

PRODUCT SUMMARY GUIDE

Technical Datasheet

The Ultralife Advantage

Better technology. Our battery & charging technologies and power systems enable us to design leading-edge solutions for the world's most demanding applications.

Lithium-Manganese Dioxide Batteries

- 9-Volt
- Thin Cell[®]
- HiRate[®] Cylindrical
- Military

Rechargeable Batteries

- Lithium Polymer
- Lithium ION

Magnesium-Silver Chloride Batteries

- Seawater Activated



Our goal is to continuously improve the performance of our batteries. The specifications for battery performance are subject to change without notice. See individual product Technical Data Sheets for the latest specifications and complete performance details. The information contained herein is for reference only and does not constitute a warranty of performance.

For more information about Ultralife and our products, visit us at www.ultralifebatteries.com

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Ultralife Lithium-Manganese Dioxide Battery Systems

9-Volt



A consumer-replaceable, high energy density battery that lasts up to 5 times longer than ordinary alkaline 9-volt batteries and 10 times longer than carbon-zinc batteries in many applications. Ultralife's lithium chemistry provides a flat discharge profile over a wide operating temperature range, and 10-year shelf life for the aluminum-jacketed U9VL-J battery. The Ultralife 9-volt is UL-recognized, has a patented safety mechanism and is environmentally friendly.

- Temperature Range: -20° C to 60° C – operating (-40° C to 60° C – storage)
- Terminals: Ni-plated Miniature Snap
- Transportation: See note 2

Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (Ah) (see note 1)	Maximum Discharge (mA-continuous)	Weight (grams)	Pulse Capability (mA) (see note 3)	Housing (see note 4)
U9VL-J	17.5 x 26.5 x 49.0	9.0	1.2	120	36.4	Up to 400	Aluminum, Mylar Label
U9VL	16.9 x 26.0 x 48.8	9.0	1.2	120	33.8	Up to 400	Plastic, Foil Label

Note (1): Nominal capacity @ 9 mA to 5.4 V @ 23° C

Note (2): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (3): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

Note (4): U9VL sold as U9VL-FP (Foil Pack) only. U9VL-J available in blister cards (U9VL-BP and U9VL-X). Other packaging options available. Contact your local rep.

Thin Cells



Ultralife Thin Cell[®] lithium batteries are wafer-thin, with a unique combination of high-energy density, long life, wide operating temperature range and light weight.

- Temperature Range: 0° C to 71° C – operating (-40° C to 71° C – storage)
- Terminals: Nickel Tabs
- Transportation: See note 2
- Housing: Laminated Foil

Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (see note 1)	Maximum Discharge (mA-continuous)	Pulse Capability (mA) (see note 3)	Weight (grams)
U10004	5.00 x 44.45 x 54.61	3.0	1.5 Ah	250	Up to 500 mA	15.0
U10007	2.16 x 32.16 x 40.36	3.0	400 mAh	25	Up to 130 mA	3.5

Note (1): U10004 nominal capacity @ 10 mA to 1.5 V @ 23° C. U10007 nominal capacity @ 6 mA to 1.5 V @ 23° C

Note (2): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (3): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

HiRate® Cylindrical



Ultralife HiRate® lithium batteries provide ultra-high rates of discharge, in extreme temperatures, without voltage delay at start-up even after long periods of storage. Significantly safer than comparable high-rate systems, Ultralife HiRate batteries have a 10-year shelf life and are environmentally friendly.

- Temperature Range: -40° C to 72° C - operating
- Terminals: See note 2
- PTC (resettable fuse): See note 3
- Transportation: See note 4
- 40° C to 95° C – storage (U2550HCES-F95 and U2550HCE-CF-UFA: -55° C to 95° C)

