

FEATURES

10W,AC/DC converter

- ◆ Universal 85-265V_{AC} and wide 100-375V_{DC} Input
- ◆ Operating ambient temperature range -40℃ to +70℃
- ◆ High I/O isolation test voltage up to 4000V_{AC}
- ◆ Regulated output, Low ripple & noise
- ◆ Output short circuit, over current and over voltage protection
- ◆ High efficiency, high reliability
- ◆ Plastic case meets flammability per UL94V-0
- ◆ EMI compliant to CISPR32/EN55032 CLASS B
- ◆ IEC/EN/UL62368 and EN60335 safety approval
- ◆ Three year warranty



Selection Guide

Certification	Part No.	Output Power	Nominal Output Voltage and Current(Vo/Io)	Efficiency at 230V _{AC} (%)Typ.	Capacitive Load (μF)Max.
	CFAE10S3V3M	6.6W	3.3V/2000mA	71	26400
	CFAE10S05M	10W	5V/2000mA	76	9440
	CFAE10S09M		9V/1100mA	80	3600
	CFAE10S12M		12V/900mA	81	2000
	CFAE10S15M		15V/700mA	81	1170
	CFAE10S24M		24V/450mA	83	370

Note: *Part No. with suffix of "Z" means DIN-Rail mounting (e.g. CFAE10S05MZ)

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	AC input	85	--	265	VAC
	DC input	100	--	375	Vdc
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	0.23	A
	230VAC	--	--	0.15	
Inrush Current	115VAC	--	15	--	
	230VAC	--	30	--	
Recommended External Input Fuse		2A/250V slow-blow required			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	3.3V output	--	±3	--	%
	Other output	--	±2	--	
Line Regulation	Full load	--	±0.5	--	
Load Regulation	0%-100% load	--	±1	--	
Ripple & Noise*	20MHz band width (peak-to-peak value)	--	50	100	mV
Temperature Coefficient		--	±0.02	--	%/℃
Short Circuit Protection		Hiccup, continuous, self-recovery			

Overcurrent Protection		110%-300% Io self-recovery			
Overvoltage protections	3.3V _{DC} /5V _{DC}	≤7.5V _{DC} (Output voltage clamp or hiccup)			
	9V _{DC}	≤15V _{DC} (Output voltage clamp or hiccup)			
	12V _{DC} /15V _{DC}	≤20V _{DC} (Output voltage clamp or hiccup)			
	24V _{DC}	≤30V _{DC} (Output voltage clamp or hiccup)			
Minimum Load		0	--	--	%
Hold-up Time	115V _{AC} input	--	15	--	ms
	230V _{AC} input	--	80	--	

Note: *The "parallel cable" method is used for Ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Input-output	Electric Strength Test for 1 min.(leakage current < 5mA)	4000	--	--	V _{AC}
Operating Temperature		-40	--	+70	°C
Storage Temperature		-40	--	+105	
Storage Humidity		--	--	95	%RH
Soldering Temperature	Wave-soldering	260±5°C; time: 5-10s			
	Manual-soldering	360±10°C; time: 3-5s			
Switching Frequency		--	100	--	KHz
Power Derating	-40°C to +25°C	4.0	--	--	% / °C
	+55°C to +70°C	2.5	--	--	
	85V _{AC} -100V _{AC}	1.0	--	--	% / V _{AC}
Safety Standard		UL62368/EN62368/EN60335/IEC62368			
Safety Certification		UL62368/EN62368/EN60335/IEC62368			
Safety Class		CLASS II			
MTBF		MIL-HDBK-217F @ 25°C > 300,000h			

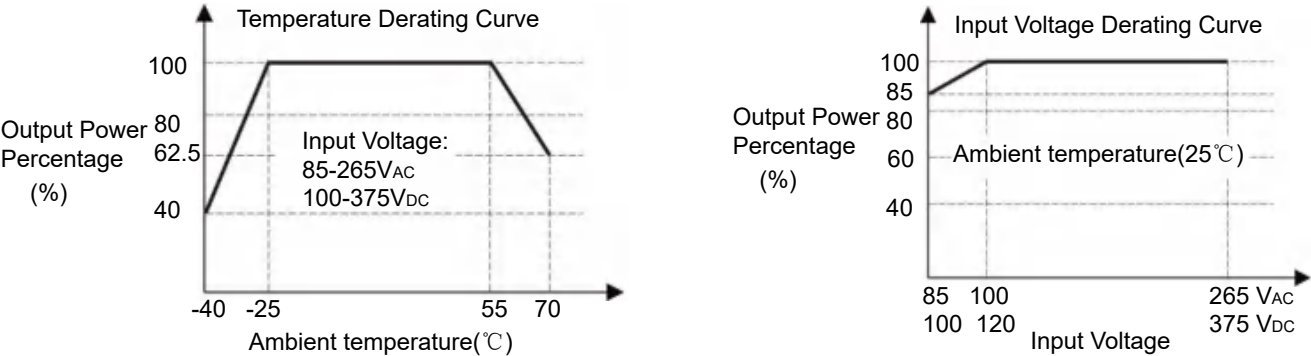
Mechanical Specifications

Casing Material	Black plastic, flame-retardant and heat-resistant (UL94V-0)	
Dimension	DIP	53.8x28.8x19mm
	Z Din-Rail mounting	76.x31.5x32.4mm
Weight	DIP	48g(Typ.)
	Z Din-Rail mounting	88g(Typ.)
Cooling Method	Free air convection	

