

- ROTHENBERGER LiHD® Cell Technology 3.0
- Ultra M technology: Intelligent battery management for long-lasting battery packs
- Patented “AIR COOLED” charging technology
- Permanent Electronic Single Cell Protection (ESCP), for particularly long life.
- Processor-controlled charge and discharge management
- Long storage capacity with almost no self-discharge
- LED Fuel gauge, displays remaining capacity
- No memory effect, Long storage capacity with almost no self-discharge

Voltage-Capacity-Energy-Power-Current	18V-8.0Ah-144Wh-1.260W-70A-147Wh/kg-191Wh/L
Cell dimension / number off cells	21700 / 5S1P = 10 cells,
Weight / Size	977g / L123 x W83 x H74
Impedance	R AC1KHz < 30mΩ, R DC < 60mΩ (delivery condition)
Life cycle	> 500 cycles, C > 70% (T Ambient = 25°C, ½ I Nominal)
State of charge	25 - 30%

State of charge	LED1>20%, LED2>40%, LED3>60%, LED4>80%
Battery empty	LED1<20%, 3 times flashing
Electronic awake	LED 4, short flashing each 15 s
Over voltage, Wire break	LED 1, 2 and 4, short flashing each 15 s

Battery must only be charged using original ROTHENBERGER chargers!

Temperature range	Storage: -20°C... 60°C / Application: -20°C ... 50°C
Humidity	< 90% (non-condensing), IP-Code IP20
Vibrations- and Shock stress	< 5G, (x-, y-, z-axis)
International Markings	



Material Safety Data Sheet



Specification and Measurements

<u>Equipment</u>	Name Date Comment		
<u>Equipment Functions</u>	ROTHENBERGER specified Values	Measured Values Customer	Measured Values ROTHENBERGER
Over current cut-off	I cutoff < 90A/30s < 140A/1s < 280A/0,1s		
Over temperature cut-off	T cutoff < 75°C, R NTC > 1.000Ω (Sensor NTC 6,8k / B3950)		
Under temperature cut-off	T cutoff > -40°C, R NTC < 270KΩ (Sensor NTC 6,8k / B3950)		
Under voltage cut-off, under Load	U cutoff > 12,5V after 1s		
Startup protection in Undervoltage	U startup > 15V		
No Battery wakeup in Idle or Error mode, NTC+ & Datapin	V < 0.5V after 5 minutes		
Quiescent Current when in Undervoltage (U<11V)	I q < 5μA		
Current into Battery	8A / max. 4s, max. 21,15V		

Certification

Battery is certified regarding UN Transportation 38.3 and IEC 62133

Transportation

Shipping of the battery must guarantee according ZVEI-EPTA-IVG-guidelines

<http://www.zvei.org/Verband/Fachverbaende/Elektrowerkzeuge/Seiten/Neue-Merkblaetter-Transport-von-Lithium-Ionen-Batterien.aspx>

Hazard Class

UN-no.: 3480

IATA DGR Pack-Instr.: Documentation IATA Shipping Declaration

Approval

For the complete battery system approval, the costumer have to send a sample device including functional description. The reference sample stay at ROTHENBERGER.

Application

Battery used together with equipment:

Equipment Name / Description

Place / Date

Signature / Customer

Strictly Confidential

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