Ultralife Product	Ultralife Part No.	Dimensions (mm)	Size	Average Voltage (V)	Nominal Capacity (Ah) (see note 1)	Maximum Discharge (A-continuous)	Pulse Capability (A) (see note 5)	Weight (grams)	Housing
D Size	U10013, U10014	34.0 x 60.5	D	3.0	11.1	3.3	Up to 7.0	115	Hermetic Ni-plated steel can w/Mylar sleeve
	U10015, U10016	34.0 x 60.7	D	3.0	11.1	3.3	Up to 7.0	115	Hermetic Ni-plated steel can w/Mylar sleeve
5/4 C Size	U10021, U10023	25.8 x 60.5	5/4 C	3.0	6.1			71	Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve
	U10022, U10024	25.8 x 62.2	5/4 C	3.0	6.1			71	Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve
C Size	U10017, U10019	25.8 x 50.0	C	3.0	4.8	2.0	Up to 4.2	61	Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve
	U10018, U10020	25.8 x 52.2	C	3.0	4.8	2.0	Up to 4.2	61	Hermetic Ni-plated steel can. End caps, tabs & insulated sleeve
U2550HCES-F95	U2550H	25.9 x 52.2	C	3.0	4.3	1.2	Up to 2.6	60	Stainless steel w/ laser welded hermetic seal & Mylar sleeve, paper label
U2550HCE-CF-UFA	U2550H	25.9 x 50.3	C	3.0	4.3	1.2	Up to 2.6	60	Stainless steel w/ laser welded hermetic seal & Mylar sleeve, polyester label
U1965	U10009, U10010	19.2 x 68.5	-	3.0	3.2	1.5	Up to 2.0	42	Hermetic Ni-plated steel can w/Mylar sleeve
	U10011, U10012	19.2 x 68.5	-	3.0	3.2	1.5	Up to 2.0	42	Hermetic Ni-plated steel can w/Mylar sleeve

Note (1): D Cells nominal capacity @ 250 mA to 2.0 V @ 23° C
 5/4 C cells nominal capacity @ 150 mA to 2.0 V @ 23° C
 C cells nominal capacity @ 150 mA to 2.0 V @ 23° C
 U2250HCES-F95 and U2550HCE-CF-UFA nominal capacity @ 100 mA to 2.0 V @ 23° C
 U1965 nominal capacity @ 1000 mA to 2.0 V @ 23° C

Note (2): U10010 & U10011, U10013 & U10014, U10017 & U10018, U10021 & U10022: Flat Ni-plated +/- End Caps
 U10009 & U10012, U10015 & U10016, U10019 & U10020, U10023 & U10024: Flat Ni-plated +/- End Caps with Nickel Tabs
 U2550HCES-F95 and U2550HCE-CF-UFA: Stainless Steel

Note (3): U10009 & U10011, U10014 & U10016, U10017 & U10019, U10022 & U10024 have PTC (re-settable fuse)

Note (4): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (5): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

Ultralife Batteries for Military Applications

Military/Commercial: Li-MnO₂ Primary



Ultralife advanced-technology Li/MnO₂ military batteries have higher volumetric energy density than lithium sulfur dioxide batteries - in some cases two times more energy. And Ultralife Li/MnO₂ batteries are non-pressurized and non-toxic, making them safer and more environmentally friendly.

- Temperature Range: -40° C to 72° C – operating / -40° C to 95° C - storage
- Terminals: See note 2
- Transportation: See note 3

Ultralife Product No.	NSN	Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (see note 1)	Maximum Discharge (continuous)	Pulse Capability (see note 4)	Weight (grams)	Housing
BA-5390A/U	6135-01-517-6060	UB0021	62.2 x 111.8 x 127.0	27.0 or 13.5	11.1 Ah (30 V) 22.2 Ah (15 V)	2.0 A (30 V) 4.0 A (15 V)	Up to 2.5 A (30 V) Up to 5.0 A (15 V)	1300	Hard Plastic Case with State of Charge Indicator
BA-5390/U	6135-01-501-0833	UB0001	62.2 x 111.8 x 127.0	27.0 or 13.5	11.1 Ah (30 V) 22.2 Ah (15 V)	2.0 A (30 V) 4.0 A (15 V)	Up to 2.5 A (30 V) Up to 5.0 A (15 V)	1300	Hard Plastic Case
BA-5347/U	6135-01-455-7946	UB0016	38.1 x 64.8 x 95.3	6.0	11.1 Ah	3.0 A	Up to 3.5 A	380	Hard Plastic Case
Type 5380	TBD	UB0009	35.51 x 128.50	6.0	11.0 Ah	2.5 A	Up to 2.5 A	390	Mylar Sleeve
Sophie	6135-01-539-0013	U2560E-5-27	50.9 x 63.6 x 145.5	13.3	5.8 Ah	1.5 A	N/A	470	Noryl 190 case
MIDS Battery	N/A	U10025	26 dia x 52.7	3.0	4.8 Ah	2.0 A	Up to 2.6 A	61	Hermetic Ni-plated steel can. End caps, tabs and insulating sleeve
U2550HCES-F95	6135-99-571-4226 BY	same	25.9 x 52.2	3.0	4.3 Ah	1.2 A	Up to 2.6 A	60	See HiRate listing
U2550HCE-CF-UFA	N/A	same	25.9 x 50.3	3.0	4.3 Ah	1.2 A	Up to 2.6 A	60	See HiRate listing
BA-5367/U	6135-01-507-1135	UB0006	25.4 dia x 20.8	3.0	1.3 Ah	380 mA	Up to 800 mA	22	Hermetically sealed Ni-plated steel can, plastic sleeve
BA-5368/U	6135-01-455-7947	UB2776	27.7 dia. x 77.5	12.0	1.0 Ah	320 mA	Up to 600 mA	76	Hermetically sealed Ni-plated steel can, plastic sleeve
BA-5372/U	6135-01-214-6441	UB1733	16.8 dia. x 36.1	6.0	500 mAh	160 mA	Up to 300 mA	20	Hermetically sealed Ni-plated steel can, Mylar sleeve
½ AA	6135-01-340-7883	UB1426	14.7 dia. x 26.0	3.0	500 mAh	160 mA	Up to 300 mA	10	Hermetically sealed Ni-plated steel can, Mylar sleeve

