

Features:

- Universal Input 100 – 240 VAC
- AC Input Range Auto-Selectable
- Low Leakage Current
- 5, 12, 24, 48 VDC Dual Output Option Combinations
- Over-Current Protection
- Over-Voltage Protection
- 4 Mechanical Options
- RoHS Compliant



Input Voltage: 90-132 / 180-264 VAC auto-ranging, 47–63Hz.

Input Current: 8/4A at 100-120/200-240 VAC.

Inrush Current: Max. 70A @ 230 VAC & 35A @ 115 VAC; cold start.

PFC: Power Factor Correction pass EN61000-3-2 class A.

Transient Response: Returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not exceed 5%.

Overshoot: Turn-on & off overshoot <5% over nominal voltage.

Efficiency: 75% Minimum

Turn On Delay: 1 second maximum at 120 VAC.

Hold Up Time: 20mS min. at 80% of full load.

Adjustability: Output user adjustable $\pm 5\%$ minimum.

Fan Drive: 12VDC/400mA offering to drive an external fan.

Fan Fail (FF) Alarm: Designated as FF on pin 3 of CN1 is an open collector output rated for 15VDC/5mA sink current maximum, it will go high when a fan failure is detected.

Power Supply On: Green LED designated as LED1 on the PCB.

Power Good: Designated as PG on CN1 and TTL high 100-500mS after regulation. It goes low at least 1mS before loss of regulation and has ability to sink 100mA.

Input Fusing Protection: One T8A/250V fuse inserted in primary.

Over-Power Protection: Fold back mode 110~140%; Auto-recovery.

Short Circuit Protection: Trip without damage and auto-recovery.

Over Voltage Protection: Unit latching down when output exceed 130% and recycle AC input to reset.

Over-Temperature Protection: Unit protected of excessive operating ambient 110°C, and automatic recovery.

Switching Frequency: 23K Hz fixed frequency.

Operating Temperature: 0 to 70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.

Vibration: 5 ~ 50 Hz, acceleration 7.35 m/s*s on X,Y and Z Axis.

Storage Temperature: -20°C to 85°C.

Operating Humidity: 5% to 90% RH, Non-condensing.

Storage Humidity: 5% to 95% RH, Non-condensing.

Emissions: FCC Part 15, CISPR 22 class B, Conducted.

Safety Regulation: Approved to UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-1, CE Mark (LVD) EN61000-3-2,3 & IEC61000-4 Series Regulations and CB.

Leakage Current: Regular Type 1.5mA @ 240 VAC. (optional for 500uA max. at 240 VAC / 300uA max. at 120 VAC input)

HI-POT Test: 1,500 VAC input line to chassis (10mA DC cut off current); Isolating 3,000 VAC primary to secondary windings; Primary to core 1,500 VAC. All for 3 sec.

Grounding Test: Apply 25A from ground pin of the three prong plug to the far most earth. Max allowable resistance 0.1 ohm.

MTBF: 100,000 Hrs (according to MIL-HBK-217F) at 30°C.

Cooling:

SAU300T2: U-Chassis @ 300W max. with 18CFM max. forced airflow or 150W convection cooled output.

SAC300T2: U-Chassis with top cover @ 150W max. convection cooled.

SAE300T2: Enclosed with rear side built-in fan @ 300W max.

SAF300T2: Enclosed with top built-in fan @ 300W max.

Enclosure:

SAU300T2: 6(L) x 4(W) x 1.5(H) inches.

SAC300T2: 6(L) x 4(W) x 1.55(H) inches.

SAE300T2: 7(L) x 4(W) x 1.6(H) inches.

SAF300T2: 6(L) x 4(W) x 2(H) inches.

Burn in: 45 $\pm 5^\circ\text{C}$ for 1 hour @ 230 VAC with full load.

Weight: Maximum weight is 800g.



