



FLEX 7 energy & power battery module

Opportunity-charging system for all-electric and hybrid heavy vehicles

	Full day operations or opportunity charging	+ High power-to-energy ratio
	Easy integration	+ Scalable modular system of 7 kWh modules connected both in series and in parallel + Optimized weight and volume for high vehicle's capacity
	High reliability & safety	+ Liquid thermal management + Best-in-class proprietary BMS technology + R100-2; R10.5 certifications
	Great Total Cost of Ownership (TCO) & fast availability	+ High cycle life up to 10 years + High-volume series production

Flex 7 energy & power Li-ion NMC battery module

PHYSICAL SPECIFICATIONS	CONDITIONS	UNIT	# MODULES							
			1	2	3	4	5	6	7	8
VOLTAGE										
Minimal	-	V	65	130	194	259	324	389	454	519
Nominal	-	V	89	178	266	355	444	533	622	711
End of charge	-	V	98	197	295	394	492	590	689	787
Maximum (Regeneration)	-	V	101	202	302	403	504	605	706	807
ENERGY / CAPACITY										
Embedded energy	C/2, BOL	kWh	7.1	14.2	21.3	28.4	35.5	42.6	49.7	56.8
Self discharge	BOL	%	< 1.54% per month							
System capacity	BOL		80 Ah - two cells of 40 Ah in parallel							
POWER										
Max. continuous power in discharge	SOC 50%	kW	18	36	53	71	89	107	124	142
Peak power in discharge (30 s)	SOC 50%	kW	27	53	80	107	133	160	186	213
Max. continuous power in charge	SOC 50%	kW	18	36	53	71	89	107	124	142
Peak power in charge (30 s)	SOC 50%	kW	27	53	80	107	133	160	186	213
CURRENT										
Maximum continuous current in discharge	-	A	200 (2.5 C)							
Peak current in discharge (30 s)	SOC 50%	A	300 (3.5 C)							
Maximum continuous current in charge*	-	A	200 (2.5 C)							
Peak current in charge (10 s)	SOC 50%	A	300 (3.5 C)							
DENSITY										
Specific energy	BOL	Wh/kg	88							
Energy density	BOL	Wh/L	130							
Power density	BOL	kW/kg	219							
CYCLE LIFE										
Cycle life	80% DOD, 1C/1C		> 10,000 cycles							
MECHANICAL CHARACTERISTICS										
Weight without water		kg	81	162	423	324	405	486	567	648
Weight with water		kg	83	166	249	332	415	498	581	664
Volume		Liter	55	-	-	-	-	-	-	-
Height		mm	274	-	-	-	-	-	-	-
Width		mm	280	-	-	-	-	-	-	-
Depth without connectors		mm	670	-	-	-	-	-	-	-
Depth with connectors		mm	713	-	-	-	-	-	-	-

@ 25°C | * to maximize lifetime, 1C charge is recommended | SOC: State Of Charge | SOH: State Of Health | DOD: Depth of Discharge | BOL: Beginning Of Life

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