Note (1): BA-5390/U and BA-5390A/U lower nominal capacity @ 250 mA to 20 V @ 23° C; higher nominal capacity @ 250 mA to 10 V @ 23° C

BA-5347/U rated @ 250 mA to 4V

U2250HCES-F95 and U2550HCE-CF-UFA nominal capacity @ 100 mA to 2.0 V @ 23° C

BA-5367/U nominal capacity @ 50 mA to 2.0 V @ 23° C, BA-5368/U nominal capacity @ 1.0 Ah to 8.0 V @ 23° C, BA-5372/U nominal capacity @ 4.5 mA to 4.0 V @ 23° C

Type 5380 nominal capacity @ 250 mA to 4.0V @ 23° C; Sophie nominal capacity @ 1,000 mA to 8.5 V @ 23° C

U10025 nominal capacity @ 150 mA to 2.0 V @ 23° C; 1/2 AA nominal capacity @ 41 mA to 2.0 V @ 23° C

Note (2): BA-5367/U, BA-5368/U and BA-5372/U: Ni-plated Contacts

BA-5390/U and BA5490A/U: 5 pin polarized socket; BA-5347/U: Polarized socket / Flat ribbon

U2550HCES-F95 and U2550HCE-CF-UFA: Stainless Steel

1/2AA: Ni-plated Contacts

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (4): Varies according to pulse characteristics, temperature, cell history and the application. Consult Ultralife.

Military/Commercial: Li ION Rechargeable



Ultralife Lithium-Ion Rechargeable batteries combine high-energy chemistry with state-of-the art technology to produce a lightweight battery with a wide operating temp range with no memory effect.

- Temperature Range: -20° C to 60° C – operating and storage
- Memory Effect: None
- Transportation: See note 3
- Terminals: See note 1
- Charging: See note 2
- Cycle Life: Greater than 300 cycles @ C/5 to 80% of initial capacity
- Self Discharge: <5% per month

Military/Commercial: Lithium ION Rechargeable Batteries

Ultralife Product No.	Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (Ah)	Maximum Discharge (A-continuous)	Energy (Wh)	Energy Density (Wh/kg)	Weight (grams)	Housing	State of Charge Indicator
LI-145	UBBL06	42.2 x 73.7 x 209.6	15.2	9.4	5.0	143	140	1021	GE Noryl	Yes
UBBL09	UBBL09	62.2 x 111.8 x 127.0	11.1 or 22.8	9.2 or 10.4	3.0 or 6.0	204	142	1440	Hard plastic	Yes
LWC-L	UBBL01	44.0 x 112.0 x 131.0	15.2	8.0	6.5	121	131	925	Hard Plastic	No
UBI-2590	UBBL02	62.2 x 111.8 x 127.0	14.4 or 29.6	6.0 or 12.0	6.0 or 12.0	173	120	1400	Hard Plastic	Yes
LI-7	UBBL03	42.4 x 111.5 x 137.2	15.2	7.5	3	114	120	944	Hard Plastic	Yes

Note (1): Terminals: LWC-L: Lemo connector EEG 0B 305 CLL; UBI-2590: SC-C-179495; UBBL03: Flat Contacts (302 Stainless plated with Sulfomate Nickel per ASTM B689, Type 1 Cable (connector: Lemo HEN.1F.305.XLNP)

Note (2): See individual datasheets for specific charging instructions.

