

Latest Products from...

Alkaline Batteries

DURACELL



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Vanadium Lithium Coin Cells

Panasonic
ideas for life



See page 1202

12V Lead Acid Charger



See page 1221

Rechargeable Nickel Metal Hydride

VARTA



See page 1210

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Intelligent buying, free from Farnell
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Turn to page iv for more information

Standard Batteries

Zinc Carbon
Special Power

Panasonic
ideas for life


Panasonic's Special Power range of zinc carbon batteries are ideal for use in appliances requiring low to medium power.

- Established and reliable battery technology
- 3 year shelf life
- 0% mercury and cadmium

Voltage	Can Style	Max Dimensions (mm)		Weight	Mfrs. List No.	Order Code
		L	Dia.			
1.5V	AAA	44.5	10.5	8.7g	R03R/4BP	101-8876
1.5V	AA	50.5	14.5	18.6g	R6R/4BP	101-8877
1.5V	C	50.0	26.2	49g	R14R/2BP	101-8878
1.5V	D	61.5	34.2	101.2g	R20R/2BP	101-8879
9V	PP3	(LxWxD) 48.5x26.5x17.5		38.5g	6F22R/1BP	101-8880
4.5V	3R12	(LxWxD) 67.0x22x67.0		107g	3R12R/1BP	101-8881

416382.436401

Type	Pack Qty	Order Code	Price Each			
			1+	10+	25+	50+
AAA	4	101-8876	1.62	1.54	1.46	1.37
AA	4	101-8877	1.66	1.58	1.50	1.41
C	2	101-8878	0.89	0.85	0.82	0.78
D	2	101-8879	1.61	1.54	1.49	1.41
PP3	1	101-8880	1.37	1.30	1.27	1.20
3R12	1	101-8881	1.57	1.49	1.45	1.37

Eveready Silver



- Mercury and cadmium free
- Excellent leak resistance
- Guaranteed against material and manufacturing defect
- 3 year shelf life
- Use in general purpose high performance applications

Voltage	Can Style	Capacity mAh	Max. Dimensions		Weight (g) Approx.	Order Code
			L	Dia.		
1.5	AAA	540	44.5	10.5	9.7	131-9795
1.5	AA	1100	50.5	14.5	18	122-0702
1.5	C	3000	50.0	26.2	48	392-5500
1.5	D	5900	61.5	34.2	100	392-5511
9	PP3	405	48.5	17.5 x 26.5	38	392-5523

Note: Supplied and priced in packs

234759

Can Style	Pack Qty	Order Code	Price Per Pack			
			1+	18+	72+	
AAA	4	131-9795	1.59	1.46	1.34	
AA	4	122-0702	1.80	1.67	1.50	
C	2	392-5500	1.53	1.40	1.28	
D	2	392-5511	1.69	1.54	1.37	
PP3	1	392-5523	1.48	1.39	1.27	

Zinc Chloride
Mercury Free

Heavy duty, zinc chloride batteries designed to give significantly longer life than conventional zinc carbon batteries. Ideal for appliances demanding heavy or continuous use that require low to medium power.

- Long life
- No heavy metal content - 0% mercury and cadmium
- Leak resistant design
- Supplied in retail blister packaging or bulk packed in boxes

Voltage	Can Style	IEC Code	Max. L	Dimensions Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	AAA	R03	44.5	10.5	9	GP24G-U4	501-9242
1.5	AA	R6	50.5	14.5	18	GP15G-U4	501-9254
1.5	C	R14	50.0	26.2	49	GP14G-U2	501-9266
1.5	D	R20	61.5	34.2	102	GP13G-U2	501-9278
9	PP3	6F22	48.5	17.5x26.5	38	GP1604G-U1	501-9280
4.5	1289	3R12	67.0	22.0x62.0	115	GP312G-C1	501-9345

337173

Can Style	Pack Qty	Order Code	Price Per Pack			
			1+	10+	100+	500+
Blister						
AAA	4	501-9242	0.65	0.63	0.62	0.58
AA	4	501-9254	1.31	1.28	1.26	1.16
C	2	501-9266	1.42	1.39	1.37	1.26
D	2	501-9278	1.58	1.52	1.49	1.37
PP3	1	501-9280	1.15	1.13	1.10	1.00
3R12	1	501-9345	0.95	0.92	0.91	0.83
Bulk						
AAA	40	501-9291	4.83	4.74	4.65	4.39
AA	40	501-9308	6.16	6.04	5.93	5.60
C	24	501-9310	5.01	4.97	4.92	4.78
D	20	501-9321	7.68	7.53	7.39	7.10
PP3	10	501-9333	3.24	3.18	3.11	2.97

Primary



- For convenience of handling we recommend small pack multiples, but we will supply to any quantity required.

Voltage	L	Max.	Weight (g) Approx.	● Small Pack Qty.	Can Style	Order Code
6V	110	67 x 67	550	—	PJ996	305-5905
9V	81	52 x 66	410	6	PP9	300-159

230451.467417

Can Style	Order Code	Price Each		
		1+	12+	96+
PJ996	305-5905	3.03	2.85	2.73
PP9	300-159	3.43	2.61	2.46

Alkaline Batteries

Alkaline Manganese - Ultra
For Hi-Tech Power Hungry Appliances

DURACELL


- Ultra is the best Duracell battery for high drain devices
- Last up to 50% longer than standard alkaline batteries in high current drain applications
- Long shelf life
- Corrosion free construction
- Powercheck indicator shows how much power is left in the battery
- Available in standard card packs or multipacks

Voltage	Can Style	Max. L	Dimensions Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	AAAA	42.5	8.3	7	AAA 4PK	100-3456
1.5	AA	50.5	14.5	24	AA 4PK	378-5750
1.5	C	50	26.2	65	C 2PK	378-5762
1.5	D	61.5	34.19	138	D 2PK	378-5774
9	PP3	48.5 x 26.5 x 17.5		46	PP3	378-5786

233512

Can Style	Pack Qty.	Order Code	Price Per Pack			
			1 +	3 +	12 +	25 +
Card Packs						
AAAA	2	100-3456	4.10	4.00	3.86	3.72
AA	4	378-5750	4.42	4.30	4.18	4.01
C	2	378-5762	4.30	4.20	4.09	3.92
D	2	378-5774	4.30	4.20	4.09	3.92
PP3	1	378-5786	4.30	4.20	4.09	3.92
Multi Packs						
AAA	8	495-1475	8.54	8.35	8.15	7.56
AA	12	495-1487	12.21	11.92	11.55	11.09
PP3	10	495-1517	36.49	35.64	34.63	33.22

Over 480,000 products online



Alkaline Batteries - continued

Ultimate
Super Premium

- Best ever Energizer Ultimate high-tech alkaline batteries with 25% improved performance
- Superb performance and power for all high drain devices
- Mercury and cadmium free
- Guaranteed against leakage
- 7 year shelf life
- Blister packed
- Ideal for digital cameras, CD players and electronic games

Voltage	Can Style	Max. L	Dimensions Dia	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	AAA	44.5	10.5	11	629604	149-4853
1.5	AA	50.5	14.3	23	629601	149-4854
1.5	C	50.5	26.2	66	629720	149-4856
1.5	D	61.1	34.2	142	629801	149-4857
9	PP3	48.4 x 26.2 x 16.7		46	629781	149-4858

488642

Can Style	Pack Qty.	Mfrs. List No.	Order Code	1+	10+	25+
AAA	4	629604	149-4853	3.75	3.60	3.42
AA	4	629601	149-4854	3.75	3.60	3.42
C	2	629720	149-4856	3.75	3.60	3.42
D	2	629801	149-4857	3.75	3.60	3.42
PP3	1	629781	149-4858	3.75	3.60	3.42

Alkaline Manganese - Duracell Plus
Mercury Free

- High performance alkaline batteries with a corrosion free construction and a long shelf life
- New advanced formula offers long lasting power for your favourite devices
- Large multi-pack quantities for increased value

