- Meets 1U high
- For medical applications
- Low leakage current
- Remote ON/OFF (Option)
- AUX1(12V 1A), AUX2(5V 1A) (Option)
- Fan (Option: -SNF)

## Safety agency approvals

- UL60950-1, ANSI/AAMI ES60601-1, C-UL, EN60950-1, EN60601-1 3rd
- Complies with DEN-AN
- EN62368-1 pending

## CE marking

- Low Voltage Directive
- RoHS Directive

## EMI

- Complies with FCC-B, CISPR11-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B

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

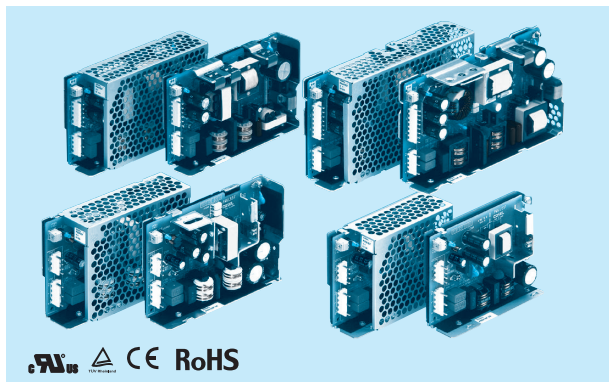
- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

## 5-year warranty

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]		CASE SIZE W·H·D [mm] (inches)	WEIGHT [g]
			Forced air	Conduction		
GHA300F	90-264VAC 1φ	12	Forced air	25	76.2·35·127 (3.0·1.4·5.0)	400
			Convection	4.5		
		24	Forced air	12.5		
			Convection	2.2		
48	Forced air	6.3				
	Convection	1.1				
GHA500F	90-264VAC 1φ	12	Forced air	41.7	76.2·35·127 (3.0·1.4·5.0)	420
			Convection	9.2		
			Conduction	16.7		
		15	Forced air	33.4		
			Convection	7.4		
			Conduction	13.4		
		24	Forced air	21		
			Convection	4.6		
			Conduction	8.4		
		30	Forced air	16.7		
			Convection	3.7		
			Conduction	6.7		
		48	Forced air	10.5		
			Convection	2.3		
			Conduction	4.2		
		56	Forced air	9.0		
Convection	1.9					
Conduction	3.6					
GHA300F-SNF	90-264VAC 1φ	12	25	85.2·41·165.3 (3.35·1.61·6.51)	620	
		24	12.5			
		48	6.3			
GHA500F-SNF	90-264VAC 1φ	12	37.5	85.2·41·165.3 (3.35·1.61·6.51)	660	
		15	33.4			
		24	21			
		30	16.7			
		48	10.5			
		56	9			

\*Derating is required. For details, please see cosel website. (<https://en.cosel.co.jp>).

**COSEL** AC-DC Power Supplies Medical Type  
**PMA-Series**



**Feature**

For medical applications  
 Internal dual fuses  
 High efficiency by synchronous rectification technology (PMA60F, PMA100F)

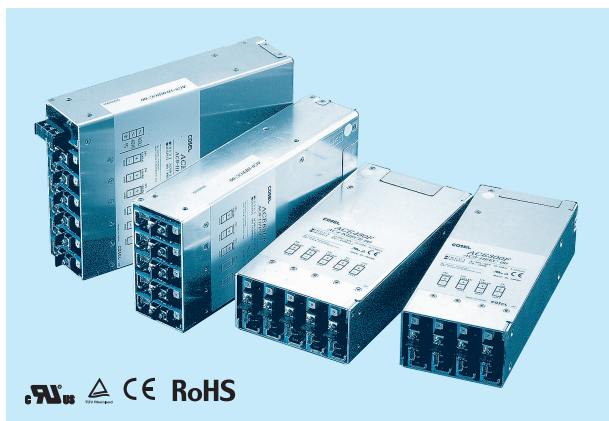
**Safety agency approvals**

UL60601-1, C-UL (CSA-C22.2 No.601.1), EN60601-1

**EMI**

FCC-B, CISPR11-B, CISPR22-B, EN55011-B, EN55022-B, VCCI-B

**COSEL** AC-DC Power Supplies Medical Type  
**ACE-H-Series**



**Feature**

Configurable type power supply  
 Remote ON/OFF control, alarm functions

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE [V]	OUTPUT CURRENT [A]	CASE SIZE W · H · D [mm] (inches)	WEIGHT [g]
PMA15F	85-264VAC 1φ	3.3	3	31·78·103 (1.22·3.07·4.06)	230
		5	3		
		12	1.3		
		15	1		
PMA30F	85-264VAC 1φ	24	0.7	31·82·120 (1.22·3.23·4.72)	240
		3.3	6		
		5	6		
		12	2.5		
PMA60F	85-264VAC 1φ	15	2	32·82·135 (1.26·3.23·5.31)	350
		24	1.3		
		3.3	12		
		5	12		
PMA100F	85-264VAC 1φ	12	5	34·93·168 (1.34·3.66·6.61)	560
		15	4		
		24	2.5		
		3.3	20		
		5	20		
		12	8.5		
		24	4.5		
		48	2.1		