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Chargers & Accessories



Ultralife Lithium-Ion Rechargeable batteries combine high-energy chemistry with state-of-the art technology to produce a lightweight battery with a wide operating temp range with no memory effect.

Chargers

Ultralife Product No.	Ultralife Part No.	Dimensions (mm) Thickness x width x length	Charge Termination Voltage (V)	Max. Charge Rate (A)	Weight (grams)
CH0001 - for LWC-L	CH0001	92 x 58 x 52	16.8	3.0	170
CH0002 - for UBI-2590	CH0002	174 x 123.7 x 53.6	16.4	1.0	432
CH0003 - for UBI-2590	CH0003	61 x 51 x 22 cm	16.4	1.1	11 Kg
CH0004 - for UBI-2590	CH0004	36 x 31 x 16 cm	16.4	1.1	5 Kg
CH0005 - for UBBL04	CH0005	92 x 58 x 52	8.4	2.0	170
CH0006 - for UBBL06	CH0006	31.62 x 14.02 x 28.50 cm	16.8	8.0	6.35 Kb
CH0007 - for UBBL03	CH0007	35.1 x 31.3 x 71.8 cm	16.8	2.0	16.7 Kg
CH0008 - for UBBL06	CH0008	42 x 73 x 168	16.8	2.0	1.7 Kg
CH0012 - for UBBL06	CH0012	61.24 x 21.46 x 28.96 cm	16.8	4.0	17.24 Kg
CH0014 - for UBBL09	CH0014	124 x 175 x 50	12.6	2.0	269
CH0015 - for UBBL06	CH0015	92 x 58 x 52	16.8	3.0	171

Cables

Ultralife Product No.	Ultralife Part No.	Length (cm)	Type	Connector	Voltage
CA0001 - for LWC-L	CA0001	61	2 Conductor; 22 AWG	Straight	-
CA0002 - for UBI-2590	CA0002	61	4 Conductor; 18 AWG	Straight	-
CA0003 - for UBI-2590	CA0003	61	Vehicle Adaptor	Straight	-
CA0005 - for UBBL03	CA0005	61	5 Conductor; 20 AWG	Straight	12V
CA0006 - for BA-5390/U and UBI-2590	CA0006	61	2 Conductor; 18 AWG	Right Angle	24V
CA0007 - for BA-5390/U and UBI-2590	CA0007	61	2 Conductor; 18 AWG	Right Angle	12V
CA0008 - for BA-5390/U and UBI-2590	CA0008	61	4 Conductor; 18 AWG	Right Angle	12/24V
CA0009 - for UBBL09	CA0009	61	6 Conductor; 22 AWG	Straight	12/24V

Power Supplies

Ultralife Product No.	Ultralife Part No.	Dimensions (inches) Thickness x width x length	Output Voltage (V)	Max Output Power (W)	Weight (Kg)
CH0018 - for CH0007 & CH0012	CH0018	7.0 x 14.0 x 19.0	28 DC	1500	12

Ultralife Polymer Rechargeable Batteries

Polymer Rechargeable



Ultralife Polymer® Rechargeable Batteries combine high-energy chemistry with state-of-the-art polymer technology to produce a rechargeable battery system that is lightweight, has a wide operating temperature range, and no memory effect. A wide variety of different battery outlines (length x width) in a range of thickness meet the needs of a wide range of applications.

- Temperature Range: -20° C to 60° C – operating and storage
- Maximum Discharge: See individual datasheets
- Terminals: See note 1
- Cycle Life: 300 cycles @ C/5 to 80% of initial capacity
- Self-Discharge: <10% per month
- Housing: Laminated Foil
- Memory Effect: None
- Charging: See note 2
- Transportation: See note 3

Ultralife Product No.	Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (@ C/5 Rate)	Energy (Wh)	Energy Density (Wh/kg)	Weight (grams)
UBC36106102/PCM	UBC011	4.0 x 107 x 103	3.7	3.3 Ah	12.1	142	85.0
UBC425085/PCM	UBC002	4.7 x 51 x 86	3.7	1.6 Ah	5.9	156	38.0
UBC433475/PCM	UBC001	4.8 x 35 x 76	3.7	930 mAh	3.4	156	22.0
UBC581730/PCM	UBC005	5.8 x 18 x 31.5	3.7	250 mAh	0.925	142	6.5
UBC502030/PCM	UBC006	5.0 x 21 x 31	3.7	180 mAh	0.7	149	4.5
UBC322030/PCM	UBC008	3.2 x 22 x 31	3.7	120 mAh	0.4	148	3.0

Note (1): Terminals: Black and red wired (+) (-)

Note (2): Maximum charge rate at C/2 to 4.2 Volts in a temperature range of 0° to 45° C. Hold at 4.2 Volts until current declines to C/10.

