12S1P Module Interface Specification

NP550-050, 44.4V, 55Ah

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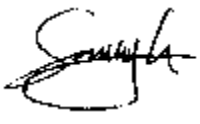
Enertech International, Inc.			

1. Module System Parameters

Specific parameters for the module are detailed in the chart below

Parameter	Units	Specification	Note
Cell	Ah	55	ETI123100302 P55A
Series	n/a	12	One Module
Parallel	n/a	1	One Module
Cell Voltage			
Max	V	4.2	At 100% SOC
Nom	V	3.7	At 50% SOC
Min	V	2.7	At 0% SOC
Cell Capacity			
Rated	Ah	55	From cell specification
Minimum	Ah	53	From cell specification
Module Configuration			
Cell Element	Cell	12	element contains 12 cells (12s1p)
Module Capacity (BOL)			
Rated	Ah	55	Calculated based on cell capacity
Minimum	Ah	53	Calculated based on cell minimum capacity
Module Capacity (EOL)			
Rated	Ah	38.5	Estimated at 70%
Minimum	Ah	37.1	Calculated based on cell minimum capacity with estimated at 70%
Module Voltage			
Max	V	50.4	Determined at maximum cell voltage
Nom	V	44.4	Determined at nominal cell voltage
Min	V	32.4	Determined at minimum cell voltage
Module Energy			
Rated	kWh	2.44	Calculated value based on rated system capacity
Minimum	kWh	2.35	Calculated value based on minimum capacity
Usable (typical)	kWh	1.46	Estimated energy between 20% and 80% SOC, de-rated specific to system application
Usable (max)	kWh	2.07	Estimated energy between 10% and 95% SOC, de-rated specific to system application
Module Discharge Power			
Continuous	kW	1.22	At nominal system voltage (27.5A*3.7V*12)
Max	kW	9.76	At nominal system voltage (220A*3.7V*12)
Peak	kW	14.65	At nominal system voltage (system/cell peak, duration less than 60s)
Module Charge Power			
Continuous	kW	1.22	At nominal system voltage (27.5A*3.7V*12)
Max	kW	4.88	At nominal system voltage (110A*3.7V*12)

Parameter	Units	Specification	Note
Peak	kW	N/A	At nominal system voltage (system/cell peak, duration less than 10s)
Module Discharge Current			
Continuous	A	27.5	Continuous between 20% and 100% SOC, specific to system application
Max	A	220	Continuous between 20% and 100% SOC (system maximum continuous)
Peak	A	330	Between 20% and 100% SOC (system/cell maximum surge, duration less than 60s)
Module Charge Current			
Continuous	A	27.5	Continuous between 0% and 80% SOC, specific to system application
Max	A	110	Continuous between 0% and 80% SOC (system maximum continuous)
Peak	A	N/A	Between 0% and 80% SOC (system/cell maximum surge, duration less than 10s)
Module Specification			
Mass	kg	Approx. 12	Approximate calculated value
Battery Shelf Life	years	5	Continuous between 20% and 80% SOC
Operating Temperature/Humidity			
Max	% RH	85	Range (cell min/max)
Min	% RH	45	Range (cell min/max)
Max	Degrees °C	55	Zero Current Limited Above Max Operating Temp
Min(Discharge)	Degrees °C	(-)20	Zero Current Limited Below Min Operating Temp
Min(Charge)	Degrees °C	0	Zero Current Limited Below Min Operating Temp
Storage Temperature	Degrees °C	0 to 25 ≤1year	Range (cell min/max)
		0 to 45 ≤3Month	Range (cell min/max)
		-30 to 60 ≤1Month	Range (cell min/max)

Table 1 - Product Technical Specifications

2. Mechanical Drawings

Parameter	Unit	Value
X Dimension	mm	360.0
Y Dimension	mm	165.0
Z Dimension	mm	109.5
Mass	kg	12

Figure 1 Module Outline Drawing