**CE marking**

Low Voltage Directive  
 RoHS Directive

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

- EN61000-4-2
- EN61000-4-3
- EN61000-4-4
- EN61000-4-5 (Common mode Level4, Differential mode Level2)
- EN61000-4-6
- EN61000-4-8
- EN61000-4-11

**5-year warranty**

**ACE-H option is a configurable type power supply for medical use.**

**For more details, please refer to the specifications of ACE series.**

**Safety agency approvals**

UL60950-1, C-UL (CSA60950-1), EN60950-1, EN62368-1, EN50178  
 Complies with DEN-AN  
 UL60601-1, C-UL (CSA601.1), EN60601-1 approvals (optional)

**EMI**

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

**CE marking**

Low Voltage Directive

**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

**3-year warranty**

# COSEL | EMI/EMC Filter Selection Guide by Type

## Three phase EMI/EMC Filter

		Rated current				
		4A	6A	10A	20A	30A
<b>JAC Series</b> 1-stage filter <b>TAC Series</b> 1-stage filter <b>TAH Series</b> 1-stage filter <b>TBC Series</b> 2-stage filter <b>FTA Series</b> 1-stage filter <b>FTB Series</b> 2-stage filter <b>FSB Series</b> 2-stage filter	<b>Compact and low profile</b> <b>General-purpose</b> Push down type terminal block Selectable leakage current specification (30A or less)	<b>JAC Series</b> 6A to 30A 		<b>Option(-H)</b> Ultra high attenuation type	<b>Option(-U)</b> Improve differential mode attenuation (Three-phase 250V)	<b>DIN rail (Option)</b> JAC Series 6A to 30A 
	<b>Low-profile</b> <b>General-purpose</b> Push down type terminal block Selectable leakage current specification (TAC/TAH Series for 30A or less)	<b>TAC Series</b> 4A to 30A 		<b>TAH Series</b> 4A to 30A 		<b>DIN rail (Option)</b> TAC Series TAH Series 4A to 30A 
	<b>High-attenuation</b> Selectable leakage current specification					
	<b>Book type</b> <b>General-purpose</b> Selectable leakage current specification (Ultra high attenuation for EU)	<b>Option(-H)</b> Ultra high attenuation type	<b>Option(-G)</b> With switch of line to ground capacitor	<b>Option(-U)</b> Improve differential mode attenuation (Three-phase 250V)	<b>80A 100A 125A 150A Standard</b> 	
	<b>High-attenuation</b> Selectable leakage current specification	<b>Option(-L)</b> Ultra high attenuation for EU				
	<b>Saturation resistance type</b> Push down type terminal block Selectable leakage current specification (30A or less)	<b>Option(-H)</b> Ultra high attenuation type	<b>Option(-U)</b> Improve differential mode attenuation (Three-phase 250V)	<b>FSB Series</b> 10A to 30A 		<b>EMC/EMC Filter for motor drive system.</b> Improve saturation resistance.

## Single phase EMI/EMC Filter

		Rated current						
		3A	4A	6A	10A	16A	20A	30A
<b>ES Series</b> 1-stage filter <b>EA Series</b> 1-stage filter <b>NA Series</b> 1-stage filter <b>NB Series</b> 2-stage filter	<b>Screwless type</b> <b>Small size type</b> Torque management unnecessary Selectable leakage current specification	<b>ESC Series</b> 3A to 16A 		<b>ESM Series</b> 3A to 16A 		<b>ESP Series</b> 3A to 16A 		<b>DIN rail (Option)</b> ES Series 
	<b>Screw type</b> <b>Small size type</b> Push down type terminal block Selectable leakage current specification	<b>EAC Series</b> 3A to 30A 		<b>EAM Series</b> 3A to 30A 		<b>EAP Series</b> 3A to 30A 		<b>DIN rail (Option)</b> EA Series 
	<b>Screw type</b> <b>General-purpose</b> Push down type terminal block Selectable leakage current specification	<b>NAC Series</b> 4A to 30A 		<b>NAM Series</b> 4A to 30A 		<b>NAP Series</b> 4A to 30A 	<b>NAH Series</b> 6A to 30A 	<b>DIN rail (Option)</b> NA Series 
	<b>Screw type</b> <b>High-attenuation</b> Push down type terminal block Selectable leakage current specification	<b>NBC Series</b> 6A to 30A 		<b>NBM Series</b> 6A to 30A 		<b>Installation compatible ②</b>	<b>NBH Series</b> 6A to 30A 	<b>DIN rail (Option)</b> NB Series 
	<b>Installation compatible ①</b>							
	<b>Installation compatible ②</b>							
	High attenuation for Low frequency band (150kHz to 1MHz) Low leakage current High-voltage pulses attenuation Ultra high attenuation for ultra low frequency band (10kHz to 10MHz)							