SAY300T2 Series

Dual Output, Switchmode Power Supply
Passive PFC, RoHS Compliant

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Output Voltage and Current Chart

Model Number**	Output Voltages	Max. Output Power/Current		Ripple & Noise
		Type <u>U</u> (Forced Air) & Type <u>E</u> & <u>F</u>	Type <u>U</u> & <u>C</u> (Convection)	
SAY300T250R	5 VDC	30 A	15 A	1%
	12 VDC	16.67 A	10.42 A	1%
SAY300T254R	5 VDC	30 A	15 A	1%
	24 VDC	8.33 A	5.2 A	1%
SAY300T268R	5 VDC	30 A	15 A	1%
	48 VDC	4.16 A	2.6 A	1%
SAY300T266R	12 VDC	16.67 A	12.5 A	1%
	24 VDC	8.33 A	6.25 A	1%

** To Determine Part Number:

- Replace "Y" with Desired Case Code:

Type U: U-Chassis @ 150 Watts Convection Cooling (125 Watts for SAU300T266R)

U-Chassis @ 250 Watts 18CFM Forced Air Cooling (300 Watts for SAU300T266R)

Type C: U-Chassis with Cover @ 125 Watts Max. Output with Convection Cooling (150 Watts for SAC300T266R)

Type E: Enclosed with Side Built-In Fan @ 250 Watts Max. Output Power (300 Watts for SAE300T266R)

Type F: Enclosed with Top Built-In Fan @ 250 Watts Max. Output Power (300 Watts for SAF300T266R)

- Conformal Coating (Optional): Order as SAY300T2XXCR
- Input/Output Connector: Avail. with Crimp Style PCB Header (I/P: 5-Pin, O/P: 10-Pin) or 7-Position Barrier Strip.

For Crimp Style PCB Header, Order as: SAY300T2XXR (Unchanged)

For 7-Position Barrier Strip, Order as: SAY300T2XXAR

Example: SAF300T2XXR indicates an Enclosed, Top Fan Case and Crimp Style PCB Header

SAU300T2XXACR indicates a U-Chassis Case, 7-Position Barrier Strip, and Conformal Coating



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Pin Connection: SAY300T2XXR

Pin	Input: 5-Pin Crimp Terminal
1	Ground
2	No Pin
3	Neutral
4	No Pin
5	Line
	Output: 10-Pin Crimp Terminal
1 - 3	V Output (1)
4 - 8	Return
9 - 10	V Output (2)

Pin Connection: SAY300T2XXAR

Pin	7-Position Barrier Strip
1	V Output (1)
2 - 3	Return
4	V Output (2)
5	Ground
6	Neutral
7	Line

Input and Output Connector (CN2):

Terminal block - Howder Part No. HB-95-7P

Molex - Mating JST VH series. Input 5-pin connector (3 pins used, pin 2 & pin 4 removed), PCB labeling: L = Line; N = Neutral; G = Chassis Ground. Output 10-pin connector.

Input and Output Connector Pin Assignment:

(See table above)

Mounting Inserts:

6 Places 8-32 (M4X0.7 Optional). Maximum Penetration 4mm, see outline drawing for location.

Logic signal connector (CN1):

Mating JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03);

Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26.

Fan driver connector (FAN2):

Mating connector is JST P/N XHP-2 (2 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-02).