Note: Supplied and priced in blister packs

Voltage	Can Style	Max. L	Dimensions Dia	Weight (g) Approx.
1.5	AAA	44.5	10.5	11
1.5	AA	50.5	14.5	23.8
1.5	C	50	26.2	69
1.5	D	61.5	34.2	139
9	PP3	48.5 x 26.5 x 17.5mm		45

23514

Can Style	Pack Qty.	Order Code	1+	3+	12+	25+
Card Packs						
AAA	8	387-6536	7.20	7.13	6.92	6.47
AA	8	387-6548	7.20	7.13	6.92	6.47
C	4	387-6550	6.62	6.55	6.30	6.03
D	4	387-6561	7.20	7.13	6.92	6.47
PP3	2	387-6573	6.62	6.55	6.30	6.03
Multi Packs						
AAA	12	NEW 149-9734	9.74	9.50	9.33	8.84
AA	12	NEW 149-9735	9.74	9.50	9.33	8.84
C	8	NEW 149-9736	11.28	11.04	10.67	10.26
D	8	NEW 149-9738	12.28	12.02	11.57	11.04
PP3	4	NEW 149-9739	11.84	11.56	11.17	10.62

Ultra + Alkaline



- Blister packed
- Mercury and cadmium free
- Guaranteed against leakage
- 7 year shelf life
- Optimum performance

Voltage	Can Style	Max. L	Dimensions	Weight (g) Approx.	Order Code
1.5	AAA	44.5	10.5	11	392-5535
1.5	AA	50.5	14.3	23	392-5547
1.5	C	50.5	26.2	66	392-5559
1.5	D	61.1	34.2	142	392-5560
9	PP3	48.4	26.2 x 16.7	46	392-5572
1.5	N	29.4	12	9	279-249

Note: Supplied and priced in blister packs

234760

Ultra + Brand		Pack	Price Per Pack				
Can Style	Qty.	Order Code	1+	12+	48+	96+	
AAA	4	392-5535	3.61	3.21	3.02	2.64	
AAA	8	508-1531	6.07	5.52	5.07	4.67	
AAA	12	NEW 167-8332	6.33	5.83	—	—	
AA	4	392-5547	3.61	3.21	3.02	2.64	
AA	8	508-1543	6.37	5.80	5.32	4.89	
AA	12	NEW 167-8333	6.33	5.83	—	—	
C	2	392-5559	3.61	3.21	3.02	2.64	
D	2	392-5560	4.24	3.77	3.53	3.10	
PP3	2	392-5572	6.93	6.36	6.06	5.19	
Ultra + Business Packs							
Can Style	Qty.	Order Code	1+	12+	48+	96+	
AAA	20	100-0094	13.28	12.67	12.11	11.59	
AA	40	100-0095	25.32	24.23	23.20	22.27	
C	20	100-0096	26.29	25.11	24.01	23.02	
D	20	100-0097	26.29	25.11	24.01	23.02	
PP3	20	100-0098	40.15	38.75	37.43	36.20	
Energizer Brand							
Can Style	Qty.		1+	10+	50+	100+	
N	1	279-249	0.83	0.79	0.78	0.69	

Battery Rack 40



The Battery Rack 40 is the perfect way to store all the batteries you need for smoke detectors, radios, toys and other appliances.

- Perfect for the kitchen, closet or workshop
- Designed to be placed in drawers, cupboards, closets and shelves
- All mounting hardware included

Battery Rack 40 includes:

- 12 x AA Ultra Plus
- 8 x AAA Ultra Plus
- 8 x C Ultra Plus
- 8 x D Ultra Plus
- 2 x PP3 (9V) Ultra Plus (can store 2 extra 9V's)
- Battery Rack
- Battery tester
- Mounting hardware
- Batteries for tester
- Instruction sheet

449382.446496

Order Code
129-0994Price Each
34.03

Super Alkaline



A range of high power, long life alkaline batteries that are particularly suited to applications that demand a high current drain, when being used on an intermittent or continuous basis.

- High energy density
- Cadmium and mercury free
- Long shelf life
- Optimum performance
- Supplied in blister packs or bulk packed in boxes

Voltage	Can Style	Max. L	Dimensions Dia	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	N	30.2	12	9	GP910A-C2	505-6949
1.5	AAA	44.5	10.5	11.4	GP24AU-C4	505-6950
1.5	AA	50.5	14.5	23	GP15AU-C4	505-6962
1.5	C	50	26.2	60	GP14A-C2	505-6974
1.5	D	61.5	34.2	143	GP13A-C2	505-6986
9V	PP3	47.5 x 25.5 x 16.5		47	GP1604A-C1	505-6998

338069.258142

Can Style	Pack	Order Code	Price Per Pack			
	Qty.		1+	10+	100+	500+
Blister Packed						
N	2	505-6949	0.90	0.88	0.87	0.79
AAA	4	505-6950	1.18	1.15	1.12	1.01
AAA	8	144-0734	2.25	2.08	1.98	1.84
AA	4	505-6962	1.56	1.41	1.29	1.15
AA	8	144-0735	2.24	2.08	1.98	1.84
AA	12	144-0736	3.19	3.04	2.90	2.77
C	2	505-6974	1.47	1.45	1.41	1.27
D	2	505-6986	2.32	2.26	2.23	2.00
PP3	1	505-6998	2.80	2.75	2.68	2.39
Bulk Packed						
N	20	505-7000	8.14	7.96	7.80	7.01
AAA	40	505-7012	10.28	10.05	9.78	8.73
AA	40	505-7024	13.66	12.35	11.58	10.48
C	24	505-7036	28.66	28.11	27.54	25.59
D	20	505-7048	24.30	23.81	23.34	22.10
PP3	10	505-7050	10.53	10.33	10.13	9.03

Alkaline Manganese-'PROCELL'



- Industrial high performance alkaline batteries
- Corrosion free construction
- Long shelf life
- Special branding to reduce pilferage

Voltage	Can Style	Capacity mAh	Max. Dimensions			Weight (g) Approx.	Mfrs. List No.	Order Code
			L	W	D			
MN2400	1.5	AAA	1175	44.5	—	10.5	11	MN2400 249-816
MN1500	1.5	AA	2700	50.5	—	14.5	24	MN1500 249-828
MN1400	1.5	C	7750	50	—	26.2	67	MN1400 249-830
MN1300	1.5	D	18000	61.5	—	34.2	141	MN1300 249-841
MN1604	9	PP3	550	48.5	26.5	17.5	45	MN1604 249-853

Note: Supplied and priced in packs

230455

10 Per Pack		Mfrs. List No.	Order Code	Price Per Pack			
Can Style				1+	+	+	+
AAA		MN2400	249-816	4.15	—	—	—
AA		MN1500	249-828	4.15	—	—	—
C		MN1400	249-830	11.94	—	—	—
D		MN1300	249-841	13.38	—	—	—
PP3		MN1604	249-853	25.37	—	—	—

Industrial Alkaline Batteries



Energizer Industrial Alkaline batteries are designed for both industrial and commercial markets and will last up to 7 times longer than conventional zinc carbon batteries.

- Cadmium and mercury free
- 7-year shelf life, 5-year (PP3 type)
- Guaranteed leak proof
- High energy density
- Carton packed

Type	Voltage	Capacity (mAh)	Dims (HxD)mm
AAA	1.5	1250	44.5x10.5
AA	1.5	2850	50.5x14.5
C	1.5	8350	50x26.2
D	1.5	20500	61.5x34.2
PP3	9	625	48.5x26.5x17.5

495243.258145

Type	Pack Qty.	Order Code	Price Per Pack			
			1+	10+	50+	100+
AAA	4	152-0478	2.56	2.48	2.36	2.17
AA	4	152-0479	2.56	2.48	2.36	2.17
C	12	152-0480	9.18	8.94	8.65	8.18
D	12	152-0481	10.20	9.94	9.61	9.06
PP3	12	152-0482	17.38	16.94	16.55	15.89

FOR MORE INFORMATION & CHOICE

Product Search

Alkaline Batteries



RoHS Compliant Items Only | Advanced Search

RoHS ● Compliant
▲ Non-compliant

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Alkaline Manganese-Specialised

DURACELL



A range of specialised alkaline manganese batteries offering a long life and corrosion free construction together with high reliability.

