

Open Frame Model



Size: 3.59in x 2.15in x 1.36in
(91.19mm x 54.61mm x 34.6mm)

U-Chassis Model ("U" Suffix)



Size: 3.15in x 2.35in x 1.5in
(80mm x 59.7mm x 38mm)

Enclosed Model ("C" Suffix)



3.15in x 2.35in x 1.7in
(80mm x 59.7mm x 43.2mm)

OPTIONS

- Package Type
 - Open Frame
 - U-Chassis
 - Enclosed

FEATURES

- Universal Input Voltage of 90-264VAC
- 125 Watt with Natural Convection
- High Efficiency
- Active PFC Function
- Operating Altitude 5000M
- I/O Isolation 4000VAC
- Over Power, Over Voltage, Over Temperature, and Short Circuit Protection
- EMI for Both Class I (with PE) and Class II (without PE) Configuration
- UL/IEC/EN 62368-1 Safety Approvals

DESCRIPTION

The PSAFR130 series of AC/DC ITE switching power supplies offers up to 130 watts of output power in a compact open frame, u-chassis, or enclosed package. This series consists of single output models with an input voltage range of 90-264VAC. Each model in this series has over power, over voltage, over temperature and short circuit protection as well as UL/IEC/EN 62368-1 safety approvals.

MODEL SELECTION TABLE

Open Frame Models

Model Number	Input Voltage Range ⁽¹⁾	Output Voltage	Max. Output Current			Ripple & Noise ⁽²⁾	Max. Output Power			Maximum Capacitive Load	Efficiency
			8CFM Fan	Natural Convection			8CFM Fan	Natural Convection			
				@115VAC	@230VAC			@115VAC	@230VAC		
PSAFR130-12S	90-264VAC	12V	10.833A	9.166A	9.917A	160mV	130W	110W	119W	4000uF	90%
PSAFR130-24S		24V	5.417A	4.583A	4.958A	240mV		110W	119W	1000uF	90%
PSAFR130-48S		48V	2.708A	2.395A	2.604A	340mV		115W	125W	330uF	91%

MODEL SELECTION TABLE

U-Chassis Models

Model Number	Input Voltage Range ⁽¹⁾	Output Voltage	Max. Output Current					Ripple & Noise ⁽²⁾	Max. Output Power					Maximum Capacitive Load	Efficiency
			8CFM Fan	Conduction Cooling	Natural Convection				8CFM Fan	Conduction Cooling	Natural Convection				
					100 VAC	115 VAC	230 VAC				100 VAC	115 VAC	230 VAC		
PSAFR130-12SU	90-264VAC	12V	10.833A	10.833A	9.167A	9.917A	9.917A	160mV	130W	130W	110W	119W	119W	4000uF	90%
PSAFR130-24SU		24V	5.417A	5.417A	4.792A	5A	5A	240mV			115W	120W	120W	1000uF	90%
PSAFR130-48SU		48V	2.708A	2.702A	2.5A	2.604A	2.604A	340mV			120W	125W	125W	330uF	91%

MODEL SELECTION TABLE

Enclosed Models

Model Number	Input Voltage Range ⁽¹⁾	Output Voltage	Max. Output Current					Ripple & Noise ⁽²⁾	Max. Output Power					Maximum Capacitive Load	Efficiency
			8CFM Fan	Conduction Cooling	Natural Convection				8CFM Fan	Conduction Cooling	Natural Convection				
					100 VAC	115 VAC	230 VAC				100 VAC	115 VAC	230 VAC		
PSAFR130-12SC	90-264VAC	12V	10.833A	10.833A	8.75A	9.917A	9.917A	160mV	130W	130W	105W	119W	119W	4000uF	90%
PSAFR130-24SC		24V	5.417A	5.417A	4.583A	5A	5A	240mV			110W	120W	120W	1000uF	90%
PSAFR130-48SC		48V	2.708A	2.702A	2.396A	2.604A	2.604A	340mV			115W	125W	125W	330uF	91%