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SAY300T2 Series

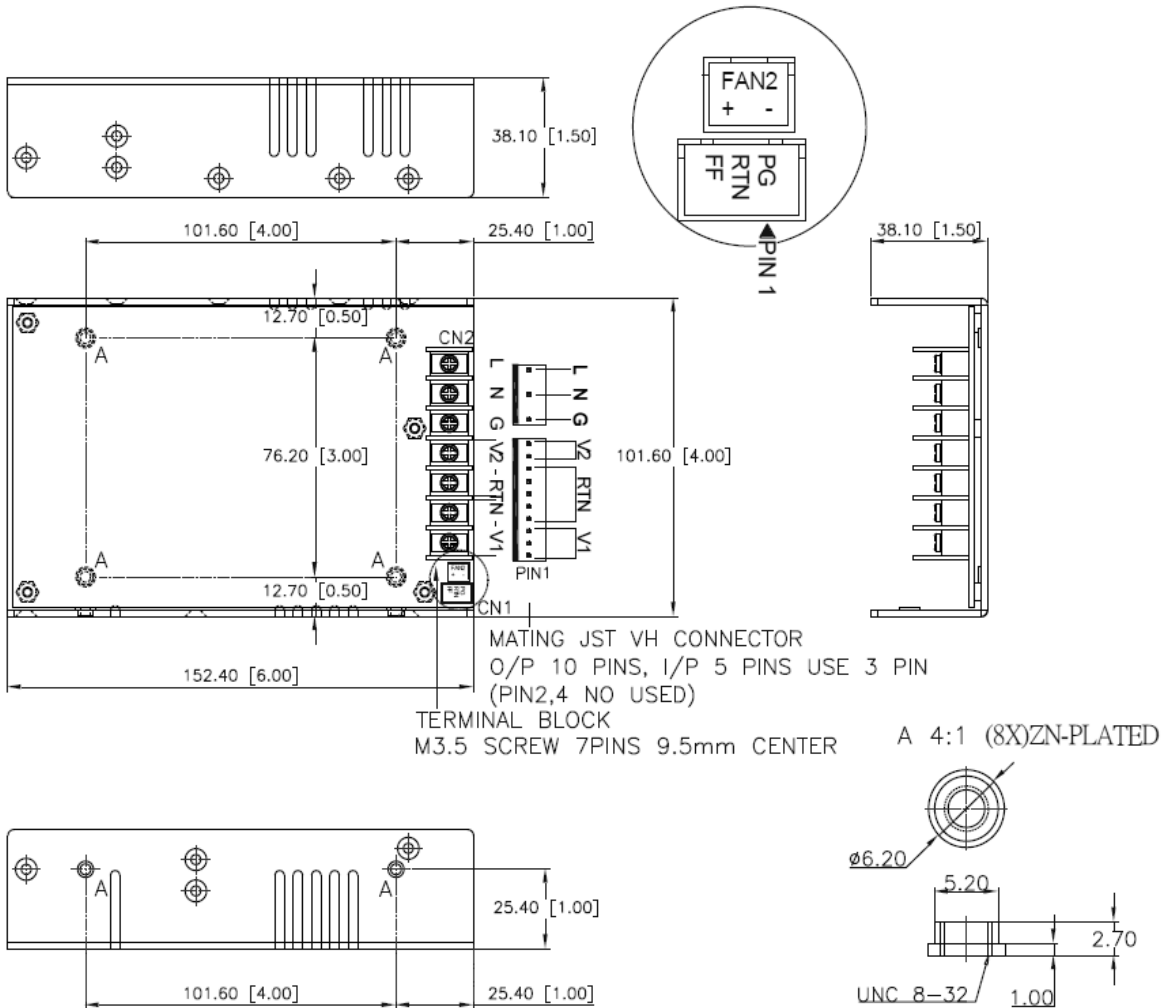
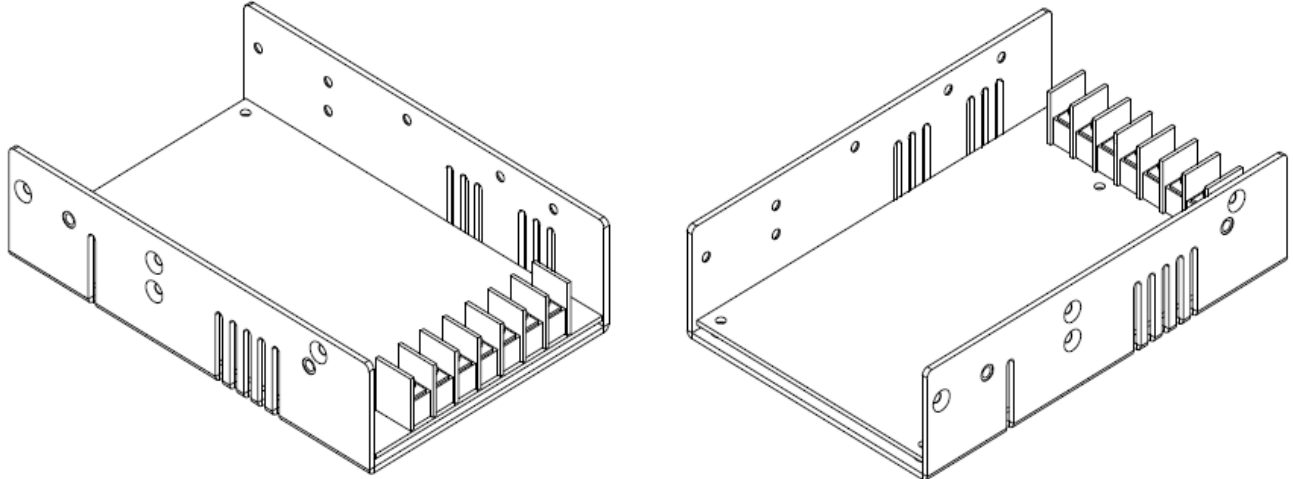
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Type U: U-Chassis Case
Order as: SAU300T2XXR