Voltage	Can Style	Capacity		Max. Dia	Weight (g) Approx.	Small Pack Qty	Mfrs. List No.	Order Code
		mAh	L					
1.5	—	100	5.4	11.6	2	10	LR44	300-329
1.5	—	105	5.4	11.6	2	10	LR44 2PK	495-1451
1.5	N	825	30.2	12	8	10	MN9100	300-251
4.5	—	5400	67	67 x 62 x 20	151	10	MN1203	300-342
6	J	500	48.3	48.3 x 35.6 x 9.2	34	10	7K67	300-366
12	—	33	28	10	8	10	MN21	300-378

- For convenience of handling we recommend small pack multiples, but we will supply to any quantity required

230457

Mfrs. List No.	Order Code	Price Each			
		1+	10+	100+	1K+
LR44	300-329	0.95	0.85	0.79	0.71
LR44 2PK	495-1451	1.92	1.87	1.75	1.57
MN9100	300-251	0.86	0.82	0.78	0.70
MN1203	300-342	2.90	2.74	2.54	2.34
7K67	300-366	2.87	2.59	2.40	2.21
MN21	300-378	1.32	1.26	1.18	1.09

Alkaline Photo Batteries

powerone VARTA



- Primary alkaline cells
- High reliability, low self discharge
- Applications include keyfobs, electronic lighters, clocks, cameras, calculators and laser pointers

Voltages	Capacity mAh	Dimensions (HxDia.)	Weight (g) Approx.	IEC Ref.	Mfrs. List No.	Order Code
1.5	120	5.4x11.6	2	LR44	V13GA	305-5917
1.5	185	6.2x16	3.3	LR9	V625U	305-5929
12	50	28.5x10	7.5	—	P23GA	508-8197

230456.405341

Mfrs. List No.	Order Code	Price Each			
		1+	10+	25+	50+
V13GA	305-5917	1.03	0.95	0.90	0.86
V625U	305-5929	0.72	0.70	0.69	0.66
P23GA	508-8197	1.74	1.56	1.42	1.33

12 Volt Miniature

GPB



- Miniature 12V and 6V batteries
- Fits popular makes of cameras and electronic lighters
- Fits vehicle alarm remote key fobs
- GP23A fits Steinell continuity and voltage testers

		Dia	Weight (g)	Voltage
GP23A	28.5	10	7.5	12 V
GP27A	28	7.7	4.4	12 V
GP11A	16.5	10.3	4	6 V

230458

Mfrs. List No.	Order Code	Price Each					
		1+	50+	100+	250+	500+	1K+
GP23A	300-408	0.94	0.88	0.79	0.65	0.52	0.40
GP27A	724-051	0.94	0.88	0.79	0.65	0.52	0.40
GP11A	908-575	0.68	0.63	0.59	0.52	0.45	0.41

FREE global legislation support

RoHS, REACH, WEEE, EuP,
Batteries Directive - we've got it
covered at:
www.global-legislation.com

Alkaline Batteries - continued

1.5V AAAA Alkaline

Ultra +



- Miniature AAAA 1.5V battery
- Designed for use in small equipment
- Fits laser pens

Voltage 1.5
Operating Temperature -18°C to 55°C
Capacity 625 mAh
Weight 6.5g



248743

Mfrs. List No.	Pack Qty	Order Code	1+	Price Each 10+	25+
E96FSB2	2	432-7238	2.76	2.55	2.52

Lantern Batteries

DURACELL



- High performance alkaline batteries
- Suitable for many applications such as lanterns and torches
- Corrosion free construction
- Long shelf life

Voltage (V)	Can Style	Capacity mAh	Max. Dimensions L W D	Weight (g) Approx.	Mfrs. List No.	Order Code
6	PJ996	13000	110 67.7 67.7	612	MN908	207-925
6	991	27000	127 136.5 73	1270	MN918	207-937
12	—	13000	127 136.5 73	1.39	PC926	207-949

337968

Can Style	Mfrs. List No.	Order Code	1+	Price Each 12+	96+	1K+
PJ996	MN908	207-925	9.74	9.18	8.71	8.32
991	MN918	207-937	23.47	21.80	20.16	18.90
—	PC926	207-949	19.02	17.77	16.34	14.84

PJ996 Lantern Battery



- Suitable for many applications including lanterns and torches
- 12 times the performance of standard zinc batteries



H = 110,
W = 67,
D = 67

Voltage	Can Style	Nom. Capacity Ah	Max. Dimensions H W D	Weight (g) Approx.	Mfrs. List No.	Order Code
6V	996/4R25	26	110 67 67	0.82	529 (PJ996)	434-0541

249142

Mfrs. List No.	Order Code	1+	Price Each 10+	25+	100+
529 (PJ996)	434-0541	9.73	9.17	8.77	8.38

Bulk Buy Alkaline Batteries

PROCELL

Industrial Alkaline



High performance Pro-cell industrial alkaline batteries now available in bulk pack sizes for large consumers.

- Industrial high performance alkaline batteries
- Corrosion free construction
- Long shelf life
- Special branding to reduce pilferage
- Available in bulk pack sizes

Reference Pack Size	PP3 1190	AA 638	C 204	D 100	PP3 200
Order Code	495-1542	495-1554	495-1566	495-1578	495-1580
Can Style	AAA	AA	C	D	PP3
Voltage	1.5	1.5	1.5	1.5	9
Capacity mAh	1175	2700	7750	18000	550
Max. Dimensions L W D	44.5 — 10.5	50.5 — 14.5	50 — 26.2	61.5 — 34.2	48.5 26.5 17.5
Weight (g) Approx.	11	22	67	141	45
Order Code	495-1542	495-1554	495-1566	495-1578	495-1580

338320

	Order Code	Price Per Pack 1+
AAA Pack of 1190	495-1542	345.55
AA Pack of 638	495-1554	185.26
C Pack of 204	495-1566	115.00
D Pack of 100	495-1578	82.40
PP3 Pack of 200	495-1580	231.13

Industrial Alkaline Batteries

Bulk Buy



Varta Microbattery Industrial Alkaline cells, now in a new PowerOne livery, are available in a wide range of bulk pack sizes. The batteries are available in the five standard consumer sizes, AAA, AA, C, D and 9V.

Excellent performance from Industrial Alkaline cells, which are well suited for constant or pulse discharge with high discharge currents.

Reference Pack Size	AA 500	C 200	D 100	PP3 200
Order Code	508-8100	508-8112	508-8124	508-8136
Can Style	AAAA	AA	C	D
Voltage	1.5	1.5	1.5	1.5
Capacity mAh	500	2600	7800	16500
Dimensions L W/Dia. D	42.5 8.3 14.5	50.5 14.5 26.2	61.5 34.2 134	48.5 26.5 17.5
Weight (g) Approx.	7	23	61	46
Reference IEC	LR61	LR6	LR14	LR20
Order Code	108-3701	508-8100	508-8112	508-8124

338557.434504

	Order Code	Price Per Pack 1+
AA Pack of 500	508-8100	103.54
C Pack of 200	508-8112	85.12
D Pack of 100	508-8124	56.76
PP3 Pack of 200	508-8136	181.64

Can Style	Pack Qty.	Order Code	1+	Price Per Pack 10+	25+	50+
Multi Pack						
C	20	508-8161	10.76	10.21	9.98	9.75
D	20	508-8173	17.05	16.20	15.80	15.43
PP3	20	508-8185	31.17	29.71	29.00	28.38

Lithium Batteries

1.5 Volt Lithium Iron Disulphide

Ultimate Lithium



- Lasts 7x longer than standard alkaline batteries in digital cameras
- Up to 10 year shelf life
- Wide operating temperature range
- No significant loss in capacity at low temperatures
- Weighs 33% less than alkaline equivalent
- Thermal overload protected
- Ideal for use in high drain devices, such as digital cameras, MP3 players and GPS systems

A unique battery offering the advantages of lithium technology but with a 1.5 volt output.

