Data Sheet

Lithium-ion rechargeable battery for Eppendorf Multipette® E3/E3x and Repeater® E3/E3x

International Order No.	4986 602.009
Order No. North America	022462407
Type Designation	QW LI PB-603450 Li-ion
System	Li-Ion
Nominal Voltage [V]	3.7 (average)
Nominal Capacity C [mAh]	1200
Dimensions [mm]:	
Width (W)	34.0
Height (H)	50.0
Thickness (T)	6.4
Weight, approx. [g]	25.0
Charging Method	Constant Current + Constant Voltage
Discharge Cut-Off voltage [V]	3.0
Overcharge protection voltage [V]	4.2
Max. Continuous Charge Current	1C
Max. Continuous Discharge Current	1.5C
Operating Temperature [°C]	Charge: 0 to 45 Discharge: -20 to 55
Storage Temperature [°C]	-5 to 35 Suggested 25±5
Storage Humidity [%]	≤ 75
Impedance Initial (at 25°C) [mΩ]	≤ 60
Case Material	Aluminium
RoHS compliance	The material of the product and packaging accords with RoHS standard

Your local distributor: **www.eppendorf.com/worldwide**
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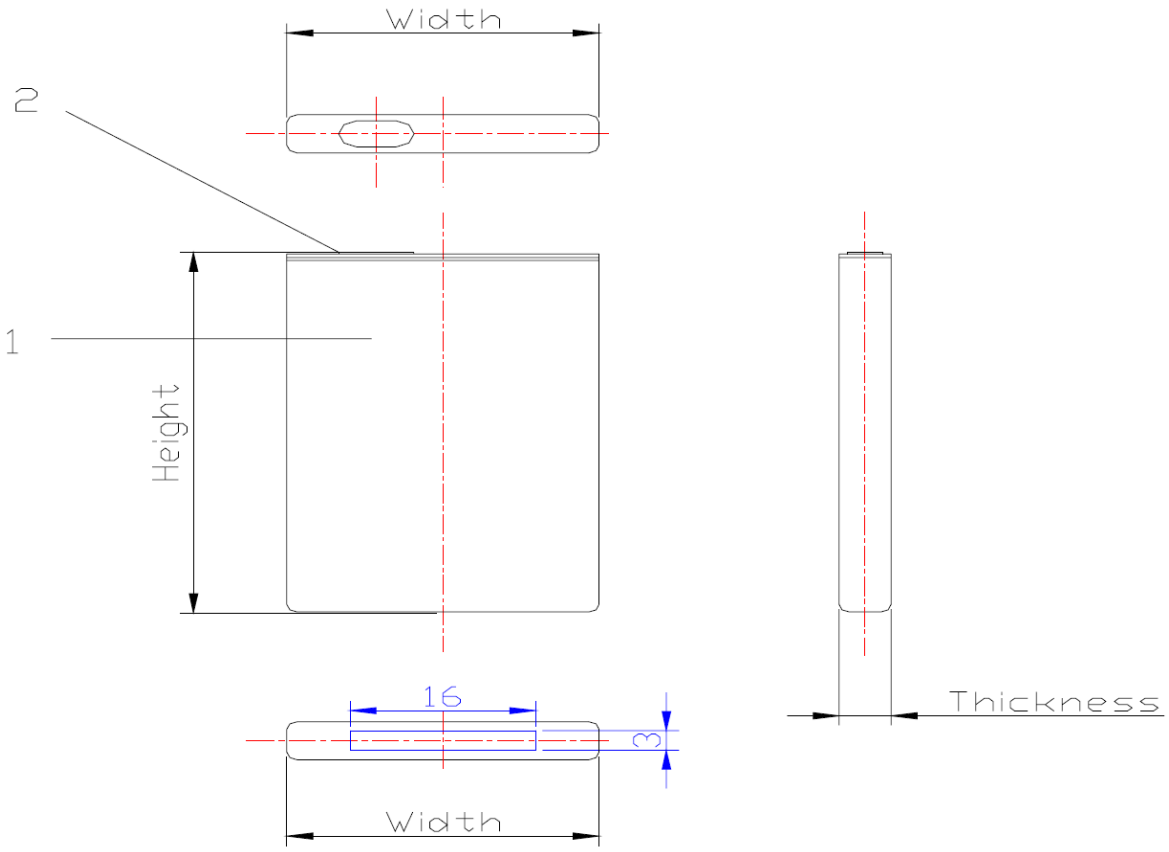
www.eppendorf.com/easypet

