

EN60LTPIC-K11

PEU module (power electronics module) for delivery cars



Product information:

Power electronics module (PEU – Power Electronics Unit) intended for delivery cars. It combines functions of the motor driver, onboard charger and DC/DC converter. It has a quick DC charge function, as well as cooling and heating. The converter is capable of controlling rotational velocity and torque of the engine in accordance with demands of the vehicle control unit (VCU). The converter is also capable of detecting errors and storing their data.

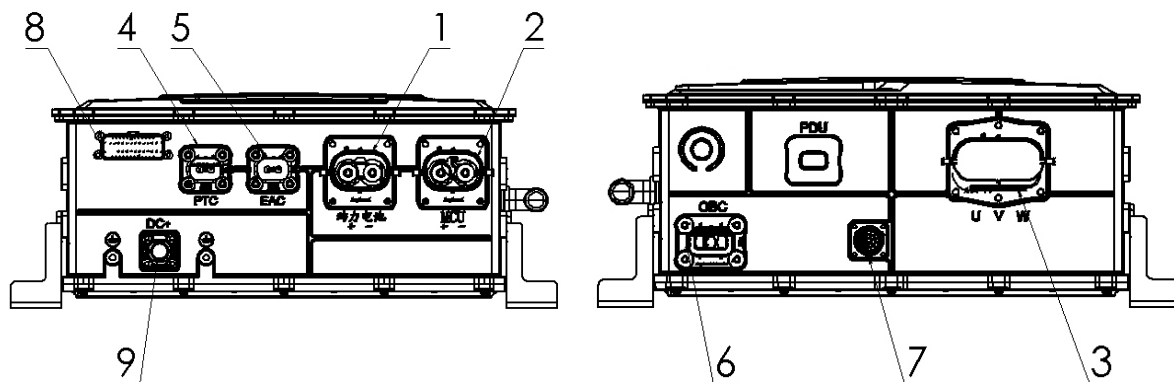
Functionalities:

- Galvanic insulation
- Liquid cooling
- CAN 2.0 communication
- Efficiency $\geq 96\%$

Technical specification:

	Parameter	Value	Unit
Converter – parameters	Overall dimensions	440 x 370 x 193	mm
	Montage dimensions	422 x 355	mm
	Operating voltage range	456 – 638,4	V
	Admissible operating temperature range	-10 ~ +45	°C
	Admissible storage temperature range	-40 ~ +70	°C
	Security level	IP67	-
	Cooling	liquid	-
	Cooling liquid	Glycol with demineralised water (50/50)	-
	Cooling efficiency	$\geq 20\text{L}/\text{min}$	-
	Maximum operating height	2000	m a. s. l.
	Communication	CAN 2.0	-
	Capacitors discharge time after switching the power off	10	min.
Mass	27	kg	

DC/DC converter - parameters	Type of load	Lead-acid or lithium-ion batteries	-
	Rated output power	3/1,5	kW
	Efficiency	> 96%	-
	Output voltage	27,5±0,3/14	VDC
	Rated output current	110	A
	Type of work	Constant work	-
Motor controller (MCU) - parameters	Rated power	110	kW
	Efficiency	≥98%	-
	Type of engine used	PMSM	-
	Input voltage	456 – 638,4	V DC
	Power current	3,5	A
	Output voltage	up to 800V	V
	Rated output current	235	A
	Peak output current (60s)	350	A
	Overload	150% (1min) 180% (10s) 200% (0.5s) Intervals 10min	-
	Accuracy of controlling the velocity	±0.2%	-
Torque setting time	<10	ms	
Torque control accuracy	±5%	-	
Protections	Protection against overheating, overvoltage, undervoltage, overcurrent, overload, phase-to-phase fault, earth fault, phase loss, sudden load change		-



Picture 1 – Converter connectors layout

NR.	NAME	PRODUCER	MODEL	CROSS-SECTION
1	Battery connector	Amphenol	HVC2P80MV150	50mm ²
2	Quick charge connector	Amphenol	HVC2P80MV250	50mm ²
3	Three-phase motor connector	Amphenol	HVC3P80MV135	35mm ²
4	PTC	Amphenol Bada	HVC2P28MV204	4mm ²
5	EAC	Amphenol Bada	HVC2P28MV104	4mm ²
6	OBC	Amphenol	HVC3P63MV106	6mm ²
7	3,3kW charging signal connector	Amphenol	RT001619PN03	
8	Low-voltage signal	TE	776163-1	
9	DC + connector	Amphenol	HVSC1P80MV102	25/50mm ²

* the manufacturer reserves the right to make changes to the parameters and appearance of the product