

The logo features the word "ULTRA" in a bold, italicized, white sans-serif font. This is followed by "LiFE" in a similar italicized font, but with a red square dotting the "i" and a registered trademark symbol (®) at the end. The background is dark grey with a grid of squares that fade out towards the top right.

ULTRALiFE®

2EXL7577

14.4V 6.0Ah Li-ion Battery Assembly

File ID	Author	Approval	Circulation	Release Date	Pack ID	Page	Rev
SP-2EXL7577-Rev-AA	G. Nicolas	M. MacWillie	Sales	2023-06-06	2EXL7577	1/7	AA

Part Number: 2EXL7577

14.4V 6000mAh Li-ion Battery Assembly

Key Features:

- Samsung INR18650-30Q cells
- Integrated protection circuit ensures operation with safe limits 4S2P configuration
- With 10k NTC thermistor lead
- Molex Nano-Fit 1053071203 connector
- Designed to meet IEC 62133 and UL 2054

Regulatory Approvals:

- UN 38.3

Electrical Characteristics:

Nominal Voltage	14.4V
Capacity (Typical @ 25C)	6000mAh
Capacity (Minimum @ 1200mA, 10V cut-off, 25C)	5900mAh
Energy (Typical, @ 25C)	86.4Wh
Voltage Range	10V – 16.8V
Continuous Charge Current (Standard @ 25C)	3A
Continuous Charge Current (Max @ 25C)	4A
Continuous Discharge Current (Max @ 25C)	4A
Charge Termination Current (3A charge @ 25C)	300mA
Charge Termination Current (4A charge @ 25C)	200mA
Thermistor Manufacturer Part Number	NPC18XH103J03RB
Thermistor Nominal Resistance (@ 25C)	10K
Thermistor BConstant(25/85C)	3434K

Mechanical Characteristics:

Dimensions	Length (Typical)	75.447mm
	Width (Typical)	72.600mm
	Thickness (Typical)	37.650mm

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Environmental Characteristics:

Charge Temperature (Ambient)	0C to +45C
Discharge Temperature (Ambient *Note 1)	-20C to 60C
Storage Temperature (Ambient, @30% SOC *Note2)	0C to 23C (1 year)
	0C to 45C (3 months)
	0C to 60C (1 months)

Note 1: Maximum cell surface temperature = 70C. Maximum surface temperature is defined as the point in the pack where the cell surface temperature is the highest.

Note 2: Capacity recovery > 80% for all specified storage conditions if stored at 30% state of charge.

Serialization:

Packs will be serialized per Excell's standard serialization format BYZZZZNNNN where:

- B = Excell Battery branch
 - 1 = Surrey
 - 2 = Mississauga
 - 3 = Calgary
 - 4 = Houston
- YY = The last two digits of the current year
- ZZZ = The day of the year the serial batch was created
- NNNN = Incremental number within the serial batch

For example, the first battery in a batch produced in Surrey on February 11, 2021 would be: **1210420001**.

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Labelling:

Packs will have the following labels affixed to the surface of the battery:



Rechargeable Li-Ion Battery

Volt. : 14.4 V Cap. : 6.0 Ah Watthr. : 86.4 Wh

EBCPN 2EXL7577

WARNING: FIRE, EXPLOSION, AND SEVERE
BURN HAZARD, DO NOT SHORT CIRCUIT, FORCE
OVERDISCHARGE, FORCE OVERCHARGE,
DISASSEMBLE, CRUSH, OR PENETRATE,
BATTERY MAY LEAK OR EXPLODE IF
HEATED ABOVE RATED TEMPERATURE.



Must be disposed of as per local
environmental or waste regulations.