Operating Temperature				-40°C to +60°C			
Voltage (V)	Can Style	Typical Capacity (mAh)	Weight (g)				
1.5	AA	3000	15				
1.5	AAA	1250	8				

488557

Can Style	Pack Qty	Order Code	1+	10+	Price Per Pack	25+	50+	100+
AA	2	149-4849	5.21	5.02	4.86	4.69	4.31	
AA	4	149-4850	9.21	8.84	8.50	8.20	7.76	
AAA	2	149-4851	5.21	5.02	4.86	4.69	4.31	
AAA	4	149-4852	9.21	8.84	8.50	8.20	7.76	

9 Volt Lithium Manganese

PP3 Can Style



- PP3 style lithium manganese battery
- Constructed in a robust ultrasonic welded, leak-proof canister
- Twice the operating life of an equivalent size alkaline battery
- Recognised under the components programme of the Underwriters Laboratory Inc. (UL)
- Safety non-resettable shutdown mechanism should the battery be abused, i.e. overheated due to the short circuit
- Ideal for long rest 'intermittent' applications such as multimeters, smoke alarms and remote controls
- Not suitable for high current discharge
- Up to 10 years shelf life

H=48.2, W=26, D=16.8

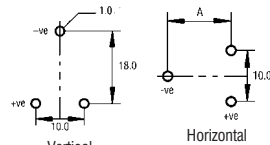
Operating Temperature -40 °C +70 °C

Voltage (V)	Can Style	Equivalent	Capacity (mAh)	Max Current Drain mA (cont)	Weight (g) Approx.	Mfrs. List No.	Order Code
9	PP3	6LF22 or MN1604	1200	120	34	U9VL	299-390

230462

Order Code	1+	Price Each	+	+	+
299-390	6.16	--	--	--	--

Lithium Manganese Coin Cells



PCB Drilling patterns
see below for additional dimensions

- Non-rechargeable lithium coin cells
- Applications include remote control keyfobs, calculators, memory back-up and real time clocks
- Laser-welded PCB mount versions available

Voltage (V)	Capacity mAh	Dimensions L Dia. A	Weight (g) Approx.	Mfrs. List No.	Order Code
Standard					
3	25	1.6 12 —	0.7	CR1216 (V)	863-877
3	35	2 12.5 —	0.8	CR1220 (V)	863-889
3	55	1.6 16 —	1.2	CR1616 (V)	863-890
3	60	2 16 —	1.2	CR1620 (V)	300-410
3	90	1.6 20 —	1.8	CR2016 (V)	300-421
3	170	2.5 20 —	2.5	CR2025 (V)	300-433
3	280	3 24.5 —	4	CR2430 (V)	300-457
3	90	3.2 20 —	3	CR2016PCB (V)	863-6230
3	170	2.5 20 —	4	CR2025PCB (V)	863-6257
3	230	6.5 20 —	3	CR2032PCB (V)	249-877
3	280	6.5 24.5 —	5	CR2430PCB (V)	425-345
3	90	2.6 20.5 —	3	CR2016SLF (V)	863-6249
3	170	3.5 20.5 —	4	CR2025SLF (V)	863-6265
3	230	4.2 21.5 4.2	3	CR2032SLF (V)	249-889
3	280	4 25.8 4.0	5	CR2430SLF (V)	249-890

Manufacturer; D = Duracell, V = Varta *Overall height above PCB when mounted

Mfr List No.	Order Code	1+	10+	Price Each	100+	250+
Standard						
CR1216 (V)	863-877	1.25	1.12	0.89	0.85	
CR1220 (V)	863-889	1.55	1.42	1.27	1.03	
CR1616 (V)	863-890	1.22	1.12	1.00	0.81	
CR1620 (V)	300-410	1.55	1.42	1.27	1.03	
CR2016 (V)	300-421	1.57	1.50	1.32	1.09	
CR2025 (V)	300-433	1.57	1.50	1.32	1.13	
CR2430 (V)	300-457	1.78	1.64	1.50	1.28	
PCB Mounting, Horizontal						
CR2016PCB (V)	863-6230	1.61	1.42	1.28	1.13	
CR2025PCB (V)	863-6257	2.04	1.80	1.62	1.43	
CR2032PCB (V)	249-877	2.04	1.80	1.62	1.43	
CR2430PCB (V)	425-345	2.06	1.87	1.60	1.47	
PCB Mounting, Vertical						
CR2016SLF (V)	863-6249	2.04	1.80	1.62	1.43	
CR2025SLF (V)	863-6265	2.04	1.80	1.62	1.43	
CR2032SLF (V)	249-889	2.11	1.86	1.70	1.50	
CR2430SLF (V)	249-890	2.12	1.94	1.65	1.60	

Lithium Coin Cells

BR Series



- Non-rechargeable, lithium coin cells
- BR Series (lithium polycarbon monofluoride); high capacity, low current drain, ideal for high temperature environments
- Wide operating temperature range -30°C to +80°C
- Extended reliability and prolonged shelf life
- Applications include memory back-up, watches, cameras and calculators

Voltage (V)	Capacity mAh	Dimensions H	(mm) Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
Standard						
3	48	2.5	12.5	0.8	BR1225	129-8250
3	190	3.2	20	2.5	BR2032	129-8251
3	165	2.5	23	3.2	BR2325	129-8253
3	255	2	23	3.3	BR2330	129-8254
Horizontal PCB Mount						
3	190	3.2	20	2.5	BR2032-1HF	434-3062
3	255	3	23	3.2	BR2330-1HF	434-3104
3	190	3.2	20	4	BR2032/1GUE	129-8255
3	255	3	23	4.5	BR2330/1GUE	129-8256
Vertical PCB Mount						
3	190	3.2	20	4	BR2032/1GVE	129-8257

Mfrs. List No.	Order Code	1+	10+	Price Each	100+	500+
Standard						
BR1225	129-8250	0.94	0.86	0.79	0.72	
BR2032	129-8251	1.58	1.47	1.36	1.22	
BR2325	129-8253	1.67	1.55	1.43	1.30	
BR2330	129-8254	1.85	1.71	1.58	1.43	
Horizontal PCB Mount						
BR2032-1HF 2 Pin	434-3062	1.54	1.40	1.35	1.27	
BR2330-1HF 2 Pin	434-3104	1.79	1.69	1.62	1.39	
BR2032/1GUE 3 Pin	129-8255	1.80	1.66	1.54	1.39	
BR2330/1GUE 3 Pin	129-8256	2.02	1.83	1.69	1.57	
Vertical PCB Mount						
BR2032/1GVE 3 Pin	129-8257	1.80	1.66	1.54	1.39	

35

Lithium Coin Cells

CR Series



- Non-rechargeable, lithium coin cells
- CR Series (lithium manganese dioxide); high load pulse current
- High reliability and long shelf life
- Operating temperature range -30°C to +60°C
- Applications include memory back-up, watches, cameras and calculators

Voltage (V)	Capacity mAh	Dimensions H	(mm) Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
Standard						
3	220	3.2	20	3.3	CR2032	521-9590
3	620	5	24.5	5.9	CR2450	521-9620
3	1000	7.7	24.5	10.5	CR2477	521-9632
Horizontal PCB Mount						
3	35	2	12	1.2	CR1220/1HFE	129-8244
3	125	3.2	16	1.8	CR1632/1HEE	129-8245
3	220	3.2	20	3.1	CR2032/1HFE	129-8246
3	265	3	23	4	CR2330/1HFE	129-8247
3	1000	7.7	24.5	10.5	CR2477/1HFE	129-8248
3	500	5.4	23	5.9	CR2354/1GUE	129-8249

Mfrs. List No.	Order Code	1+	10+	Price Each	100+	500+
Standard						
CR2032	521-9590	1.58	1.47	1.34	1.10	
CR2450	521-9620	2.59	2.35	2.23	1.96	
CR2477	521-9632	2.52	2.32	2.23	1.96	
Horizontal PCB Mount						
CR1220/1HFE 2 Pin	129-8244	1.43	1.34	1.25	1.11	
CR1632/1HEE 2 Pin	129-8245	1.11	1.03	0.95	0.82	
CR2032/1HFE 2 Pin	129-8246	1.04	0.97	0.89	0.80	
CR2330/1HFE 2 Pin	129-8247	1.69	1.57	1.45	1.33	
CR2477/1HFE 2 Pin	129-8248	2.78	2.64	2.49	2.43	
CR2354/1GUE 3 Pin	129-8249	1.72	1.59	1.47	1.34	

Over 480,000 products online

QGO



Lithium Batteries - continued

Vanadium Lithium Coin Cells

VL Series

Panasonic
Ideas for life

- 3V flat high voltage
- Several months continuous back-up
- Low self-discharge enables use without recharging after long storage period
- Stable to continuous overcharging and overdischarging
- Applications include memory back-up power for PCs and fax machines, AV equipment and communications equipment (e.g. portable telephones) and hybrid systems with solar batteries (e.g. solar remote controls)

A range of rechargeable lithium coin type batteries with a totally new composition employing vanadium pentoxide cathode, lithium alloy anode and non-aqueous solvents in the electrolyte solution. With an energy density about twice that of button type nickel cadmium batteries, this battery is especially suited for applications such as memory back-up power in electronic devices.

