

Commeo energy storage block Longlife

esbL44ER

FOR 48V SYSTEMS

commeo
energy storage solutions

system component
for battery systems

Technical data

technology description		pluggable Lithium ion battery (NMC)	
nom. energy		4.5 kWh	
nom. voltage		51.7 V ---	
nom. capacity		86.0 Ah	
max. discharge power (at nom. voltage)		4.8 kW	
energy density		104.2 Wh/l	
specific energy		83.5 Wh/kg	
expected cycles		(1.1C charge 1.1C discharge 25 °C 80 % SOH) 11,000 @ 80 % DoD 6,500 @ 90 % DoD 3,750 @ 100 % DoD	(0.5C charge 0.5C discharge 25 °C 80 % SOH) 12,000 @ 80 % DoD 7,000 @ 90 % DoD 4,000 @ 100 % DoD
installation site		indoors non-condensing	
IP Code		IP 20	
protection class		2	
Breaking capacity (resistive, bidirectional)	60 V --- 2 A	45,000 cycles	
	60 V --- 100 A	15 cycles	
expected operating life (calendric)		12 years	
dimensions (W x H x D)		265 x 310 x 520 mm	
weight		approx. 53.3 kg	
communication interface		CAN-Bus	
EU directives		2006/66/EG (BattG), 2014/30/EU (EMC), 2014/35/EU (LVD), 2011/65/EU, 2015/863/EU (RoHS)	
norms and standards		DIN EN 62619, UN 38.3, DIN EN 61010-1, DIN EN 61000-6-2/4, DIN EN ISO 13849-1	

Operating window

operation mode		guided by the State-of-Power (SoP) according to the specifications of the battery management system (BMS)	
max. charge current	continuous	100.0 A (1.1C)	
	60 sec.	150.0 A (1.7C)	
end-of-charge current		4.3 A (0.05C)	
max. discharge current	continuous	100.0 A (1.1C)	
	60 sec.	150.0 A (1.7C)	
	45 sec.	175.0 A (2C)	
	15 sec.	200.0 A (2.3C)	
rel. humidity		< 80 % (temperature-dependent) non-condensing	
operating temperature range		5 – 50 °C charge 5 – 55 °C discharge	
operating voltage range		43.6 – 58.3 V ---	
temperature range	transport	< 1 month	-20 – 45 °C
	storage	< 6 month	-20 – 25 °C
max. operating altitude		2,000 m above sea level	



 The user manual has to be strictly followed. The operating window of the battery has to be complied with.

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