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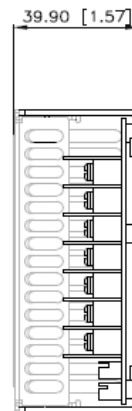
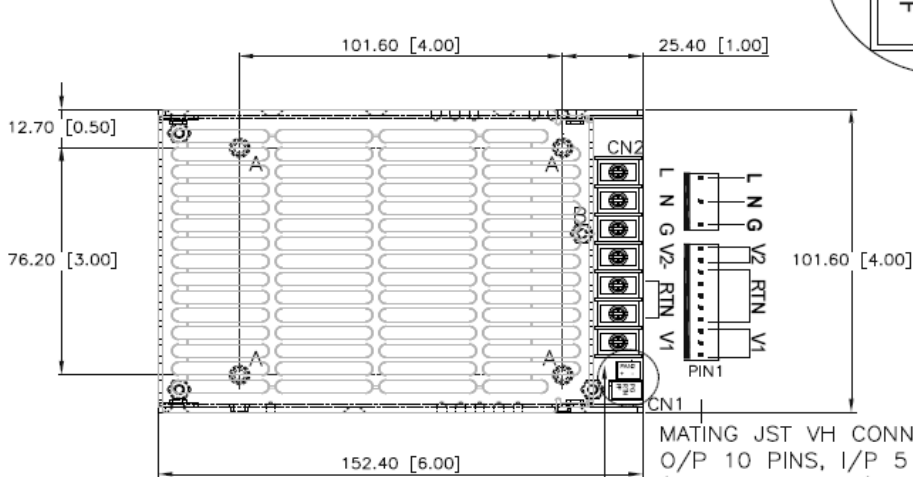
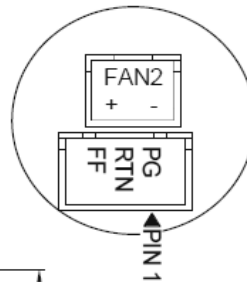
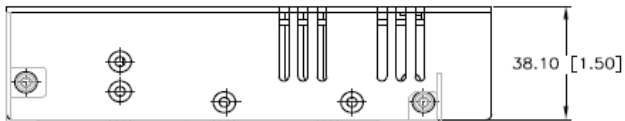
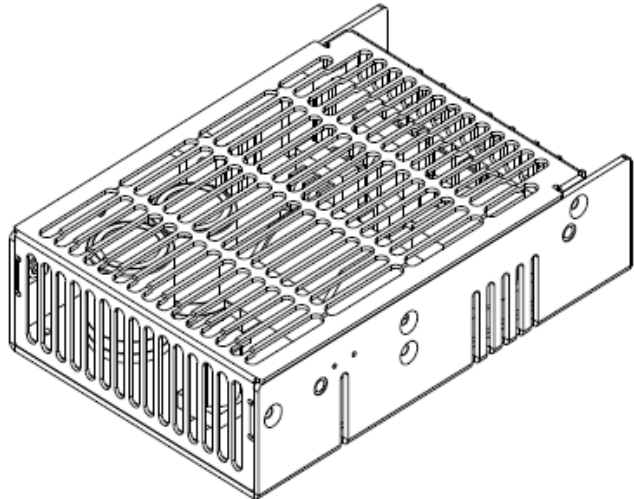
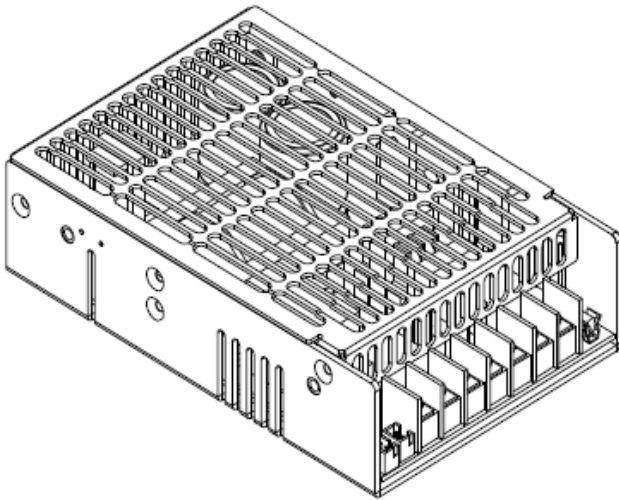
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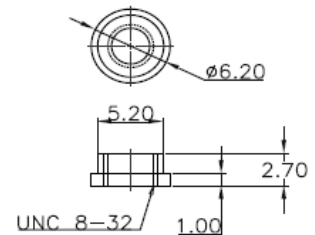
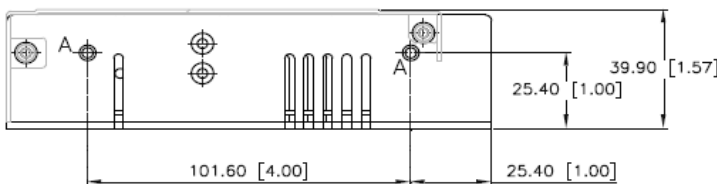
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Type **C**: U-Chassis Case w/ Cover
Order as: SAC300T2XXR