Dimensions of battery pack:



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Use Attentions:

- To ensure proper use of the battery please read the manual carefully before using it

Warnings:

- Do not expose to or dispose of the battery in fire
- Do not put the battery in a charger or equipment with wrong terminals connected
- Avoid shorting the battery
- Avoid excessive physical shock or vibration
- Do not disassemble or deform the battery
- Do not immerse in water
- Do not use the battery mixed with other different types or models of batteries
- Keep out of reach of children
- Do not solder directly to the cells/batteries
- Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

Charge:

- Battery must be charged in an appropriate charger only
- Never use a modified or damaged charger
- Charge current: Must not surpass the maximum charge current specified in this sheet
- Charge voltage: Must not surpass the maximum voltage current specified in this sheet
- Charge temperature: Make sure that the charging temperature does not surpass the limits of operating temperatures specified in this sheet
- Use constant current and constant voltage to charge. Please connect the positive and negative terminals in the right way. Otherwise the battery may be damaged.

Discharge:

- The discharge current must not surpass the maximum discharge current specified in this sheet
- Large discharge current can cause heat and lower capacity
- Discharge temperature: Make sure that the discharging temperature does not surpass the limits of operating temperatures specified in this sheet

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- Over-discharge: A short-time over-discharge won't damage the battery. But the battery will be damaged for being long time over-discharged.

Storage

- The Li-ion battery pack should be stored in a cool, dry and well-ventilated area, and should stay far away from fire and high temperature
- The best storage temp. is 25±5 ℃. The best humidity is ≤ 75 %
- The battery should be charged to about of its capacity (3.7…3.9V)
- In order to avoid over-discharge, we suggest to charge and discharge the batteries every three months. Then charge to 40% ~ 60% of its nominal capacity
- During long-term storage, the battery may achieve over-discharge condition through self-discharge. To prevent over-discharge during storage, the battery should maintain certain capacity

Transport Information:

- This Li-ion battery complies with the UN recommendations of "Transport of Dangerous Goods", IATA dangerous goods regulations. It applies the U.S. DOT regulations for safe transport of Li-ion batteries. It is classified as "non-dangerous good".
- **UN Number**: UN3481
- **Mode of transport:** Road transport ADR/RID, sea transport IMDG, air transport ICAO-TI and IATA-DGR
- Li-ion battery according to packing instruction 965-967 of IATA DGR 54th edition for transportation
- The consignment complies with the current edition-54rd 2012 of the IATA regulation
- 1. Section II of packing instruction 966(for lithium-ion cells/batteries packed with equipment, shipped as "Not Restricted" cargo).
- 2. Meets all requirements under UN manual of tests and criteria part III, subsection 38.3.
- 3. With content of less than 20Wh per cell or 100Wh per battery, the consignment can be shipped as "Non-Dangerous-Good", so long as:
  a) the consignment does not contain any recalled and/or defective batteries.
  b) the consignment have been packed in compliance with Section II of PI966.
  c) the consignment is handled with care: flammable hazard could pass out if the packaging is damaged.
  d) if the packaging is damaged, batteries must be protected to prevent short circuit

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- Do not immerse the battery in water and protect it against splashing liquids
- Do not stack more than 7 layers
- The highest temperature in transportation should be less or equal than 55℃

Composition/ Information on Ingredients

- Components of Li-ion battery:

Component	Chemical Name	CAS Number	Concentration Range [%]
Lithium Cobalt Oxide	LiCoO2	7782-82-5	30-37
Graphite	C	7782-82-5	15-20
Acetylene Black	C(SP)	1333-86-4	0-1.0
PVDF	-[-CH2-CF2-]-n	24937-79-9	0-1.0
Lithium Hexafluorophosphate	LiPF6	21324-40-3	12-16
Diaphragm Paper	PE	9002-88-4	6-10
	PP	9003-07-0	
Aluminum Foil	Al	7429-90-5	2-5.0
Copper	Cu	7440-50-8	5-10
Aluminum Shell	Al	7429-90-5	10-15

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