## DC EMI/EMC Filter

		Rated current		
		1A 3A	6A	10A
<b>SNA Series</b> 1-stage filter <b>SNR Series</b> 1-stage filter Ripple noise attenuation for switch mode power supplies	<b>RoHS</b> 	<b>SNA Series</b> 1A/3A 	<b>SNA Series</b> 6A 	<b>SNR Series</b> 10A 
		For ±V output power supply	For ±V output power supply	For +V output power supply (Peak load)
		<b>DIN rail (Option)</b> SNA Series SNR Series 		<b>Terminal block (Option)</b> SNA (6A) SNR (10A) 

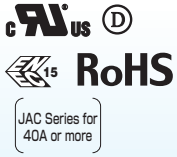
40A 50A 60A

80A 100A 125A

150A

200A 250A 300A

400A 600A



**JAC Series**  
40A 50A 60A

NEW

High attenuation for Low frequency band (150kHz to 1MHz)



**TSC Series**  
400A 600A

Ultra high attenuation for star connection with neutral earthing



**TAC Series** \*  
**TAH Series**  
50A 60A

High attenuation for Low frequency band (150kHz to 1MHz)

**TAC Series** \*  
**TAH Series**  
80A 100A

**TAC Series** \*  
**TAH Series**  
150A

**TAC Series**  
200A to 300A

Ultra high attenuation for ultra low frequency band (10kHz to 1MHz)

**Option(-U)**  
Improve differential mode attenuation  
TAC/TAH Series for 50A or more (Three-phase 250V)



**TBC Series**  
50A 60A

**TBC Series**  
80A 100A

**TBC Series**  
150A

**TBC Series**  
200A to 300A

Ultra high attenuation for Low frequency band (150kHz to 1MHz)



**FTA Series**  
40A 50A 60A

High attenuation for Low frequency band (150kHz to 1MHz)

**FTA Series**  
80A 100A 125A

**FTA Series**  
150A

**FTB Series**  
80A 100A

Ultra high attenuation for Low frequency band (150kHz to 1MHz)

**FTB Series**  
150A



**FSB Series**  
40A 50A 60A

NEW

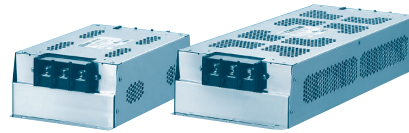
EMI/EMC Filter for motor drive system. Improve saturation resistance.