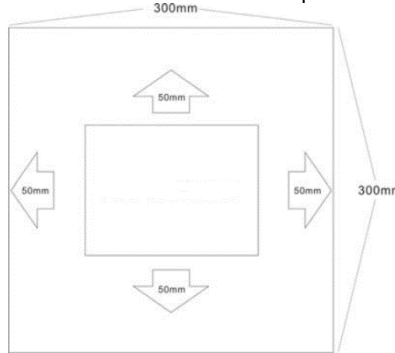
SPECIFICATIONS

All specifications are based on 25°C After Warm-Up Time, Normal Input Voltage, and Full Load unless otherwise noted.
 We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS					
Input Voltage Range		90		264	VAC
Input Frequency		47		63	Hz
Inrush Current	@115VAC, <2ms @230VAC, <2ms			50 85	A
Leakage Current	264VAC, Touch Current			0.75	mA
Input Current	@115VAC, Full Load @230VAC, Full Load			2 1	A
No Load Power Consumption	115/230VAC			0.3	W
Power Factor	@230VAC, Full Load	0.9			
OUTPUT SPECIFICATIONS					
Output Voltage			See Table		
Voltage Accuracy			±2		%
Line Regulation			±1		%
Load Regulation	0-100%		±1		%
Voltage Adjustment Range			±10		% Output Voltage
Max. Output Power			See Table		
Max. Output Current			See Table		
Minimum Load		0			%
Maximum Capacitive Load			See Table		
Ripple & Noise ⁽²⁾			See Table		
Hold-Up Time	@115VAC, measured at 90% Vout	8			ms
Temperature Coefficient		-0.05		+0.05	%/°C
PROTECTION					
Short Circuit Protection	Protection Level 1 (nominal) Protection Level 2 (Instantaneous High Current)		Continuous, Auto Recovery Latch		
Over Power Protection	Protection Level 1 (nominal) Protection Level 2 (Instantaneous High Current)		Automatic Recovery, Hiccup Mode Latch		
Over Voltage Protection	Protection Level 1 (nominal) Protection Level 2 (Instantaneous High Current)		Automatic Recovery Latch		
Over Temperature Protection			Automatic Recovery		
ENVIRONMENTAL SPECIFICATIONS					
Operating Temperature	With Derating	Open Frame U-Chassis, Enclosed	-30 -30	+70 +80	°C
Storage Temperature			-30	+80	°C
Altitude During Operation				5000	m
Humidity			20	90	% RH
Vibration	10~500Hz, 2G 10min/1cycle, 60 min. each along X, Y, Z axes		IEC60068-2-6		
Shock			IEC60068-2-27		
MTBF	@25°C, MIL-HDBK-217F	Open Frame U-Chassis, Enclosed	250,000 400,000		Hours
GENERAL SPECIFICATIONS					
Efficiency	@230VAC		See Table		
Isolation ⁽³⁾	Input-Output Input-PE Output-PE		4000VAC or 5656VDC 2000VAC or 2828VDC 1500VAC or 2121VDC		
PHYSICAL SPECIFICATIONS					
Weight	Open Frame U-Chassis Enclosed Case		7.05oz (200g) 9.88oz (280g) 10.3oz (292g)		
Dimensions (L x W x H)	Tolerance ±0.5mm	Open Frame U-Chassis Enclosed	3.59 x 2.15 x 1.36in (91.19 x 54.61 x 34.6mm) 3.15 x 2.35 x 1.5in (80 x 59.7 x 38mm) 3.15 x 2.35 x 1.7in (80 x 59.7 x 43.2mm)		
Cooling Method	Open Frame U-Chassis, Enclosed		Natural Convection/8CFM FAN Natural Convection/Conduction Cooling/8CFM FAN		
SAFETY CHARACTERISTICS					
Safety Approvals		UL/IEC/EN 62368-1 ⁽⁴⁾			
EMC	Conducted EMI ⁽⁵⁾ Radiated EMI ⁽⁵⁾ EMS	EN55032 EN55032 EN55035	Class B Class I Class B/Class II Class A		

NOTES

1. Check derating curve for more details.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
3. It is strongly recommended to conduct this test with DC voltage. If customer wishes to test with AC voltage, please disconnect all Y-capacitors from supply.
4. This product is Listed to applicable standards and requirements by UL.
5. Size of the suggested aluminum plate is shown below. The aluminum plate must have an even and smooth surface (or coated with thermal grease), and this series must be firmly mounted at the center of the aluminum plate. 300mm x 300mm x 3.0mm