Type	Voltage (V) Nominal	Capacity (mAh) Nominal	Dimensions LxDia. (mm)	Mfrs. List No.	Order Code
Horizontal	3	7	2 x 12.5	VL1220-1HFE	880-6543
Horizontal	3	20	2.7 x 20	VL2020-1HFE	880-6551
Horizontal	3	30	2.7 x 23	VL2320-1HFE	129-8259
Horizontal	3	50	3.7 x 23	VL2330-1HFE	880-6560
Horizontal	3	100	3.9 x 30	VL3032-1HFE	880-6578
Vertical	3	7	2 x 12.5	VL1220-1VCE	151-4218
Vertical	3	20	2.7 x 20	VL2020-1VCE	151-4219
Vertical	3	30	2.7 x 23	VL2320-1VCE	151-4220
Vertical	3	50	3.7 x 23	VL2330-1VCE	151-4221
Vertical	3	100	3.9 x 30	VL3032-1VCE	151-4223

491691

Mfrs. List No.	Order Code	1+	10+	25+	50+	100+
Horizontal PCB Mount						
VL1220-1HFE	880-6543	2.60	2.42	2.32	2.22	2.12
VL2020-1HFE	880-6551	2.60	2.42	2.31	2.20	2.10
VL2320-1HFE	129-8259	2.74	2.63	2.57	2.40	2.19
VL2330-1HFE	880-6560	3.08	2.62	2.47	2.34	2.20
VL3032-1HFE	880-6578	3.55	3.34	3.19	3.06	2.93
Vertical PCB Mount						
VL1220-1VCE	NEW 151-4218	2.40	2.27	2.18	2.05	1.86
VL2020-1VCE	NEW 151-4219	2.40	2.27	2.18	2.05	1.86
VL2320-1VCE	NEW 151-4220	2.74	2.63	2.57	2.40	2.19
VL2330-1VCE	NEW 151-4221	2.83	2.71	2.65	2.48	2.27
VL3032-1VCE	NEW 151-4223	3.26	3.09	3.04	2.88	2.65

Rechargeable Lithium Coin Cells

VARTA



- Compact size and lightweight Li-Ion cells
- Wide operating temperature -20°C to +60°C
- Low self discharge <5% per annum
- Capable of being flow soldered
- Applications include memory back-up, real time clock, cameras, PDAs, tablet PCs and communication equipment

Nominal Voltage (V)	Typical Capacity (at 20°C) (mAh)	Dimensions LxDia. (mm)	Weight (g)	Mfrs. List No.	Order Code
3	16	2x12.5	1.0	ML1220SM	108-3712

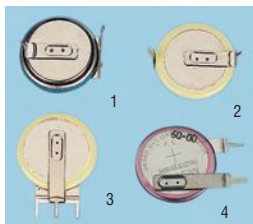
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Mfrs. List No.	Order Code	1+	10+	25+	50+	100+
ML1220SM	108-3712	2.18	2.14	2.10	1.98	1.75

Lithium Battery

Rechargeable Lithium Coin Cells

maxell



- Nominal 3 volts
- Temperature range -20°C to +60°C
- Standard charge current is 0.2mA, cut off voltage is 3.25V
- CMOS RAM back up

A range of rechargeable lithium manganese dioxide batteries with various pin configurations. Suitable for all types of back up applications because of their low internal resistance.

Voltage	Capacity mAh	Dimensions (H Dia.)	Charge/Discharge Cycles	Weight (g) Approx.	Cell Type
V3	25	1.6	1500 cycles @ 2.5mA	1.8	2016
V3	65	3.2	1000 cycles @ 6.5mA	3	2032

- 1 T25 3 Pin Horiz. mount Pins on outer dia.
2 T6 2 Pin Horiz. mount Pins on outer dia.
3 T26 3 Pin Vert. mount one centre Pin other Pin 4.92 from dia.
4 T17 2 Pin Vert. mount Pins 4mm on outer dia.

All 3mm
1.8(+), 0.75(-)
All 0.75mm
1.8(+), 0.75(-)

203234

Pict. Ref.	Cell Type	Order Code	1+	10+	25+	50+	100+
1	2016	303-1986	2.79	2.77	2.74	2.63	2.25
2	2016	303-1962	2.79	2.77	2.74	2.63	2.25
4	2016	303-1974	2.79	2.77	2.74	2.63	2.25
1	2032	303-2000	2.79	2.77	2.74	2.63	2.25
3	2032	303-2012	2.79	2.77	2.74	2.63	2.25
4	2032	303-1998	2.63	2.61	2.58	2.48	2.12

Lithium Manganese

DURACELL



Lithium manganese dioxide batteries offer practically double the cell voltage of carbon-zinc, mercury or silver oxide batteries. Despite their small size, their energy density is very high making them ideal for miniature electronic equipment.

Operating temperature -30°C to +60°C

Voltage (V)	Capacity (mAh)	Dimensions (L Dia.)	Weight (g) Approx.	Pack Qty.	Mfrs. List No.	Order Code
3	160	10.8	11.6	1	DL1/3N	300-469
3	1500	34	16.9	1	DL123AB1 ULTRA M3	300-470
3	1500	34	16.9	2	DL123AB1 ULTRA M3 2pk	495-1530
6	160	25.2	13	1	PX28L	300-482

230464

Mfrs. List No.	Pack Qty.	Order Code	1+	10+	100+	1K+
DL1/3N	1	300-469	3.73	3.59	3.25	3.04
DL123AB1 ULTRAM3	1	300-470	5.69	5.24	5.02	4.63
DL123AB1 ULTRA M3	2	495-1530	10.70	10.40	10.03	9.26
PX28L	1	300-482	7.33	7.11	6.40	5.99

3/6V Lithium Manganese Ultra

DURACELL



- Non-rechargeable batteries
- Suitable for high drain photographic equipment, instruments and memory back-up
- High performance Ultra formula
- 10 year shelf life
- CR-V3 battery provides the most powerful solution for today's digital cameras-interchangeable with 'AA' type batteries

Operating temperature -30°C to +60°C

Voltage (V)	Capacity (mAh)	Dimensions (H W D)	Weight (g) Approx.	Mfrs. No.	Order Code
3	950	27 — 15.6	11	DLCR2 1PK	207-550
3	950	27 — 15.6	11	DLCR2 2PK	495-1529
6	1500	35.8 34.8 19.3	45	DL223A	463-334
6	1500	45 34 17	31	DL245	207-512
3	3000	52 28.4 14.4	38	DLCR-V3	433-3974

230465

Mfrs. List No.	Pack Qty.	Order Code	1+	10+	100+
DLCR2	1	207-550	6.32	5.85	5.11
DLCR2	2	495-1529	11.11	10.78	10.05
DL223A	1	463-334	9.49	8.65	8.05
DL245	1	207-512	8.96	8.36	7.80
DLCR-V3	1	433-3974	9.06	8.49	7.85

Photo Lithium

Panasonic
Ideas for life

With the introduction of Rapid Flash Technology, Panasonic now offers an even more powerful photo lithium battery with an improved performance.