**FSB Series**  
80A 100A

NEW

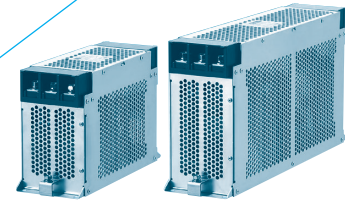
**FSB Series**  
150A

NEW

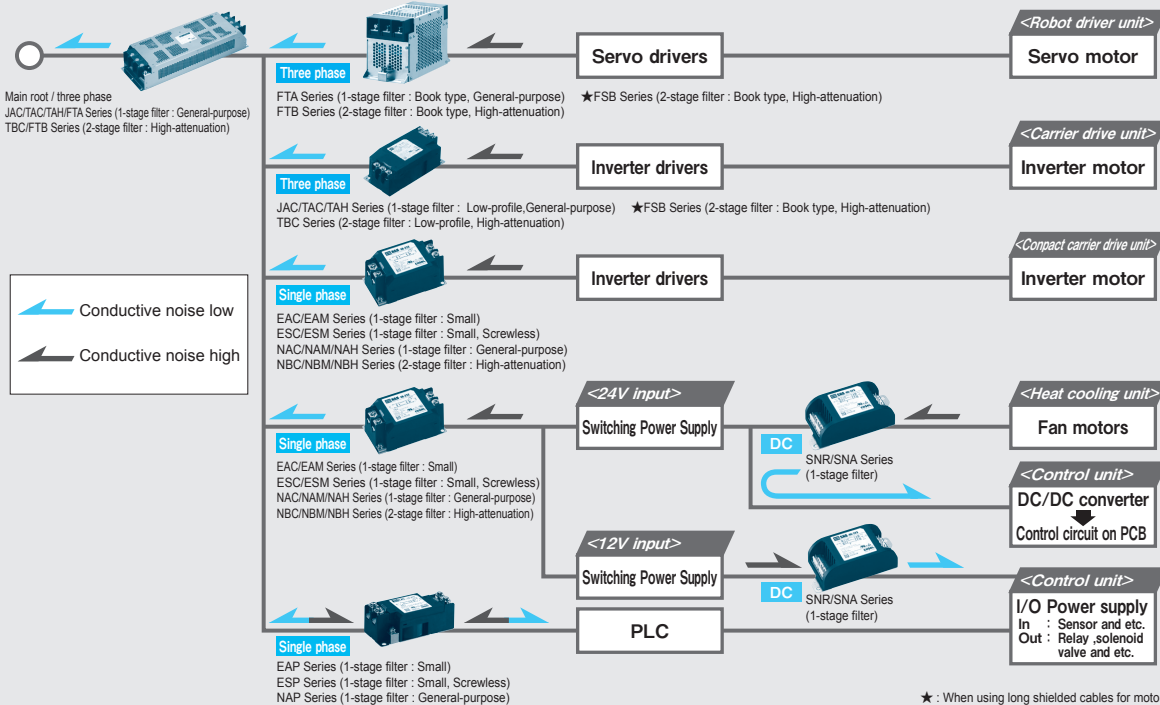


Low-profile

Book type



## Diagram of Sample application

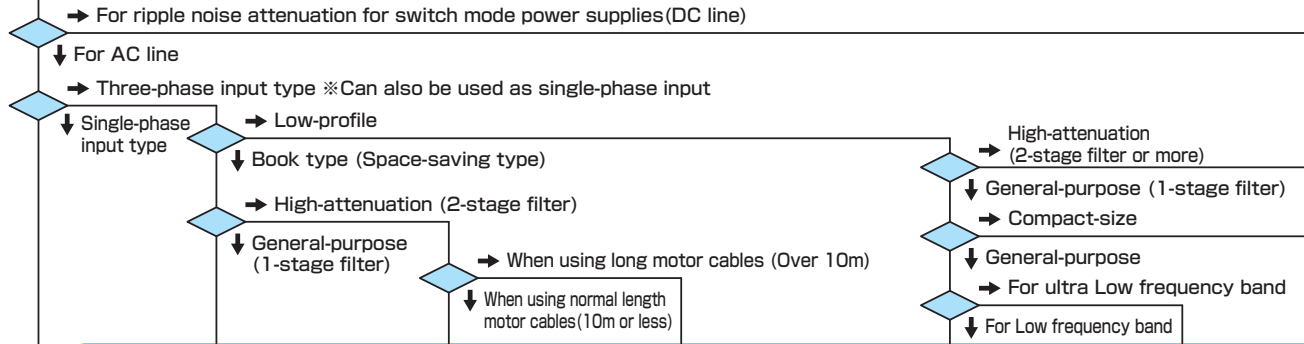


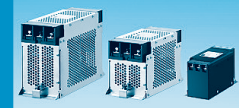






# COSEL | EMI/EMC Filter Selection Guide by Function

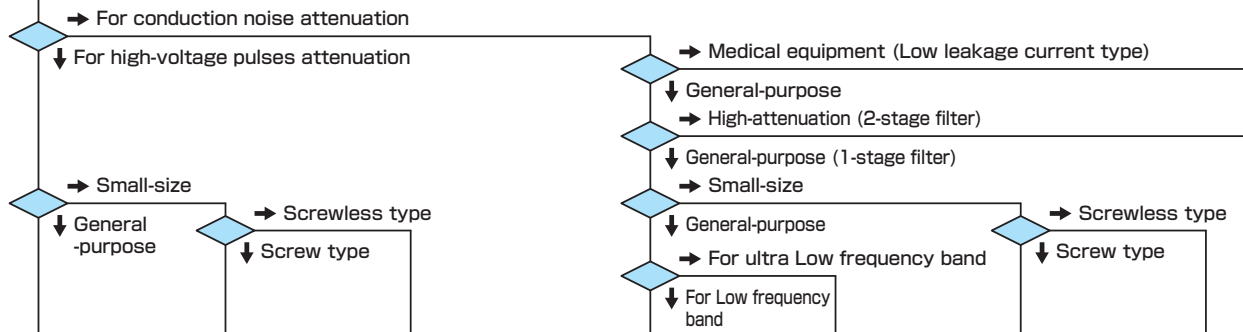
By using the flow chart below, you can easily select the model you need.