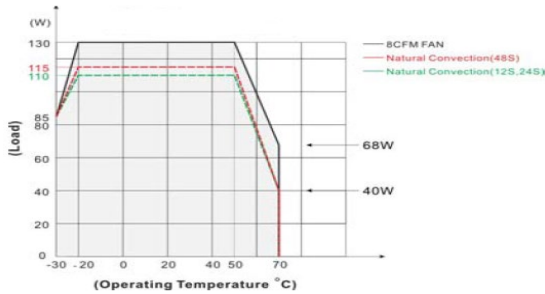
6. Secure the power supply unit to metal case using the four screw holes in the corners for either Class I or Class II equipment.
7. Ambient temperature derating of 3.5/1000m with fanless models and of 5/1000m with fan models for operating altitude higher.

CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.

**Due to advances in technology, specifications subject to change without notice.*

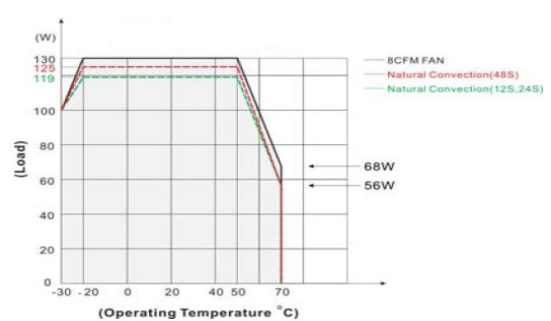
DERATING CURVES

Vin at 115-229VAC
Power Derating Curve, Open Frame

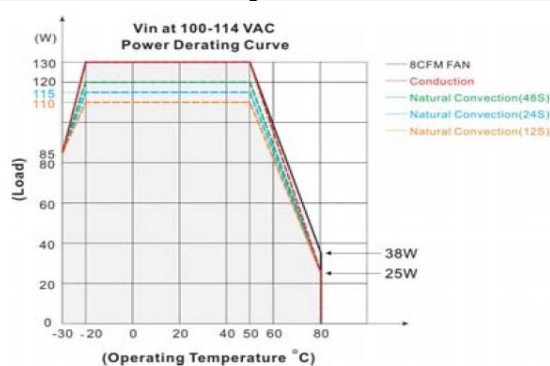


If input voltage is lower than 115VAC, please refer to the output derating vs input voltage curve for details

Vin at 230-264VAC
Power Derating Curve, Open Frame

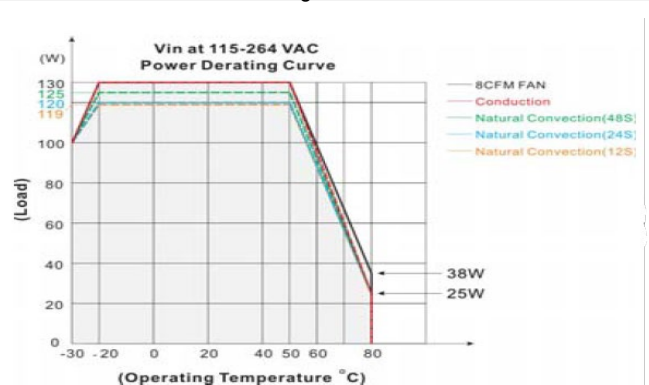


Vin at 100-114VAC
Power Derating Curve, U-Chassis

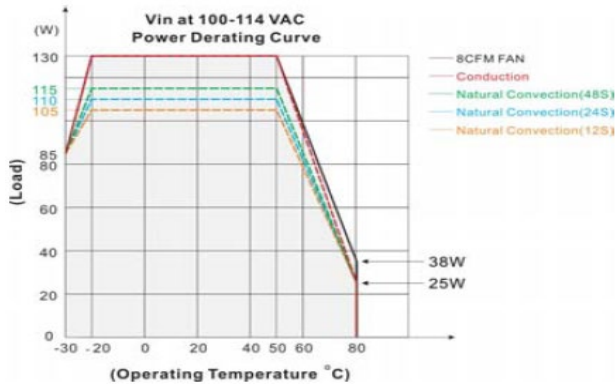


If input voltage is lower than 100VAC, please refer to the output derating vs input voltage curve for details