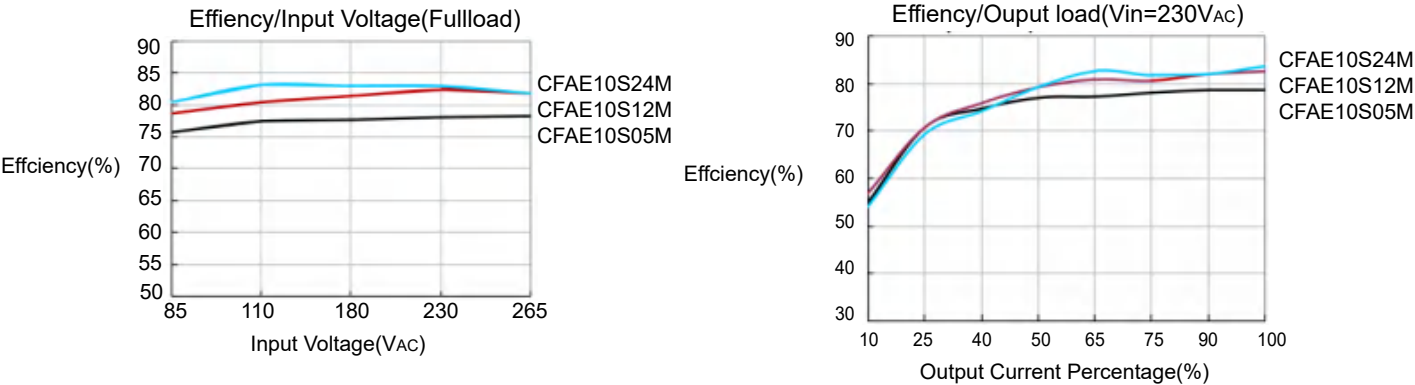
Electromagnetic Compatibility(EMC)

Emissions	CE	CISPR32/EN55032 CLASS B		
	RE	CISPR32/EN55032 CLASS B		
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV / Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2kV	perf. Criteria B
		IEC/EN61000-4-4	±4kV (See Fig.2 for recommended circuit)	perf. Criteria B
	Surge	IEC/EN61000-4-5	line to line ±1KV (See Fig.1 for typical application circuit)	perf. Criteria B
		IEC/EN61000-4-5	line to line ±2KV / line to ground ±4KV (See Fig.2 for recommended circuit)	perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
	Voltage dip, short interruptions and voltage variations	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

Product Characteristic Curve



Note: ①With an AC input between 85-100V_{AC} and a DC input between 100-120V_{DC},the output power must be derated as per temperature derating curves;
 ②This product is suitable for applications using natural air cooling;for applications in closed environment please consult factory or one of our FAE.



Design Reference

1.Typical application

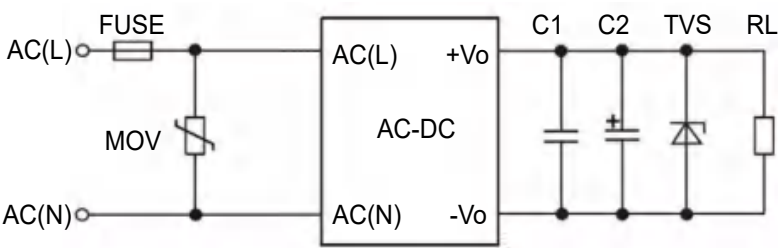


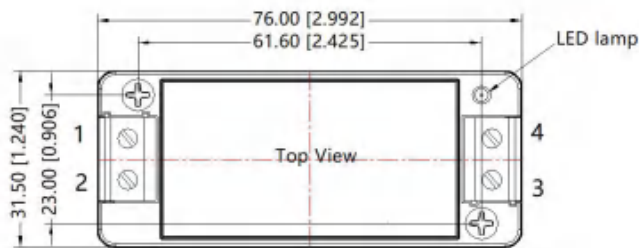
Fig.1:Typical circuit diagram

Model	C1(μF)	C2(μF)	FUSE	MOV	TVS
CFAE10S3V3M	1μF/50V	220μF/10V	2A/250V slow-blow required	S14K300	SMBJ7.0A
CFAE10S05M		220μF/10V			SMBJ7.0A
CFAE10S09M		120μF/25V			SMBJ12A
CFAE10S12M		120μF/25V			SMBJ20A
CFAE10S15M		120μF/25V			SMBJ20A
CFAE10S24M		68μF/35V			SMBJ30A

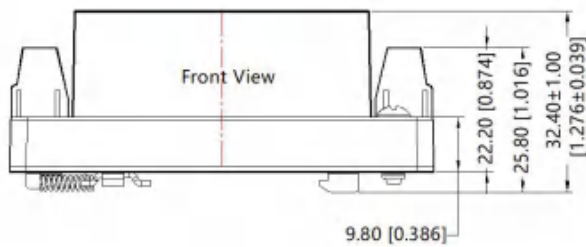
Output Filter Components:
 We recommend using an electrolytic capacitor with high frequency,and low ESR rating for C2(refer to manufacture's datasheet).Choose a Capacitor voltage rating with at least 20% margin, in other words not exceeding 80%.C1 is a ceramic capacitor used for filtering high-frequency noise and TVS is a recommended suppressor diode to protect the application in case of a converter failure.

CFAE10S05MZ Din-Rail mounting Dimensions

THIRD ANGLE PROJECTION



Pin-Out	
Pin	Function
1	AC(N)
2	AC(L)
3	-Vo
4	+Vo



Note:
Unit: mm[inch]
Wire range: 24~12 AWG
Tightening torque: Max 0.4 N·m
Installed on DIN RAIL TS35
General tolerances: ±0.50[±0.020]



Beijing Huayang Changfeng Technology Co., Ltd.

Production Base: No. 25 Huojia South Street, Development Zone, Zhuozhou City, Hebei Province

TEL: +86-10-68817997

mobile phone: 15600309099

E-mail: sales@chawens.net