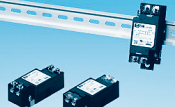



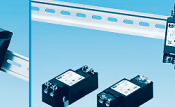

**START**



FTA series(1-stage filter)	FTB series(2-stage filter)	FSB series(2-stage filter)	TAC series(1-stage filter)	TAH series(1-stage filter)
				
(40-150A) EMI/EMC filters for anti-conducted emission of servomotor and device having inverter General-purpose from 150kHz to 1MHz	(80-150A) EMI/EMC filters for anti-conducted emission of servomotor and device having inverter High-attenuation from 150kHz to 1MHz	(10-150A) EMI/EMC filters for motor drive system Improve saturation resistance	(4-300A) EMI/EMC filters for anti-conducted emission of servomotor and device having inverter General-purpose from 150kHz to 1MHz	(4-150A) EMI/EMC filters for anti-conducted emission of servomotor and device having inverter General-purpose from 10kHz to 1MHz (Ultra low-frequency band)
■Option -H, -U, -G, -S(80-150A)	■Option -H, -L, -S	■Option -H, -U, -HU, -S(80-150A)	■Option -D(4-30A), -U(50-300A)	■Option -D(4-30A), -U(50-150A)
■Use:Robot with inverter or servomotor, Welding machine, Elevator, Medical equipment, etc	■Use:Robot with inverter or servomotor, Welding machine, Elevator, Medical equipment, etc	■Use:Robot with inverter or servomotor, Welding machine, Elevator, Medical equipment, etc	■Use:Robot with inverter or servomotor, Welding machine, Elevator, Medical equipment, etc	■Use:Robot with inverter or servomotor, Welding machine, Elevator, Medical equipment, etc

## Three-phase EMI/EMC filter



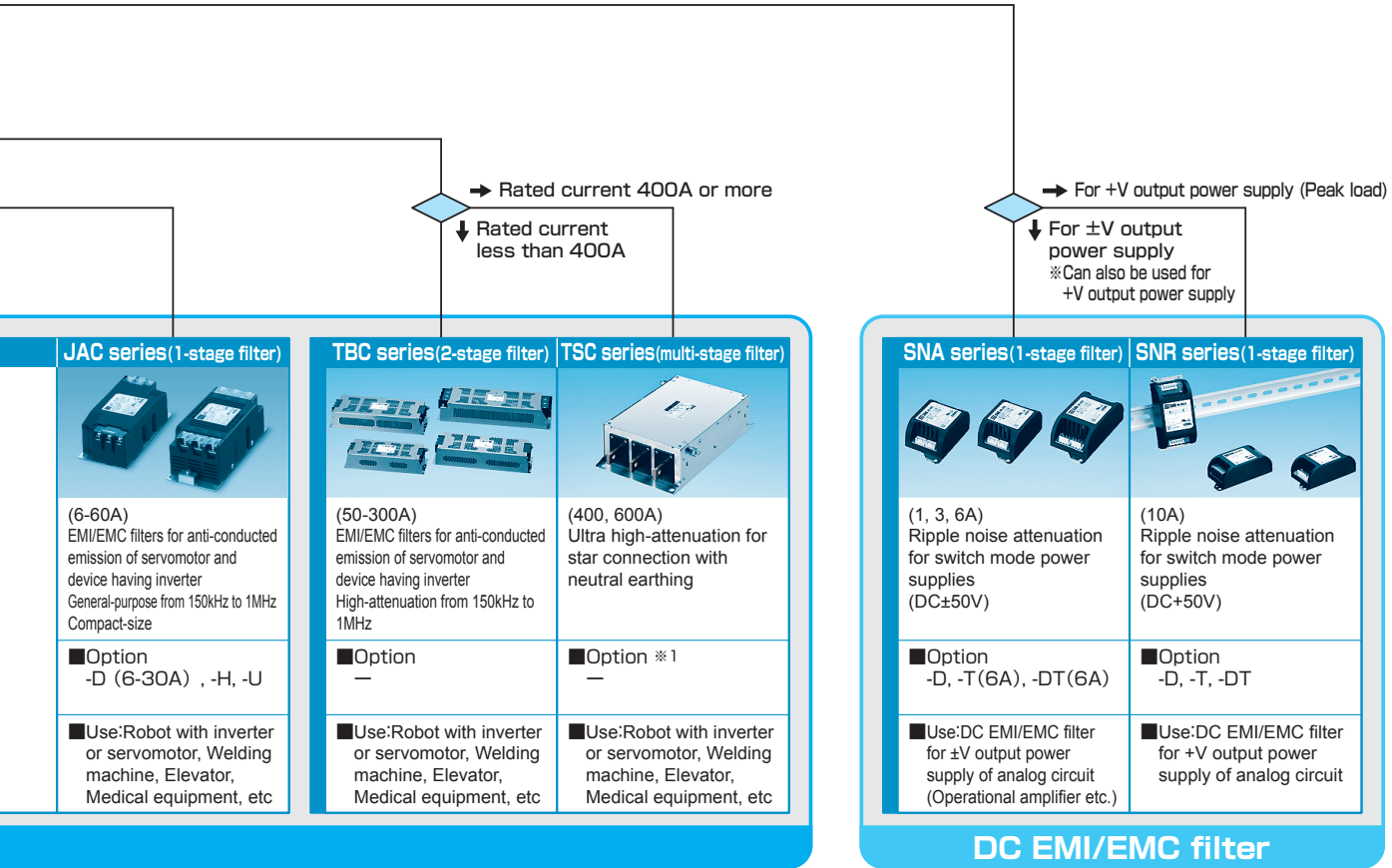
NAP series(1-stage filter)	EAP series(1-stage filter)	ESP series(1-stage filter)	NAC series(1-stage filter)	NAH series(1-stage filter)(★)	EAC series(1-stage filter)	ESC series(1-stage filter)
						