- High power from a small package (high energy density)
- 10 year shelf life
- Faster flash rate (recycling up to 50% faster)
- Superior temperature capacity (-20° to +60°C)

CR-V3 Digital Camera Battery

- Exceptional power in high drain applications due to its high energy density characteristics
- Superior temperature resistance characteristics (-40° to +70°C)
- Minimal self-discharge, up to 10 year storage
- Battery design allows it to replace standard AA type batteries

Voltage (V)	Capacity mAh	Dimensions H	W	D	Mfrs. List No.	Order Code
3	850	27	-	15.6	CR2	434-2902
3	1400	34.5	-	17.1	CR123A	434-2914
6	1400	45	34	17	2CR5M	434-2926
6	1400	36	34	19.5	CRP2P	434-2938
3	3000	52	29	14.5	CRV3	434-2940

249343.258198

Mfrs. List No.	Order Code	1+	+	+	+
CR2	434-2902	4.28	--	--	--
CR123A	434-2914	4.10	--	--	--
2CR5M	434-2926	7.47	--	--	--
CRP2P	434-2938	7.47	--	--	--
CRV3	434-2940	7.57	--	--	--

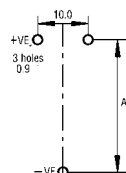
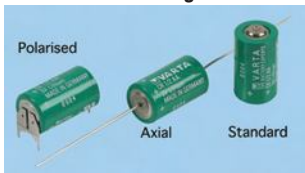
BR435 3V Pin Cell

- Compact and lightweight, lithium carbon monofluoride pin type battery
- Twice the voltage of conventional dry batteries
- Pin terminal for easy connection
- Wide operating temperature -40°C to +95°C
- Typical applications include computer memory backup, PDA stylus pens, miniature torches and LED flashlights

Mfrs. List No.	Voltage (V)	Capacity (mAh)	Dims (HxDia) (mm)	Weight (g)
BR435	3	50	35.9x4.2	9

448255.437348

Mfrs. List No.	Order Code	1+	10+
BR435	128-0826	2.70	2.58

3 Volt Lithium Manganese

PCB Drilling pattern (polarised)

See below for additional dimensions

Note: Polarisation is different to the 3.7 Volt Lithium Manganese

- Non-rechargeable 3V lithium manganese
- Wide operating temperature
- High energy density
- Applications include memory back-up (RAM), real time clocks, alarm systems, sensors and water, gas and electricity meters
- Long storage and operating time in excess of 10 years

Operating temperature			-30°C to +75°C	Axial lead length		45		
Voltage	Can Style	Capacity mAh	Max. Current Drain mA	Dimensions A/L	Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
Axial								
3	1/2AA	950	10	25.1	14.75	11.5	CR1/2AACD	463-292
3	AA	2000	20	50.5	14.75	21.5	CRAACD	463-309
3	2/3AA	1350	15	33.5	14.8	14.8	CR2/3AACD	304-4853
Polarised								
3	1/2AA	950	10	25.1	14.75	11.5	CR1/2AASLF	463-310
3	AA	2000	20	50.7	14.75	21.5	CRAASLF	463-322
3	2/3AA	1350	15	33.5	14.8	14.8	CR2/3AASLF	304-4841
Standard								
3	1/2AA	950	10	25.1	14.75	11.5	CR1/2AA	863-6206
3	AA	2000	20	50.5	14.75	21.5	CRAA	863-6192
3	2/3AA	1350	15	33.5	14.75	15	CR2/3AA	863-6214
3	2/3AH	1350	1500	33.9	17	16	CR2/3AH	508-8276

Note: These batteries are designed to be PCB mounted and must not be used to replace standard zinc carbon or alkaline manganese batteries due to the terminal voltage. High power CR2/3AH is supplied as a standard cell only.

230466

	Mfrs. Can Style	Order Code	1+	Price Each 20+	100+
Axial	1/2AA	463-292	3.78	3.52	3.33
	AA	463-309	5.64	5.31	4.91
	2/3AA	304-4853	4.90	4.46	4.06
Polarised	1/2AA	463-310	3.78	3.52	3.33
	AA	463-322	5.64	5.16	4.82

	Mfrs. Can Style	Order Code	1+	Price Each 20+	100+
Standard	2/3AA	304-4841	4.90	4.46	4.06
	1/2AA	863-6206	3.32	3.09	2.96
	AA	863-6192	5.10	4.80	4.59
	2/3AA	863-6214	4.42	4.11	3.95
	2/3AH	508-8276	3.52	3.35	3.18

3.6V Lithium Thionyl Chloride Memory Back-Up

- Lithium wafer cells
- Long shelf life in excess of 10 years
- Low self discharge (1% or less per year)
- Applications include circuit board mounting, memory back-up, real time clocks and similar applications where PCB height is critical

Operating temperature		-55°C to +85°C				
		Capacity	Dimensions		Weight (g)	
Voltage	Can Style	Ah	H	Dia.	Approx.	Order Code
3.6	BEL	0.42	7 *	22.8	5	113-5792
3.6	1/10D	1	6.2 *	33	17	113-5794

* Height excluding pins

432370

Mfrs. List No.	Order Code	1+	Price Each 25+	100+
SL 840/P	113-5792	6.70	6.56	6.43
SL 889/P	113-5794	6.65	6.32	6.10

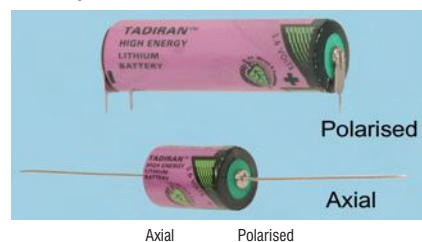
3.6V Lithium Thionyl Chloride Tagged/Untagged Standard Size Cells

Recognised under the component programme of the Underwriters Laboratory Inc. (UL) **Note:** Due to the high terminal voltage these cells must not be used to replace standard cells of similar can styles. Operating temperatures -55°C to +85°C
Note: UL Certified, file number MH12827. Do not recharge. Incorporate a blocking diode and current limiting resistor in circuits to prevent charging.

	Can Style	Capacity Ah	Max. Current Drain mA	Dimensions (mm) H Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
V3.6	1/2AA	1.2	6	25.2 14.7	9	SL350S	118-7252
V3.6	AA	2.4	20	50.5 14.7	18	SL360S	118-7253
V3.6	C	8.5	100	49.8 26.2	50	SL2770/S	118-7254
V3.6	C	8.5	100	50 26.2	50	SL2770/T	118-7255
V3.6	D	19	200	61.3 32.9	92	SL2780/S	118-7256
V3.6	D	19	200	61.5 32.9	92	SL2780/T	118-7257

432784

	Can Style	Mfrs. List No.	Order Code	1+	Price Each 10+	20+	100+
1/2AA	SL350S		118-7252	4.53	4.25	4.08	3.92
AA	SL360S		118-7253	4.78	4.48	4.30	4.13
C	SL2770/S		118-7254	12.93	12.63	11.96	11.09
C	SL2770/T Tagged		118-7255	12.93	12.63	11.96	11.09
D	SL2780/S		118-7256	16.20	15.84	15.01	13.93
D	SL2780/T Tagged		118-7257	16.20	15.84	15.01	13.93

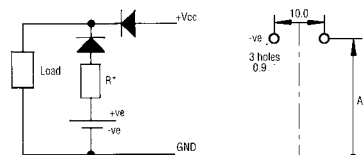
3.6V Lithium Thionyl Chloride

Axial Polarised

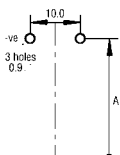


Lithium Batteries - continued

3.6V Lithium Thionyl Chloride - continued



*current limiting resistor R is recommended in case of diode failure and should be mounted adjacent to the +ve terminal of the battery. This resistor may be replaced with another diode if preferred.



PCB Drilling pattern (polarised)
See below for additional dimensions.

Recognised under the component programme of the Underwriters Laboratory Inc (UL).