Vin at 115-264VAC
Power Derating Curve, U-Chassis

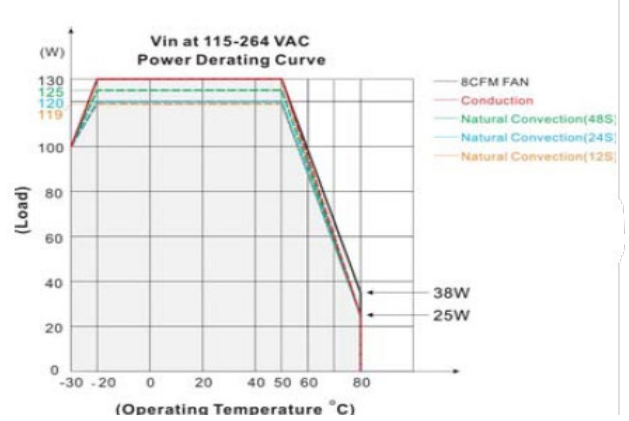


Vin at 100-114VAC
Power Derating Curve, Open Frame



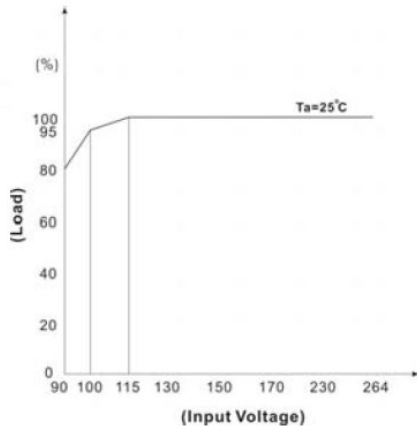
If input voltage is lower than 100VAC, please refer to the output derating vs input voltage curve for details