(4-30A) EMI/EMC filters for anti-malfunction by external noise High-voltage pulses high-attenuation	(3-30A) EMI/EMC filters for anti-malfunction by external noise High-voltage pulses high-attenuation Small-size	(3-16A) EMI/EMC filters for anti-malfunction by external noise High-voltage pulses high-attenuation Small-size Screwless terminal type	(4-30A) EMI/EMC filters for anti-conducted emission General-purpose from 150kHz to 1MHz	(6-30A) EMI/EMC filters for anti-conducted emission General-purpose from 10kHz to 1MHz (Ultra low-frequency band)	(3-30A) EMI/EMC filters for anti-conducted emission General-purpose from 150kHz-1MHz Small-size	(3-16A) EMI/EMC filters for anti-conducted emission General-purpose from 150kHz-1MHz Small-size Screwless terminal type
■Option -D	■Option -D	■Option -D	■Option -D	■Option -D	■Option -D	■Option -D
■Use:PLC, industrial equipment with computer, etc	■Use:PLC, industrial equipment with computer, etc	■Use:PLC, industrial equipment with computer, etc	■Use:Using multiple switching power supplies, single phase inverter, etc	■Use:Using multiple switching power supplies, single phase inverter, robot with servo motor, medical equipment, etc	■Use:Using multiple switching power supplies, single phase inverter, etc	■Use:Using multiple switching power supplies, single phase inverter, etc

