

2.1. Battery characteristics

The table below gives the main characteristics of the battery and BMM:

Battery electrical characteristics	10 modules	Unit
Nominal voltage	480	V
Maximum voltage	560	V
Maximum voltage in case of cell voltage limitation to 3.8V	532	V
Minimum voltage	420	V
Nominal capacity (C/3, 25°C)	45	Ah
Minimum capacity (C/3, 25°C)	41	Ah
Maximum continuous charge current allowed (normal charge)		-
@ +35°C	29	A
@ +20°C	20	A
@ 0°C	11	A
@ -20°C	5	A
Maximum discharge current		
- Continuous	50	A
- 30s pulse	60	A
Insulation:	Compliant with EN 50178:	-
- pollution degree	- Overvoltage category I, pollution d°2	-
- insulation resistor @1000Vdc	- > 1	MOhm
- dielectric	- 1350Veff_AC / 50Hz	Vrms
BMM electrical characteristics		
Power supply characteristics	TBTS compliant with CEI_60950-1	
- touch current	< 0.25	mA
- voltage	24 \pm 5	Vdc
- maximum current	1	A
- maximum power	24	W
- ripple	< 100	mV
- inrush current	700	mA
Insulation:	Compliant with EN 50178:	-
- pollution degree	Overvoltage category I, pollution d°2	-
- insulation resistor @1000Vdc	> 1	MOhm
- dielectric	1350Veff_AC / 50Hz	Vrms
Maximum current		
- Continuous	50	A
- 30s pulse (circuit opened after 30s)	60	A
Mechanical characteristics		
Unit battery module Width	445	mm
Unit battery module Depth	293	mm
Unit battery module Height	131	mm
Unit battery module Weight	18.5	kg
BMM Width	420	mm
BMM Depth	372	mm
BMM Height	92	mm
BMM Weight	5	kg
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General characteristics		
Operating battery temperature range (derating between 50°C and 60°C)	-20 to +60	°C
Storage battery temperature range	-20 to +75	°C
Recommended storage battery temperature range (to preserve lifetime)	< +40	°C
Recommended storage BMM temperature range (to preserve lifetime)	-20 to +65	°C
Maximum altitude	2000	m
Environmental conditions	Interior without air conditioning, not condensing: B type following EN50178-1:1997	-
- Environment temperature	+5 to +40	°C
- Environment humidity	5 to 85	%
EMC	Following EN 62040-2: C3 for immunity, C1 for emissions	-
- Electrostatic discharge	+/- 4kV contact - +/- 8kV air	-
- Fast transient-Burst	2kV - 5kHz - Capacitive clamp	-
- Magnetic field	30A/m - 50Hz	-
- Radiated immunity	10V/m from 80 to 1000MHz - 80% AM (1kHz)	-
- Radiated emission	30 dBµV/m from 30 to 230MHz at 10m 37 dBµV/m from 230 to 1000MHz at 10m	-
Vibration	IEC 62093: 2g from 10hz to 150Hz	-
Shocks	IEC 62093: 15g, 11ms	-
Transport of Lithium batteries	UN 3480	-