Vin at 115-264VAC
Power Derating Curve, Open Frame

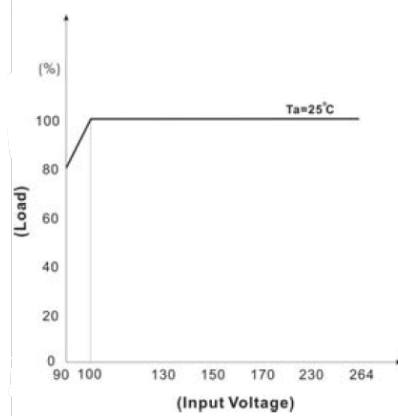


EFFICIENCY CURVES

Input Voltage vs. Load
Open Frame

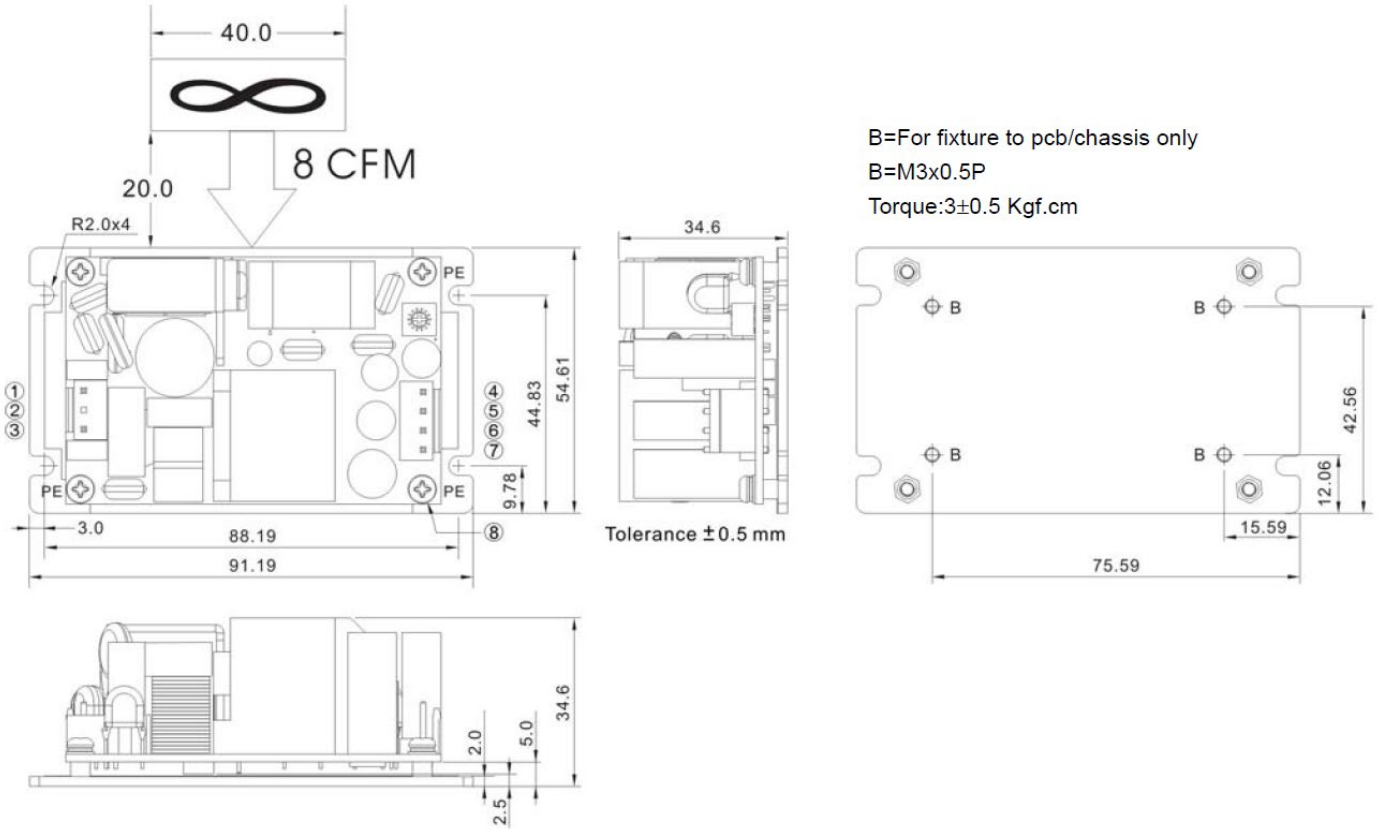


Input Voltage vs Load
U-Chassis, Enclosed



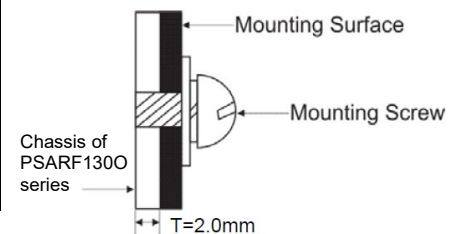
MECHANICAL DRAWINGS

Open Frame Model

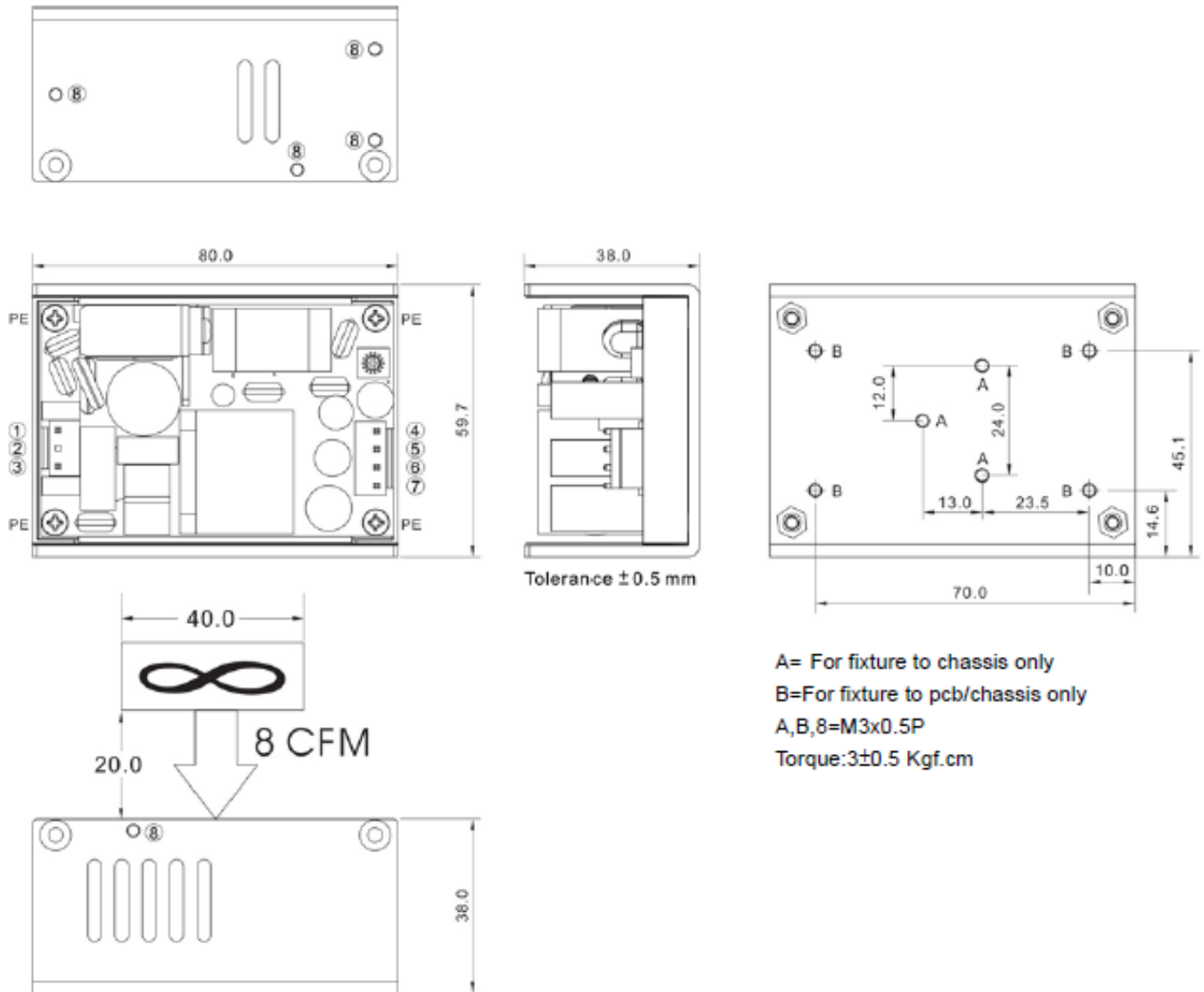


Brands		Alex		JST	
Pin#	Single	Mating Housing	Terminal	Mating Housing	Terminal
1	AC IN (N)	9396-3	96T Series	VHR-3N	SVH-41T-P1.1
2	NO Pin				
3	AC IN (L)	9396-4	96T Series	VHR-3N	SVH-41T-P1.1
4~5	+DC OUT				
6~7	-DC OUT				
8	PE	-	-	-	-

Assembly Instructions
*Heatsink T=2.0mm
Customer is advised to screw into threads no more than 2.0 mm