MATING JST VH CONNECTOR
O/P 10 PINS, I/P 5 PINS USE 3 PIN
(PIN2,4 NO USED)
TERMINAL BLOCK
M3.5 SCREW 7PINS 9.5mm CENTER

A 4:1 (8X)ZN-PLATED



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SAY300T2 Series

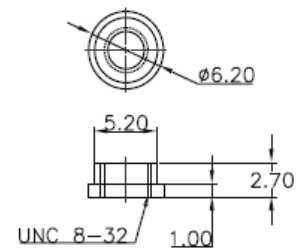
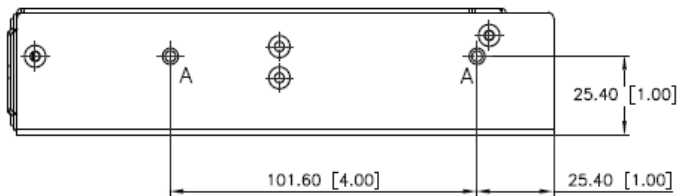
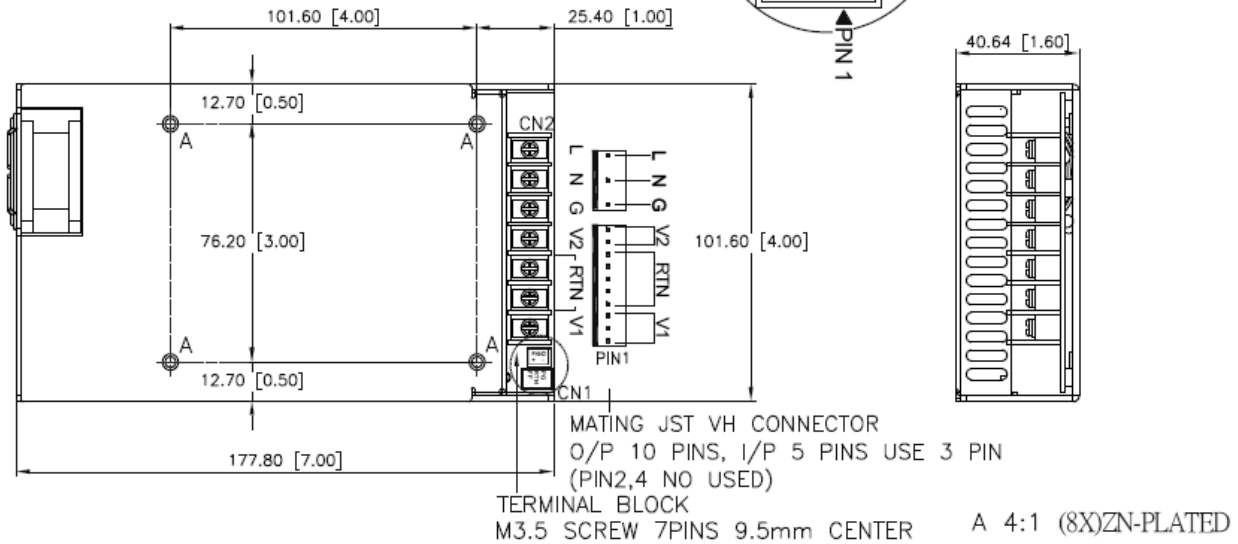
