Hybrid Power

AEP 100

AC/DC converter

- Innovative in energy storage & Power Electronics
- Custom-made solutions
- Complete solution: storage & Power Electronics
- Design and system integration

Features

- 40 kW converter
- Flexible mounting system
- Several devices mountable alongside each other, cable connection only on two sides
- Load-dependent PWM fan control
- Low output current ripple for DC/DC application
- Optional: customer specific signal analysis and processing
- Optional: implementation and analysis of customer specific data interfaces and protocols

Applications

- Drive of AC- or DC-motors (including regenerative energy)
- Active filter
- Active Front End

Mechanical Data

Length x Depth x Height
178 x 359 x 238 mm
Approx. 9,8 kg

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Technical Characteristics

Symbol	Parameter	Description	Value	Unit
	General			
P_r	Rated power	@U_{out}400VAC, cos(ϕ)=1	40	kW
P_{MAX}	Max. power	@U_{out}400VAC, fr 2kHz 1min/10min	48	kW
F_r	Switching frequency		≤16	kHz
$ɲ_r$	Efficiency	@P_r	>95	%
	Input			
U_{in}	Input voltage range	±15%	400	VAC
f_n	Nominal frequency	±10%	50	Hz
I_{nom}	Nominal phase current		60	A
I_{max}	Max. phase current	30s/10min.	70	A
	Output			
U_{out}	Output voltage		600 – 700	VDC
$U_{out,max}$	Max. operating voltage		750	VDC
	Supply power			
	Control voltage	Rated value	24 ± 5%	VDC
	Control current		<1	A
	Environment			
	Operating temperature		0 till 40	°C
	Storage temperature		0 till 50	°C
	Protection degree		IP00	
	Communication			
	Measurement signals	IGBT temperature (NTC integrated in module) Output current (LEM LAH 100-P) DC-Link voltage PCB temperature	-40 till 160 -145 till 145 0 till 980 -40 till 150	°C A V °C
	6x relay drivers			
	7x binary outputs	High Low	16 till 29 0 till 2	V V
	7x binary inputs	High Low	17 till 30 0 till 2	V V
	2x connection for voltage and current measuring			
	Data	CAN 2.0B / RS232		

Symbol	Parameter	Description	Value	Unit
	Cooling	Fischer electronic LA V 7 with 2 x 24 V DC fan and airflow chamber		
	Dimensions including fan and airflow chamber	Length x Depth x Height	178 x 359 x 238	mm
R_{th}	Thermal resistance		0,045	K/W
P_{Fan}	Power demand	Each fan	3	W
V/t	Max. Flow rate	Each fan	56	M^3/h
n_r	Rated revolutions		6850	Min^{-1}

Mechanical Data

Length x Depth x Height: 178 x 359 x 238 mm
Weight: Approx. 9,8 kg

Accessories

Figure 1: Pre-charge

Figure 2: Choke Assembly

Figure 3: EMC filter

Figure 4: Voltage measurement

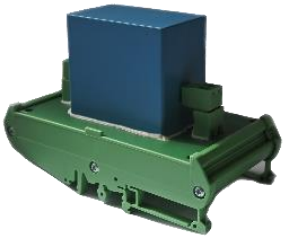

Figure 5: Output cap