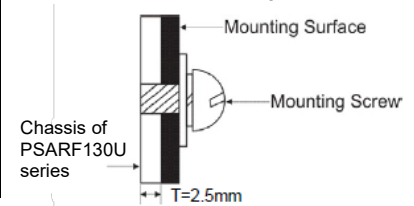


U-Chassis Model

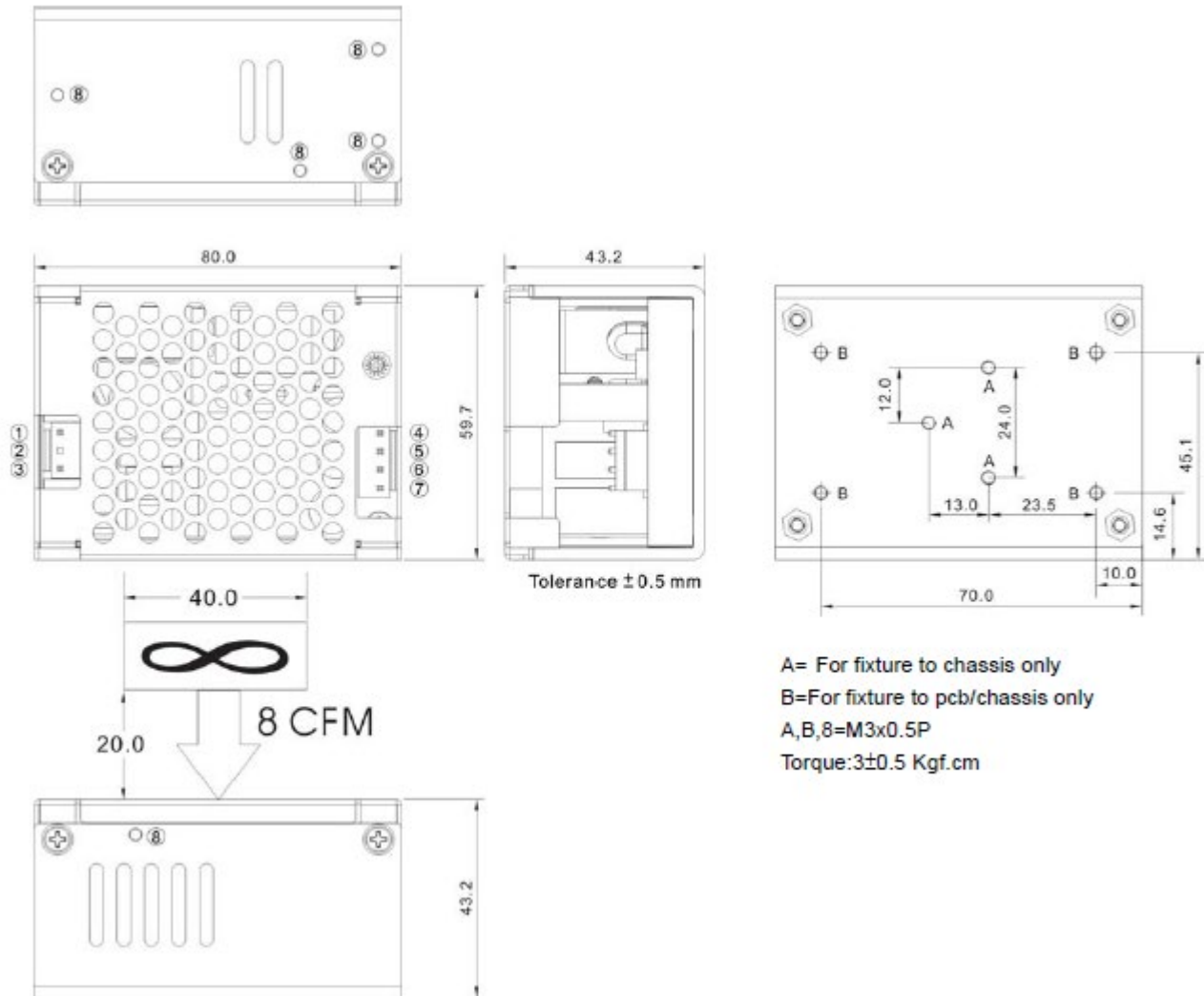


Pin#	Brands	Alex		JST	
		Mating Housing	Terminal	Mating Housing	Terminal
1	AC IN (N)	9396-3	96T Series	VHR-3N	SVH-41T-P1.1
2	NO Pin				
3	AC IN (L)				
4~5	+DC OUT	9396-4	96T Series	VHR-3N	SVH-41T-P1.1
6~7	-DC OUT				
8, B	PE	-	-	-	-

Assembly Instructions
U Case T=2.5mm
Customer is advised to screw into threads no more than 2.5 mm

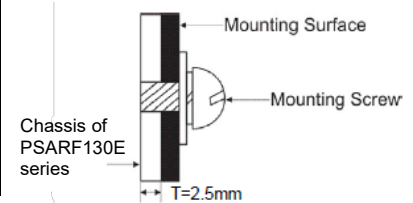


Enclosed Model



Brands		Alex		JST	
Pin#	Single	Mating Housing	Terminal	Mating Housing	Terminal
1	AC IN (N)	9396-3	96T Series	VHR-3N	SVH-41T-P1.1
2	NO Pin				
3	AC IN (L)				
4~5	+DC OUT	9396-4	96T Series	VHR-3N	SVH-41T-P1.1
6~7	-DC OUT				
8, B	PE	-	-	-	-

Assembly Instructions
U Case T=2.5mm
Customer is advised to screw into threads no more than 2.5 mm



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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