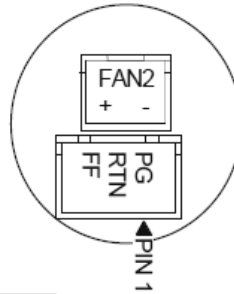
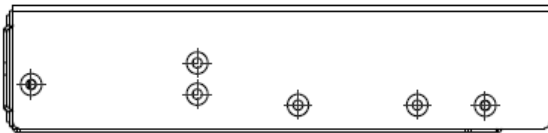
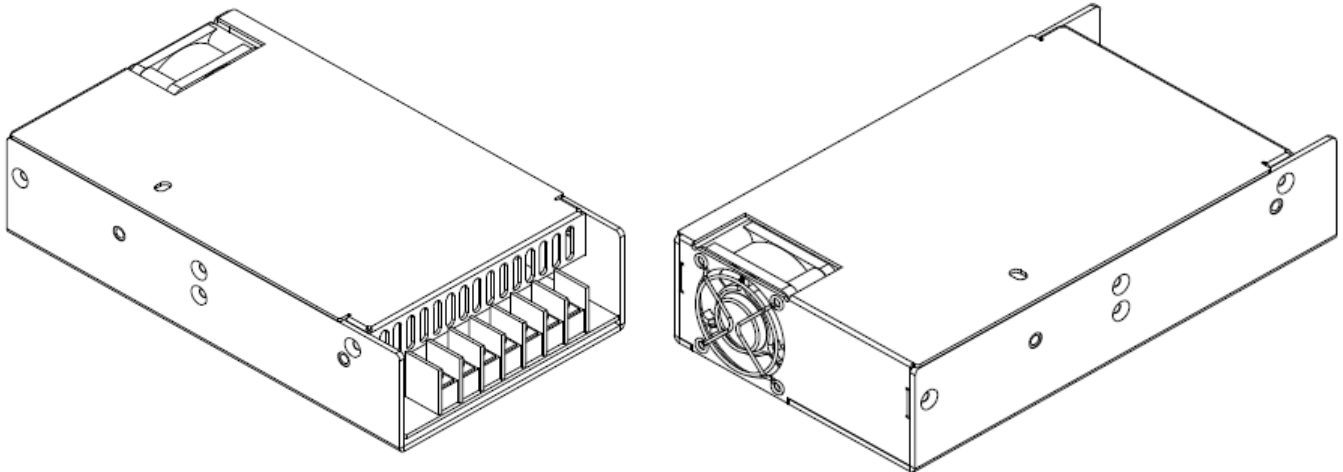
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Type **E**: Enclosed Case w/ Side Fan
Order as: SA**E**300T2XXR



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Type **F**: Enclosed Case w/ Top Fan
Order as: SA**F**300T2XXR