- New improved capacity
- Non-rechargeable cells
- Designed for low current drain applications
- Hermetically sealed
- 10 year shelf life

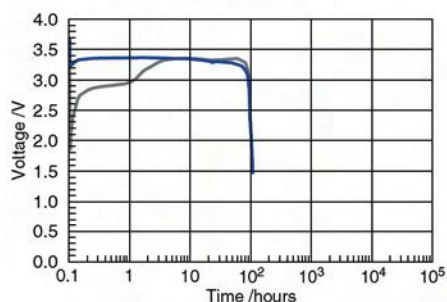
Operating temperature -55°C to +85°C
Capacity loss typically 1% per annum
Axial lead length 45mm

Voltage	Can Style	Capacity Ah	Max. Current Drain mA	Dimensions A/L Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
Axial							
V3.6	1/2AA	1.2	6	25.2 14.7	9	SL350P	118-7258
V3.6	AA	2.4	20	50.5 14.7	18	SL360P	118-7261
Polarised							
V3.6	1/2AA	1.2	6	25.2 14.7	9	SL350PT	118-7262
V3.6	AA	2.4	20	50.5 14.7	18	SL360PT	118-7263

Note: These batteries are designed to be PCB mounted and must not be used to replace standard zinc carbon or alkaline manganese batteries due to the terminal voltage.

432850

	Can Style	Order Code	1+	25+	100+
Axial					
	1/2AA	118-7258	4.46	4.37	4.23
	AA	118-7261	4.96	4.87	4.74
Polarised					
	1/2AA	118-7262	4.67	4.38	4.20
	AA	118-7263	4.84	4.55	4.36

3.6V Lithium Thionyl Chloride
Enhanced Start Performance

- Major improvement of voltage delay (TMV) after storage
- Suited for medium current levels
- Good pulse capability
- Operates between -55°C and +85°C
- Untagged or polarized pins
- SL-2790/T DD cell recommended for stand-alone power sources, battery packs, data logging and collection, RFID and pulse current applications

Note: UL certified, file number MH12827.

Do not recharge. Incorporates a blocking diode and current limiting resistor in circuits to prevent charging

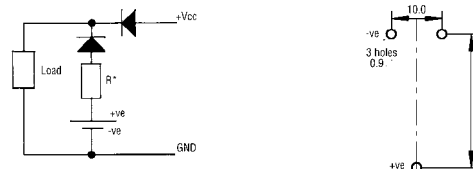
Voltage	Can Style	Capacity (Ah)	Dimensions L Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
3.6V	1/2AA	1.1	25.2 14.7	9	SL750/S	118-7264
3.6V	1/2AA	1.1	25.2 14.7	9	SL750/PT	118-7265
3.6V	AA	2.2	50.5 14.7	18	SL760/S	118-7266
3.6V	AA	2.2	50.5 14.7	18	SL760/PT	118-7267
3.6V	DD	35	123.5 32.9	195	SL-2790/T	160-3872

432861

Mfrs. List No.	Order Code	1+	25+	100+
SL750/S	118-7264	4.12	3.96	3.83
SL750/PT	118-7265	4.20	4.04	3.89
SL760/S	118-7266	4.94	4.75	4.58
SL760/PT	118-7267	5.29	5.08	4.89
SL-2790/T	NEW 160-3872	22.78	22.21	21.50

3.6V Lithium Thionyl Chloride

High Temperature



*current limiting resistor R is recommended in case of diode failure and should be mounted adjacent to the +ve terminal of the battery. This resistor may be replaced with another diode if preferred.

PCB Drilling pattern (polarised)
See below for additional dimensions.

- Non-rechargeable 3.6V lithium thionyl chloride cells
- For use up to 130°C
- Shelf life in excess of 10 years
- Low self discharge (1% or less per year at +20°C)
- Excellent memory back-up characteristics
- Hermetically sealed case

Operating temperature -55°C to +130°C

Voltage	Can Style	Capacity Ah	Max. Current Drain mA	Dimensions A/L Dia.	Weight (g) Approx.	Order Code
3.6V	2/3AA	1	10	33.5 14.7	12	118-7268
3.6V	1/2AA	0.8	6	25.2 14.7	9	118-7269
3.6V	AA	1.7	20	50.5 14.7	18	118-7270

432876

Mfrs. List No.	Order Code	1+	25+	100+
SL561/PT	118-7268	9.86	9.25	8.88
SL550/PT	118-7269	8.59	8.09	7.74
SL560/PT	118-7270	10.10	9.52	9.09

High Power Lithium Thionyl Chloride

4.1V Polarised PCB



Developed for applications requiring high power discharge after a long storage time, e.g. as a back up battery for emergency call devices in automotive telematics systems.

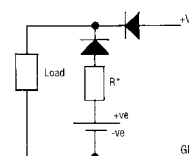
- High voltage 4.1V
- Very high pulse current capability
- Immediate response, no passivation effect
- Wide operating temperature range (-40°C to +85°C)
- High reliability (hermetic laser sealing, glass to metal seal)
- Outstanding storage capability (up to 10 years)
- Recognised safety (UL)
- Low self discharge (less than 7.5% per year)

Voltage	Can Style	Capacity (mAh)	Max. Current Drain (mA)	Dimensions H Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
4.1V	1/3AA	125	1250	20 15	8	TLM-1520HP/TP	129-6497
4.1V	LR6	500	5000	50.2 15	20	TLM-1550HP/TP	129-6499

450331

Mfrs. List No.	Order Code	1+	10+	25+	100+
TLM-1520HP/TP	129-6497	11.12	10.45	10.00	9.56
TLM-1550HP/TP	129-6499	13.87	13.04	12.48	11.92

3.6 Volt Lithium Thionyl Chloride



*current limiting resistor R is recommended in case of diode failure and should be mounted adjacent to the +ve terminal of the battery. This resistor may be replaced with another diode if preferred.

PCB Drilling pattern (polarised)
See below for additional dimensions.

- PCB mounting non-rechargeable cells
- Designed for low to medium current drain applications including memory and real time clocks
- Very high energy density
- 10 year shelf life due to low discharge rates
- Conforms to UL, IEC86-4, EN50020 safety standards
- EN50020 is ATEX (explosive atmospheres) approved

The cells are designed to be safe under normal operating and short circuit conditions. Charging and forced discharge must be avoided.

Supplied individually boxed with instructions for safe use and disposal. Details on series or parallel connections of more than one cell are available upon request.

LS14500 AA Wide Temperature:

- Superior voltage readings after exposure at elevated temperatures
- Stainless steel can (low magnetic signature)
- EN50020 compliant (ATEX standard)
- Non-restricted for transport
- Applications include electronic toll collection, tracking systems and professional electronics

Operating temperature -60°C to +85°C
Capacity loss typically 2% per annum

	Voltage	Can Style	Capacity mAh	Max. Current Drain mA	Dimensions A/L Dia.	Weight (g) Approx.
1/2AA	3.6	1/2AA	1100	40	25.2 14.5	9
2/3A	3.6	2/3A	2100	25	33 16.6	13
A	3.6	A	3600	130	50.9 17	21.9
AA	3.6	AA	2450	45	50.8 14.5	16

Note: These batteries are designed to be PCB mounted and must not be used to replace standard zinc carbon or alkaline manganese batteries due to the terminal voltage.