Li-ion

Assembled in Canada

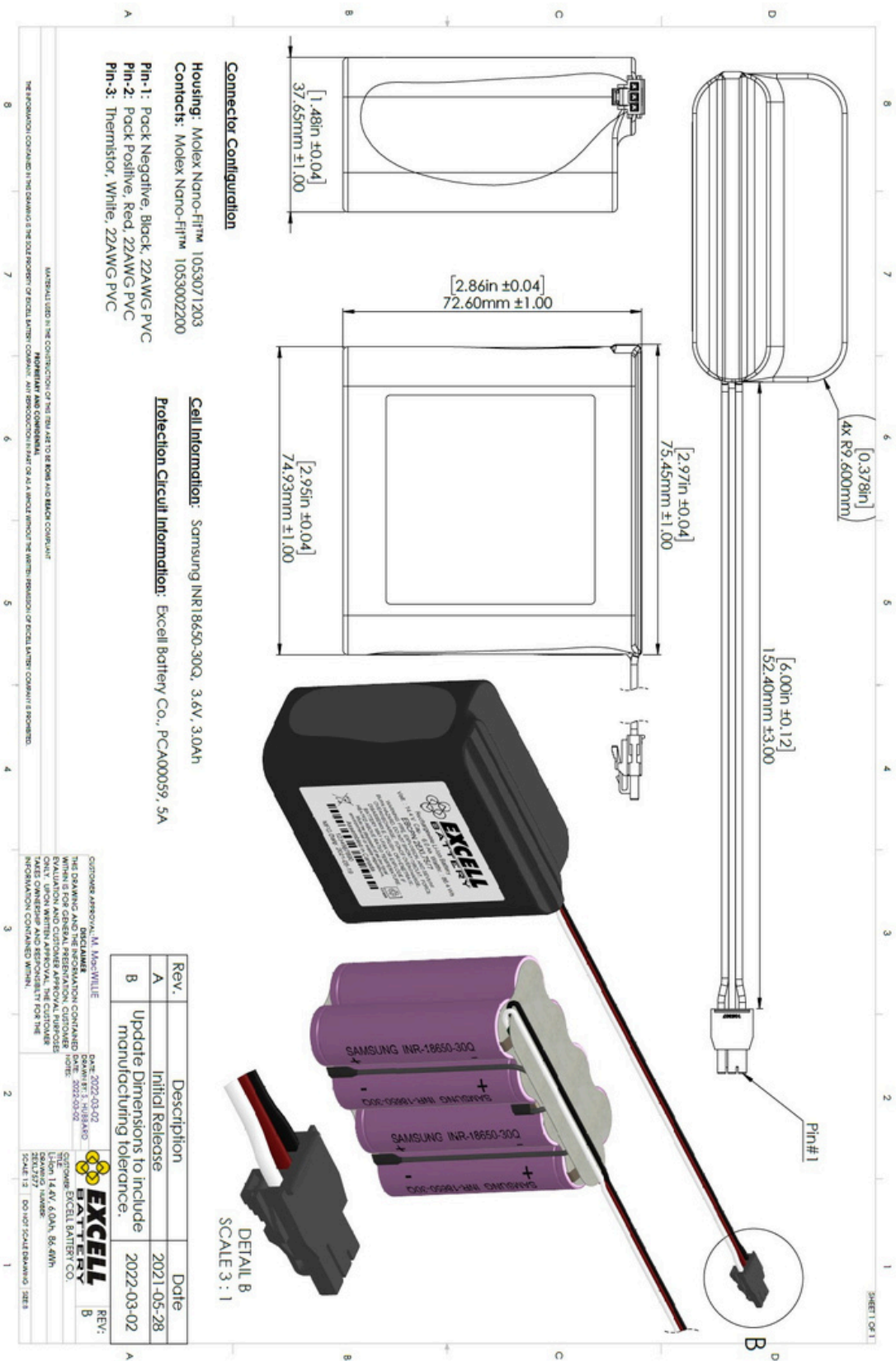


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MFG Date: 2021-05-19

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Pack Drawing:



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Protection Circuit Thresholds:

Parameter	Min.	Typ.	Max.	Unit
Maximum Recommended Constant Operating Current		4.000		A
Overdischarge Detection Voltage	2.220	2.300	2.380	V
Overdischarge Release Voltage	2.500	2.600	2.700	V
Overdischarge Detection Delay	0.900	1.000	1.100	S
Overdischarge Release Delay		n/a		ms
Overcharge Detection Voltage	4.250	4.300	4.350	V
Overcharge Release Voltage	4.050	4.100	4.150	V
Overcharge Detection Delay	0.900	1.000	1.100	S
Overcharge Release Delay Time		n/a		ms
Discharge Overcurrent Threshold	4.500	5.000	5.500	A
Discharge Overcurrent Delay	0.900	1.000	1.100	S
Discharge Overcurrent Release Delay		n/a		S
Charge Overcurrent Threshold	4.000	5.000	6.000	A
Charge Overcurrent Delay	0.900	1.000	1.100	S
Charge Overcurrent Release Delay		n/a		S
Short Circuit Detection Threshold	13.077	17.000	22.100	A
Short Circuit Detection Delay	100.000	300.000	600.000	us
Redundant Safety Fuse		15.000		A
Operating Ambient Temperature	-40.000		85.000	°C
Storage Temperature	-40.000		125.000	°C

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Cell Specification:

2. Description and model

2.1 Description	lithium-ion rechargeable cell
2.2 Model name	INR18650-30Q
2.3 Site	Manufactured in Korea, Malaysia & China

3. Nominal specifications (*1)

Item	Specification
3.1 Standard discharge capacity	Min. 2,950mAh - Charge: 0.5C(1.5A), 4.20V, 0.02C(150mA) cut-off @ RT - Discharge: 0.2C(600mA), 2.5V cut-off @ RT * 1C = 3,000mA
3.2 Rated discharge capacity	Min. 2,900mAh - Charge: 4A, 4.20V, CCCV 100mA cut-off @ RT - Discharge: 10A , 2.5V cut-off @ RT
3.3 Nominal voltage	3.6V
3.4 Standard charge	CCCV, 1.5A, 4.20V, 150mA cut-off
3.5 Rated charge	CCCV, 4A, 4.20V, 100mA cut-off
3.6 Charging time	Standard charge : 132min / 150mA cut-off (@ RT) Rated charge: 60min / 100mA cut-off (@ RT)
3.7 Max. continuous discharge	15A (@ RT)
3.8 Discharge cut-off voltage	2.5V (End of discharge)
3.9 Cycle life	Capacity $\geq$ 1,770mAh @ after 250cycles (60% of the standard capacity @ RT) - Charge : 1.5A, 4.20V, CCCV 150mA cut-off @ RT - Discharge: 15A , 2.5V cut-off @ RT
3.10 Storage characteristics	Capacity recovery(after the storage) $\geq$ 2,320mAh (80% of the rated capacity @ RT) - Charge : 4A, 4.20V, CCCV 100mA cut-off @ RT - Storage : 30 days (@ 60℃) - Discharge : 10A , 2.5V cut-off @ RT
3.11 Cell weight	48.0g max
3.12 Cell dimension	Height : Max. 65.00 mm Diameter : Max. 18.40 mm
3.13 Operating temperature(*2)	Charge : 0 to 45℃ (Ambient) Discharge: -20 to 60℃ (Ambient)
3.14 Storage temperature(*3)	1 year 0~23℃ 3 months 0~45℃ 1 month 0~60℃

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Revisions:

Revision	Date	Description of Change	DQP / ECO #
X01	2021-05-31	PRELIMINARY	DQP-M21-49
AA	2023-06-06	Initial Release	DQP-2211