Note (3): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Lithium ION Rechargeable



- Temperature Range: -20° C to 60° C – operating and storage
- Maximum Discharge: See individual datasheets
- Terminals: See note 1
- Cycle Life: 500 cycles @ C/5 to 80% of initial capacity (see note 6)
- Self-Discharge: <10% per month
- Housing: Aluminum Can
- Memory Effect: None
- Charging: See note 2
- Transportation: See note 5

Ultralife Product No.	Ultralife Part No.	Dimensions (mm) Thickness x width x length	Average Voltage (V)	Nominal Capacity (@ C/5 Rate)	Energy (Wh)	Energy Density (Wh/kg)	Weight (grams)
UBBL04 (see note 4)	UBBL04	38.1 x 64.8 x 95.3	7.2	6.5 Ah	47	134	350.0
UBBL07 (see note 4)	UBBL07	20 x 60 x 70	3.7	6.1 Ah	22.6	141	160.0
UBBP01 (see note 3)	UBBP01	5.9 x 53 x 72	3.7	1.8 Ah	6.8	151	45.0
UBP103450/PCM	UBP001	10 x 36 x 54	3.7	1.7 Ah	6.5	176	41.0
UBP053450/PCM	UBP002	6.2 x 36 x 54	3.7	900 mAh	3.4	170	24.0
UBP053048/PCM	UBP005	5.8 x 31 x 52	3.7	740 mAh	2.8	165	17.0
UBP043048/PCM	UBP003	5.2 x 32 x 52	3.7	650 mAh	2.5	156	16.0
UBP363450/PCM	UBP004	4.4 x 36 x 54	3.7	580 mAh	2.2	147	15.0

Note (1): Terminals: Black and red wired (+) (-)

Note (2): Maximum charge rate at C/2 to 4.2 Volts in a temperature range of 0° to 45° C. Hold at 4.2 Volts until current declines to C/10

Note (3): UBBP01: Battery pack with wire leads and JST connector.

Note (4): UBBL07: Battery pack with wire leads and Molex connector 87439-0400. UBBL04: Battery pack with hard plastic case.

Note (5): For a complete description of transportation regulations for these products refer to Ultralife's web site at: [Lithium Battery Transportation Regulations PDF](#)

Note (6) UBBL07: > 300 cycles @ C/5 to 80% of initial capacity

Magnesium-Silver Chloride



- Utilizing salt water as an electrolyte, Ultralife's Magnesium-Silver Chloride seawater batteries provide high energy in all sea conditions and depths and can be stored indefinitely in a wide variety of conditions. Batteries activate instantly in seawater at any temperature and depth.
- These batteries can be designed for a wide range of duty cycles, from a few seconds to several days, for low and high current, pulsed and constant operation.
- We specialize in customizing batteries that conform to NATO's highest quality rating.

The culmination of more than 20 years of design and development, the Ultralife Sea water activated primary battery system offers exceptional reliability and performance. Applications in which Ultralife sea water batteries excel include sonobuoys, underwater defense systems, air-sea rescue equipment, airborne surveillance drones and meteorological radiosondes.

Ultralife's sea water activated battery system has a high energy density magnesium-silver chloride chemistry that is ideal for applications with critical weight, space and energy requirements. The system features outstanding electrode stability – batteries can be stored almost indefinitely, in a wide variety of conditions, without any appreciable deterioration of capacity or performance. The system also provides fast activation in all sea conditions, from sub-zero temperatures upwards and from the surface down to any depth.

Each sea water battery design is unique to each application and operating environment. Armed with the following information, Ultralife will meet any specification precisely, with maximum energy efficiency and no wasted capacity.

- Voltage required
- Duty cycle required
- Activation time required
- Salinity of service environment
- Depth required
- Storage conditions required
- Shock and vibration tolerances
- Size restrictions

Ultralife provides expertise throughout the entire design process, from analysis of required technical specifications to complete testing in any conditions likely to be encountered in actual service. Ultralife batteries are assembled in strictly controlled conditions to assure the highest quality, and Ultralife holds NATO's highest approval rating – AQAP-1.

