



Safety Interlock



LAPS-R series

19" ACDC power supply with safety interlock

Solution for



Laser



Semicon



Analytical



Industry



Motor Drive



Telecom /
Broadcasting

The LAPS-R series is a scalable power supply solution for DC and pulse applications. It comes with 3 phase universal mains input (no neutral). The unique integrated safety interlock PLe according to ISO 13849-1 functionality guarantees safety, reduces cost on system level and improves system uptime. The LAPS-R series can be put in parallel or series operation. It is specially designed to handle any kind of pulsed loads.

Key features

- ⏻ Safety interlock class PLe (unique!)
 - Double safety interlock
 - ISO-13849-1 PLe certified
- ⏻ Very low ripple
- ⏻ Excellent transient response
- ⏻ DC input capability
- ⏻ High power density
- ⏻ Programmable current and voltage output
- ⏻ Fully digital interface
 - Galvanic isolated
 - Control and monitoring
- ⏻ Modular and scalable
- ⏻ Parallel and/or serial operation
- ⏻ Universal mains, world-wide 3-phase without neutral, no derating
- ⏻ Liquid cooled

Benefits

- ⏻ Guarantees safety
 - Improves system uptime
 - Reduces total cost of ownership
- ⏻ Suitable for noise sensitive applications
- ⏻ Ideal for pulsed applications
- ⏻ For battery and UPS applications
- ⏻ Reduces footprint and increases scalability
- ⏻ Adjustable to user's specifications
- ⏻ Less sensitive for disturbances (robust)
 - Enables series operation
 - Remote diagnostics and programming
- ⏻ Easily adaptable to changing requirements
- ⏻ Scalable in current and voltage
- ⏻ Global use. No additional mains transformer required
- ⏻ Suitable for dusty environments



Main Technical Details

Model		LAPS-8000-xx-R	LAPS-12000-xx-R	LAPS-16000-xx-R	LAPS-20000-xx-R
Output	Voltage	9-55V / 15-90V / 18-110V / 30-180V	9-55V / 15-90V / 27-165V	9-55V / 15-90V / 18-110V / 30-180V	9-55V / 15-90V / 24-145V / 30-180V
	Current	0-160A / 0-106A / 0-80A / 0-53A	0-240A / 0-159A / 0-80A	0-320A / 0-212A / 1-160A / 0-160A	0-400A / 0-265A / 0-160A
	Power	8000W	12000W	16000W	20000W
	Ripple and noise	< 0,1%			
	Transient response	Load step: 50% - 100%: < 0,7% Load step: 0% - 100%: < 1,2% Recovery time (< 1%): < 1ms			
	Line regulation	< 0.1%			
	Load regulation	< 0.2%			
	Start-up time	< 3s			
	Hold up time	> 10ms, at 90% load			
Input AC	Voltage	180V - 528Vac, 3 Phase + PE. No derating at low line			
	Frequency range	47 - 63Hz			
	Power factor (typ)	0.95			
	Efficiency at 200 Vac	91.7%			
	Efficiency at 400 Vac	93.3%			
	Inrush current	< 10Arms, at 400Vac	< 15Arms, at 400Vac	< 20Arms, at 400Vac	< 25Arms, at 400Vac
Protections	Protections	Over temperature, Over current, Over voltage, input under and over voltage, phase loss etc.			
Functions	Output voltage and current programming	15 - 100%			
	Current sharing	Yes			
	Remote ON/OFF	Yes			
	Safety interlock	2 interlock signals, 2 feedbacks			
	Remote control and monitoring	RS 485 or EtherCat or analog / digital			
	Status outputs	Fail and AC-fail			
	Interface	Galvanic isolated			
Environmental	Cooling type	Liquid (copper, stainless steel on request)			
	Baseplate temperature	0 - 55°C, derating above 35°C			
	Ambient temperature	0 - 55°C			
	Storage temperature	- 40°C - 85°C			
	Humidity	5 - 90%, non-condensing			
Safety & EMC	Safety	IEC / UL / CSA 61010			
	Interlock	ISO 13849-1 PLe, DCavg > 99%			
	MTTFd	> 2500 years	> 1650 years	> 1250 years	> 1000 years
	EMC emission	IEC 61000 - 6 - 4			
	EMC Immunity	IEC 61000 - 6 - 2			
	Semi	F 47			
Others	Dimension	19", 3U x 250mm	19", 3U x 355mm	19", 3U x 460mm	19", 3U x 565mm
	Parallel/series operation	Max. 3 units in series, up to 3 units in parallel, limited to maximal 180Vdc output voltage			

