ITE Grade AC-DC Power Supplies



400 Watt

- 400 Watts Forced Cooled
- Efficiency up to 90%
- -40 to 70 degree operating temperature
- High power density: 23.70W/inch3
- Thermal Shut-Down feature / Dual fusing
- 2.56m Hours, Telcordia -SR332-issue 3 MTBF



The New FLS400 Series is designed to work with Forced air cooling. This is a highly efficient power supply that can deliver up to 400 W with air. This new series comes with two options. ie. Casing with Side Fan and Top Fan.

400 Watts

Model Number	Description	Voltage	Max. Load	Min. Load	Ripple ¹
FLS400-1312	with JST Connector	12V	25A	0.0A	5%
FLS400-1315	with JST Connector	15V	20A	0.0A	5%
FLS400-1324	with JST Connector	24V	16.70A	0.0A	2%
FLS400-1330	with JST Connector	30V	13.30A	0.0A	2%
FLS400-1348	with JST Connector	48V	8.30A	0.0A	2%
FLS400-1358	with JST Connector	58V	6.90A	0.0A	2%

For Top FAN version add "TF" Ex. FLS400-1324-TF For Side FAN version add "SF" Ex. FLS400-1324-SF

Pin Connection

J1 (Input)	PIN 1	AC LINE
	PIN 2	NOT FITTED
	PIN 3	AC NEUTRAL
J2 (Output)	PIN 1,2,3	V1 +VE
	PIN 4,5,6	V1 -VE
Self clinching nut		Earth
(19)	PIN 1	+VS (Remote Sense)
Signal Connector	PIN 2	-VS (Remote Sense)

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Notes

- 1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
- 2. Specifications are for nominal input voltage, 25°C unless otherwise stated.
- 3. 400W with Forced cooling at 115 VAC to 264VAC.
- 4. Combine Output Power of Main Output, Fan supply should not exceed 400 W.
- 5. Output ripple can be more than 2 % of the output voltage.

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Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage	85		264	VAC	De-rate linearly from 100% at 115VAC to 70% at 85VAC
Input Frequency	47		63	Hz	
Input Current			6.3	А	
Inrush Current			75	А	
Power Factor	exceeds 0.9	5 at Full Load			

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Power			400	W	
Hold-up Time		8mS			At 230 VAC
Line Regulation			+/-0.5%		
Load Regulation			+/-0.5%		
Output Voltage Adjustability			+/-3%		
Rise Time		55		ms	
Set Point Tolerance		+/-1%			
Over Current Protection		> 105%			
Over Voltage Protection		110 to 140%			
Transient Response		25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4%, recovery time < 5 ms			

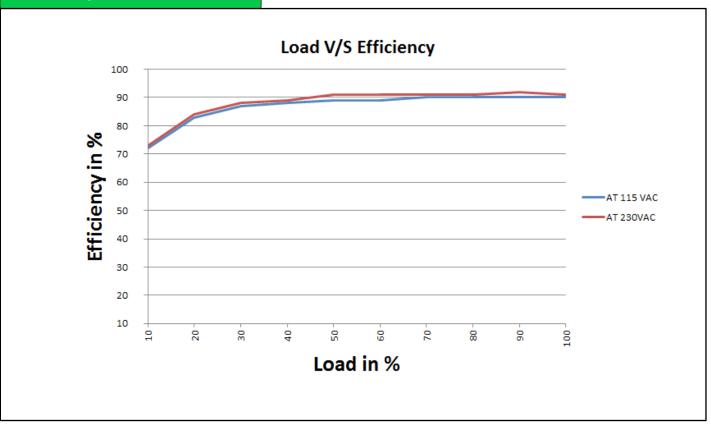
General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		90%			At 230 VAC
Mean Time Between Failure	2.56m Hours				Telcordia -SR332-issue 3
Isolation: Input to Output		4000		VDC	ITAV
Input to Ground		2500		VDC	TIAV
Leakage Current		300 uA Typical			

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Efficiency Vs Load



Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		70	°C	-40 to 0 startup is guaranteed with spec deviation.
					70°C (Derated)
Storage Temperature	-40		85	°C	
Relative Humidity	5		95	%	RH, non-condensing
Operating Altitude			16,000	ft	
Short Circuit Protection		Hiccup mode			
Switching Frequency		PFC – 70 to 1	30 KHz ,PWM	– 50-80 KHz	
Cooling					Inbuilt Fans for cooling

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AC Input Connector (J1)	TE Connectivity: 647676-3			
	Mating: 1-1123722-3 ; Crimp	: 1123721-2		
DC Output Connector (J2)	TE Connectivity: 647676-6			
	Mating: 1-1123722-6 ; Crimp: 1123721-2			
Earth	Ø4.25 Self clinching nut,			
	(PEM S-M3-0-ZI) or Equivalent			
Dimensions	CK with Top Fan	123.7 x 77.2 x 82.3 approx mm		
	CK with Side Fan	135 x 109 x 50 mm		
Weight	700 gm approx			

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN 55032	Level B	CISPR22-B, FCC PART15-B
Radiated	EN 55032	Level A	Level B with external core
			(King core K5B RC 25x12x15-M or Equivalent
			in input cable)

EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
Input Current Harmonics	EN 61000-3-2		Class A	
Voltage Fluctuation and Flicker	EN 61000-3-3			compliance
ESD Immunity	EN 61000-4-2	Level 3	А	
Radiated Field Immunity	EN 61000-4-3	Level 3	А	
Electrical Fast Transient Immunity	EN61000-4-4	Level 3	А	
Surge Immunity	EN 61000-4-5	Level 3	А	
Conducted Immunity	EN61000-4-6	Level 3	А	
Magnetic Field Immunity	EN61000-4-8	Level 3	А	
Voltage dips, interruptions	EN61000-4-11		A & B	