## Single-phase EMI/EMC filter

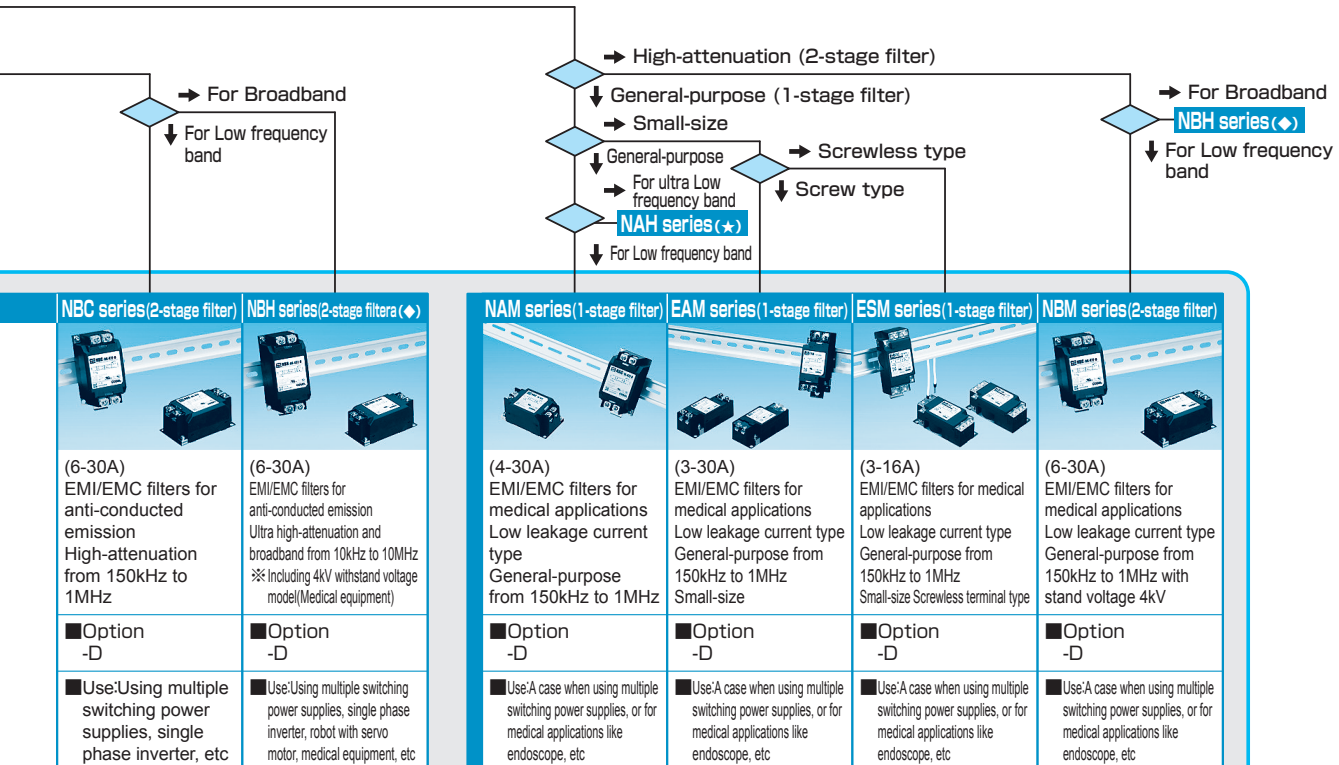
■Option

- D : DIN rail installation type
- H : Ultra high attenuation type
- U : Improve differential mode attenuation (Rated voltage 250V)
- L : Ultra high attenuation type for EU

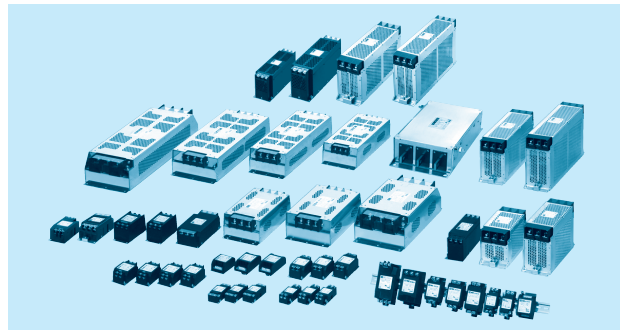
- G : With switch of line to ground capacitor
- S : Hexagon socket head cap screw (Standard type is Hexagon head screw)
- T : Terminal block type



※1 Please contact us about low leakage current type (Change to low grounding capacitor)



# EMI/EMC Filter



## Line-up

■ Single phase type RoHS

	Rated voltage	Series	Rated current [A]							Released year	Main feature
			3	4	6	10	16	20	30		
1-stage	AC250V	EAC	●	—	●	●	●	●	●	'10	Small, attenuation (150kHz-1MHz), DIN rail installation (Optional)
	AC250V	EAM	●	—	●	●	●	●	●	'10	Small, Low leakage current, DIN rail installation (Optional)
	AC250V	EAP	●	—	●	●	●	●	●	'10	Small, High-voltage pulses attenuation, DIN rail installation (Optional)
	AC250V	ESC	●	—	●	●	●	—	—	'10	Small,attenuation(150kHz-1MHz), Screwless terminal type,DIN rail installation (Optional)
	AC250V	ESM	●	—	●	●	●	—	—	'10	Small,Low leakage current, Screwless terminal type,DIN rail installation (Optional)
	AC250V	ESP	●	—	●	●	●	—	—	'10	Small,High-voltage pulses attenuation, Screwless terminal type,DIN rail installation (Optional)
	AC250V	NAC	—	●	●	●	●	●	●	'05	General-purpose High-attenuation (150kHz-1MHz), DIN rail installation (Optional)
	AC250V	NAM	—	●	●	●	●	●	●	'05	Low leakage current, DIN rail installation (Optional)
	AC250V	NAH	—	—	●	●	●	●	●	'05	Ultra high-attenuation (10kHz-1MHz), DIN rail installation (Optional)
	AC250V	NAP	—	●	●	●	●	●	●	'05	High-voltage pulses high-attenuation, DIN rail installation (Optional)
2-stage	AC250V	NBH	—	—	●	●	●	●	●	'07	Ultra high-attenuation and broadband (10kHz-10MHz), DIN rail installation (Optional)
	AC250V	NBC	—	—	●	●	●	●	●	'07	High-attenuation (150kHz-1MHz), DIN rail installation (Optional)
	AC250V	NBM	—	—	●	●	●	●	●	'07	Low leakage current, Withstand voltage 4KVAC, DIN rail installation (Optional)

