Power Supply

LAPS-4000

ACDC and DCDC power supply with safety interlock

Baseplate cooled for DC and pulsed applications, 3 phase universal mains (no neutral) or DC input. Current sharing, up to 6 units in parallel. Special design to handle any kind of pulsed loads. Safety interlock PLe according to ISO 13849-1

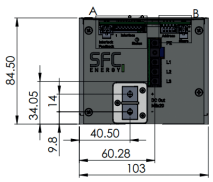
Solution for

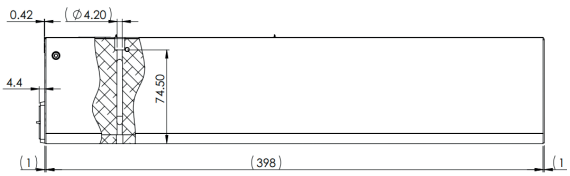
Industry · Laser · Semicon · Analytical · MotorDrive · Telecom / Broadcasting

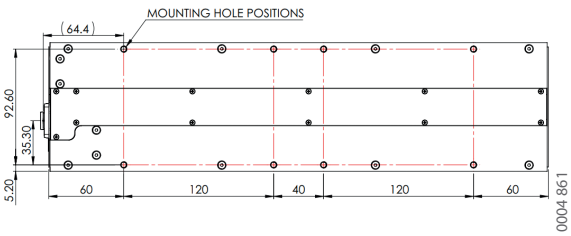
Model		LAPS-4000-55	LAPS-4000-90
Output	Voltage	9-55 V	15-90 V
	Current	0-80 A	0-53 A
	Power	4000 W	
	Ripple and noise	< 35 mVpp	<70 mVpp
	Transient response	Load step of 50 % - 100 %, < 0,3 V Recovery time (< 0,5 %) = 0 ms Load step of 0 % - 100 %, < 0,5 V Recovery time (< 0.5 %) < 1 ms	Load step of 50 % - 100 %, < 0.5 V Recovery time (< 0.5 %) = 0 ms Load step of 0 % - 100 %, < 1 V Recovery time (< 0.5 %) < 1 ms
	Line regulation	< 0.1 %	
	Load regulation	< 0.1 %	
	Start-up time	< 1.5 s	
	Hold up time	> 10 ms, at 90 % load	
Input AC	Voltage	180 V - 528 Vac, 3 Phase + PE. No derating at low line. 50/60 Hz, or 200-500 Vdc	
	Frequency range	47 - 63 Hz	
	Power factor (typ)	0.95	
	Efficiency at 4000 W, 200 Vac	91.7 %	91.7 %
	Efficiency at 4000 W, 400 Vac	93.3 %	93.3 %
	Inrush current	< 5 Arms, at 400 Vac	
	Leakage current	< 3 mA	
Input DC	Voltage	200 - 500 Vdc	
	Derating	0.35 %/V below 300 Vdc	
	Efficiency at 4000 W, 400 Vdc	92.8	
Protections	Over voltage, over temperature	< 59 V	< 100 V
	Protections	Over temperature, Over current, input under and over voltage, phase loss etc.	
Functions	Output voltage programming	15 - 100 %	
	Current sharing	Yes, typical < 3 A between units	Yes, typical < 2 A between units
	Remote ON/OFF	Yes	
	Safety interlock	2 interlock signals, 2 feedbacks	
	Remote control and monitoring	RS 485 interface	
	Status outputs	Fail and AC-fail	
	Interface	Galvanic isolated (except current share signals)	
Environmental	Cooling type	Baseplate	
	Baseplate temperature	0 - 50 °C, derating above 35 °C (- 4 % /°C)	
	Ambient temperature	0 - 70 °C	
	Storage temperature	- 40 °C – 85 °C	
	Humidity	5 - 90%, non-condensing	
Safety & EMC	Safety	IEC / UL / CSA 61010	
	Interlock	ISO 13849-1 PLe, MTTFd > 1000 Years, DCavg > 99 %	
	EMC emission	IEC 61000 - 6 - 4	
	EMC Immunity	IEC 61000 - 6 - 2	
	Semi	F 47	
Others	MTBF	> 250.000 hours	
	Dimensions	103 mm x 402.4 mm x 84.5 mm (4.06 x 15.84 x 3.33")	
	Parallel/series operation	Max. 3 units in series, up to 6 units in parallel	Max. 2 units in series, up to 6 units in parallel

Interface

Output	Connector	M5 screw connectors	
	Pinning	1	DC+
		2	DC-
Input	Connector	Weidmueller 1173730000 / SL 7.62IT/04/90MF2 3.2SN BK BX	
	Pinning	1	L1
		2	L2
		3	L3
		4	n.c.
		5	PE
Interface	Connector	IDC 16P, TE Connectivity 1-338070-6	
	Pinning	1	Safety interlock input 1 (24V)
		2	Safety interlock input 1 (return)
		3	GND
		4	24V input, required to activate the power supply
		5	Fault (output), Open collector output. Conducts if a fault is present
		6	n.c.
		7	n.c.
		8	GND
		9	RS485 A
		10	RS485 B
		11	GND
		12	AC FAIL
		13	Enable, 3.3V and 5V compatible. Voltage applied (High) > output enabled
		14	GND
		15	Safety interlock input 2 (24V)
		16	Safety interlock input 2 (return)
Safety interlock status	Connector	Molex 430445-0400	
	Pinning	1	Safety interlock FB1.
		2	Safety interlock FB1 return.
		3	Safety interlock FB2.
		4	Safety interlock FB2 return.
Current share bus	Connector	IDC 4P, TE Connectivity 338070-4	
	Pinning	1	CSB-
		2	CSB+
		3	CSB+
		4	CSB-







Subject to modification 1626 430 0004 861

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