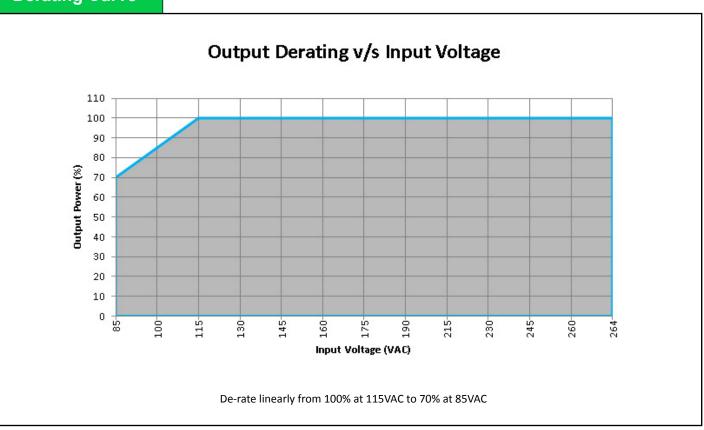
Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
СВ	IEC 62368-1:2018	
Nemko	EN 62368-1:2020;A11	ITAV
UL	UL62368-1 ED 3.0	ITAV
CSA	CAN/CSA C22.2 No. 62368-1:19	
CE Mark	Complies with LVD Directive	

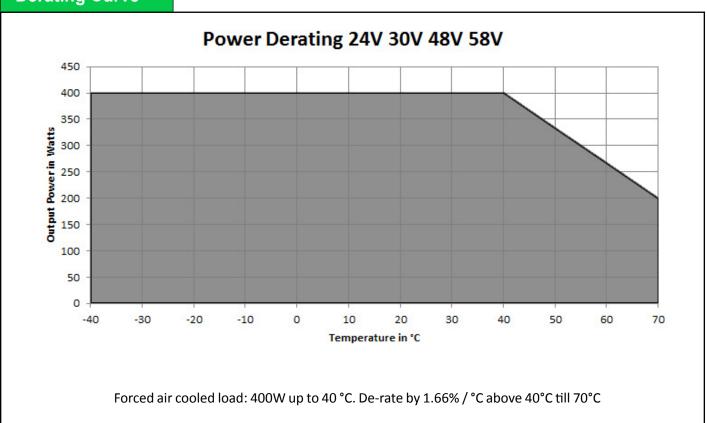
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Derating Curve



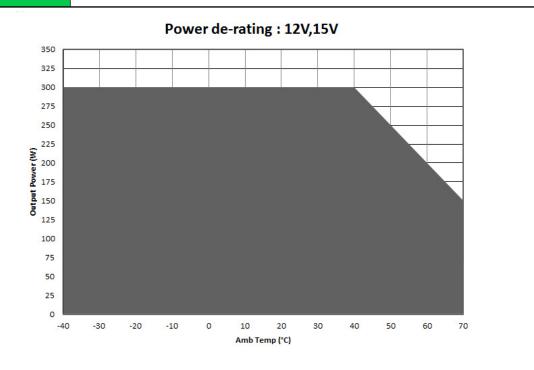
Derating Curve



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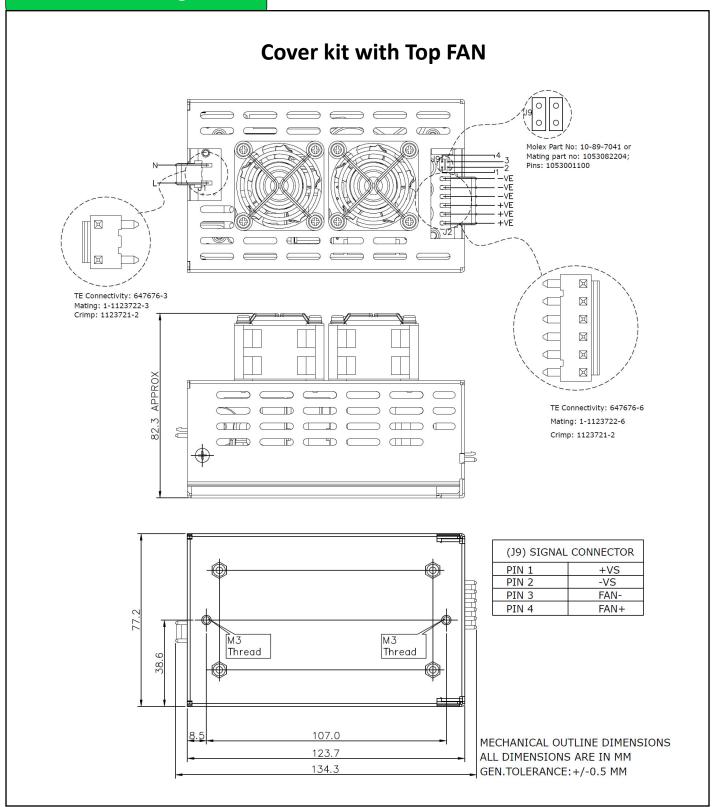
Derating Curve



Forced air cooled load: 300W up to 40 °C. De-rate by 1.66% / °C above 40°C



Mechanical Drawing





Mechanical Drawing