■ Three phase type RoHS [JAC(40, 50, 60A): RoHS]

	Rated voltage	Series	Rated current [A]																		Released year	Main feature
			4	6	10	20	30	40	50	60	80	100	125	150	200	250	300	400	600			
1-stage	AC500V	JAC	—	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	'14	Compact and low profile General-purpose High-attenuation (150kHz-1MHz), Ultra high-attenuation(optional) DIN rail installation (Optional)		
	AC500V	JAC	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—	NEW '19	Compact and low profile General-purpose High-attenuation (150kHz-1MHz), Ultra high-attenuation(optional) Input voltage range 528VAC max		
	AC500V	TAC	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	'05	General-purpose High-attenuation (150kHz-1MHz), DIN rail installation (Optional)		
	AC500V	TAH	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	'05	Ultra high-attenuation (10kHz-1MHz), DIN rail installation (Optional)		
	AC500V	TAC	—	—	—	—	●	●	●	—	●	—	—	—	—	—	—	—	'08	General-purpose High-attenuation (150kHz-1MHz), Input voltage range 528VAC max		
	AC500V	TAH	—	—	—	—	●	●	●	—	●	—	—	—	—	—	—	—	'16	Ultra high-attenuation(10kHz-1MHz), Input voltage range 528VAC max		
	AC500V	TAC	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	'09	General-purpose High-attenuation (150kHz-1MHz), Input voltage range 528VAC max		
	AC500V	FTA	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—	'13	General-purpose High-attenuation (150kHz-1MHz), For Europe high-attenuation, Ultra high-attenuation(Optional) With switch of line to ground capacitor (Optional)		
	AC500V	FTA	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	'11	General-purpose High-attenuation (150kHz-1MHz), For Europe high-attenuation, Ultra high-attenuation(Optional)		
	2-stage	AC500V	TBC	—	—	—	—	●	●	●	—	●	—	—	—	—	—	—	—	'08	High-attenuation (150kHz-1MHz), Input voltage range 528VAC max	
AC500V		TBC	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	'09	High-attenuation (150kHz-1MHz), Input voltage range 528VAC max		
AC500V		FTB	—	—	—	—	—	—	—	●	●	—	●	—	—	—	—	—	'11	High-attenuation(150kHz-1MHz), Ultra high-attenuation(Optional)		
AC500V		FSB	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	'16	EMI/EMC Filter for motor drive system. Improve saturation resistance.		
AC500V		FSB	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	NEW '18	EMI/EMC Filter for motor drive system. Improve saturation resistance.		
multi-stage	AC500V	FSB	—	—	—	—	—	—	—	●	●	—	●	—	—	—	—	—	NEW '17	EMI/EMC Filter for motor drive system. Improve saturation resistance.		
	AC500V	TSC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	'13	Ultra high attenuation for star connection with neutral earthing, Input voltage range 528VAC max		

■ DC type RoHS

	Rated voltage	Series	Rated current [A]			Released year	Main feature	
			1	3	6			10
1-stage	DC±50V	SNA	●	●	●	—	'05	Ripple noise attenuation for switch mode power supplies (±Vin), DIN rail installation (Optional)
	DC50V	SNR	—	—	—	●	'07	Ripple noise attenuation for switch mode power supplies (+Vin), Peak load, DIN rail installation (Optional)

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□ Head Office

**COSEL CO., LTD.**

1-6-43 Kamiakae-machi, Toyama 930-0816, Japan

☎ Phone +81-76-432-8152

✉ E-mail sales@cosel.co.jp

🌐 URL https://en.cosel.co.jp

□ Worldwide Sales / Support Network

**[ AMERICA ]**

**COSEL U.S.A. INC.**

☎ Phone (Free) +1-800-888-3526

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🌐 URL https://www.coselusa.com

《Engineering and Technical Support》

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✉ E-mail sales@coseurope.eu

🌐 URL https://www.coseurope.eu

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✉ E-mail techsupport@coseurope.eu

**[ ASIA ]**

**COSEL ASIA LTD.**

☎ Phone +852-2305-2712

✉ E-mail sales@coselasia.com

🌐 URL https://www.coselasia.com

**COSEL (SHANGHAI) ELECTRONICS CO., LTD.**

☎ Phone +86-21-6440-0381

✉ E-mail sales@coselasia.cn

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