230470

Can Style	Order Code	1+	Price Each 25+	100+
Axial				
1/2AA	773-992	4.75	4.53	4.09
2/3A	774-017	5.17	4.95	4.44
A	128-2754	7.22	6.92	6.45
AA	774-005	5.42	5.17	4.66
Polarised				
1/2AA	575-860	5.04	4.84	4.50
2/3A	575-872	5.54	5.30	4.95
A	128-2755	7.22	6.92	6.45
AA	575-884	5.27	5.06	4.72
Tagged				
1/2AA	128-2756	7.22	6.92	6.45
2/3A	128-2757	7.90	7.60	7.07
A	128-2758	7.22	6.92	6.45
AA	128-2759	5.89	5.66	5.26
Standard				
1/2AA	128-2760	6.66	6.39	6.11
2/3A	128-2762	7.22	6.92	6.45
A	128-2763	7.54	7.25	6.73
AA	128-2764	6.66	6.39	6.11
AA	128-2765	7.22	6.92	6.45

Lithium Thionyl Chloride Non-Rechargeable 6V and 3.6V

SAFT



- Lithium Thionyl Chloride for use in real time clocks and RAM functions
- Designed for low current drain applications
- Batteries contain internal resistors
- Types 223 and 2AA contain anti-charge diode
- Recognised under the component programme of the underwriters Laboratories Inc. (UL)

	Voltage	Capacity (Ah)	Dimensions (mm) L W H	Weight (g) Approx.	Mfrs. List No.	Order Code
T123A/C	3.7V	1.7	20.5 20.5 41	30	T123A/C	128-3085
T223A/J	6V	1.5	34 19.5 36	40	T223A/J	774-054
T2AA/J	6V	1.9	38.5 20.5 58.8	59	T2AA/J	774-030
T1AA/C	3.6V	1.9	60 15 18	30	T1AA/C	774-029

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Mfrs. List No.	Order Code	1+	Price Each 25+	100+
T123A/C	128-3085	7.74	7.40	7.10
T223A/J	774-054	13.66	13.42	12.08
T2AA/J	774-030	16.27	15.96	14.39
T1AA/C	774-029	9.99	9.83	8.86

Lithium Thionyl Chloride Battery Pack Lithopack

SAFT



A rugged, reliable and flexible 7.2V battery pack for long term applications requiring low base currents combined with superimposed pulses in a wide temperature range.

- Series assembly of two AA sized cells
- High capacity version with 2.75Ah rated LS 14500 C cells
- Stainless steel container and hermetic glass-to-metal sealing
- ABS, flame retardant (UL V2) plastic case
- High and stable operating voltage
- Low self discharge rate (less than 1% after 1 year of storage +20°C)

Nominal Capacity	2.75Ah	Operating Temperature	-60°C to +40°C
Open Circuit Voltage	7.34V	Dimensions (HxWxD)	56.2x17.1x31.4mm
Nominal Voltage	7.2V	Weight	37g
Max. Continuous Current	25mA		

448251.438173

Order Code	1+	Price Each 25+
128-2766	12.56	11.61

Lithium-ion Battery Packs

ENIX ENERGIES



Battery Packs

- 3.75V, 7.5V and 15V nominal
- Very small and lightweight
- Extended cycle life
- Built-in circuit protection
- Up to 5A loads
- Wide temperature range
- Low self discharge
- Transport tested to UN T1-T8

State of the art lithium-ion technology cells and batteries are much smaller than 'traditional' rechargables. Ideal for use in handheld portable equipment (eg surveillance equipment, radio communication and bar code scanners).

Chargers

- 3 stage automatic
- 'Universal' mains input
- CE and UL approvals
- Very small and lightweight
- Multicolour indicator

Batteries

Battery Voltage	3.75V Nominal, 4.2V Charged, 3.0V Discharged
	7.5V Nominal, 8.4V Charged, 6V Discharged
	15V Nominal, 16.8V Charged, 11.2V Discharged
Temperature Charge	Discharge -20°C to +50°C, Charge 0°C to +50°C
	From 4.2V ±1% per cell (8.4V for 2 cell pack, 16.8V for 4 cell pack)

Chargers

Mains Input	100 - 260V ac via 2 pin IEC320
Operating Temperature	-10°C to +40°C
Output via flying leads	

Specially designed to charge the Enix range of Li-Ion batteries. These chargers have a constant current phase, followed by a timed constant voltage phase before switching to long-term safe mode.

Nominal Voltage	Nominal Capacity (Ah)	Max. Charge Current	Dimensions	Weight (g)	Mfrs. List No.	Order Code
3.75V	2.2	2.0A	18.5x69x21	55	700001	129-0995
3.75V	2.6	2.6A	45x55x18	75	800042	880-9020
3.75V	5.3	5.3A	50x70x20	135	800041	880-9038
3.75V	6.8	6.8A	60x70x20	160	800040	880-9046
7.5V	2.2	3.0A	70x37.5x19	100	800052	129-0996
15V	2.2	2.0A	70x37.5x37.5	200	800055	129-0997
15V	6.8	6.8A	75x122x38	640	800050	880-9151

387171.405415

Mfrs. List No.	Voltage/Capacity	Order Code	1+	Price Per Pack 5+	10+
700001	3.75V / 2.2Ah	129-0995	16.06	15.10	14.45
800042	3.75V / 2.6Ah	880-9020	33.48	31.47	30.13
800041	3.75V / 5.3Ah	880-9038	46.87	44.07	42.19
800040	3.75V / 6.8Ah	880-9046	51.00	47.94	45.89
800050	15V / 6.8Ah	880-9151	181.70	171.11	163.91
800052	7.5V / 2.2Ah	129-0996	20.05	18.85	18.04
800055	15V / 2.2Ah	129-0997	40.19	37.77	36.17
Chargers					
2240-1S	4.2V / 1.3A	880-9054	37.52	37.26	36.68
9940-4	16.8V / 2.0A	880-9062	58.09	57.69	56.79

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Help us to help the environment



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Please recycle after use.



Lithium Batteries - continued

Lithium Ion
Standard Packs

High quality Lithium Ion packs available as off-the-shelf solutions in two very useable footprints. The shrink wrapped Lithium Ion pack includes:

- High capacity lithium ion
- Built-in protection against overcharge and discharge
- Cable and Molex connector (Part No. 5264N)
- Turn key battery solution for design engineers

Typical applications include hand-held units, such as PDAs, data terminals, scanners and notebooks.

Mascot 2240Li Charger

- Suitable for use with Varta Li-Ion batteries
- 3-stage charge control
- Universal input voltage (90-264V ac)
- Medical Approved (EN60601)
- UL approval UL 2601-1
- 2-pin IEC320 mains connector socket
- Initial charge current 750mA, 4.2V
- Mating connector for Li-Ion cells

Voltage	Capacity	H	W/Dia.	L	Weight (g) Approx.	Format	Mfrs. List No.	Order Code
3.7V	1100	7	54	35	20	Prismatic	LIP653450	133-5851
3.7V	2200	71	19		46	Cylindrical	LIP18650	508-8252
7.4V	2200	71	37.6	18.8	95	Cylindrical	2S/LIC18650	863-6320

338319.340147

	Order Code	Price Each			
		1+	5+	10+	25+
LIP653450 Prismatic	NEW 133-5851	15.40	14.71	14.07	13.48
LIP18650 Cylindrical	508-8252	17.06	16.71	16.38	16.05
2S/LIC 18650 Cylindrical	863-6320	26.81	26.28	25.75	25.23
Charger		1+	5+	10+	
2240Li (for charging 508-8240, 133-5851 & 508-8252)	120-4149	29.09	28.50	27.93	
2240Li (for charging 863-6320 only)	118-9014	27.41	26.86	26.32	
Black Mains Leads		1+	25+	50+	100+
Euro Mains Plug	120-4150	1.28	1.23	1.14	1.07

Lithium Polymer
Easy Pack

- Short design in time
- Easy to use, complete system solution from the shelf
- High energy, slim, thin and lightweight design
- Two contact positions possible
- Gold plated contacts +/- ID-resistor, thermal sensor integrated
- Consumer replaceable battery
- UL recognised
- No NRE cost, lower system cost

Voltage	Capacity	H	W/Dia.	L	Weight (Approx.)	Mfrs. List No.	Order Code
3.7V	550mAh	5.8	35.4	43.5	14g	EasyPack S	863-6338
3.7V	750mAh	5.2	36.6	64.5	20g	EasyPack M	863-6346
3.7V	1000mAh	6.4	36.6	64.5	25g	EasyPack L	863-6354
3.7V	2000mAh	11.4	36.6	64.5	46.5g	EasyPack XL	863-6362

Note: Wall plug power supplies are suitable for all lithium-ion/lithium polymer batteries of a single cell (3.7V) nature. These should be used where the engineer designs his own charge circuitry.

386244.405340

Mfrs. List No.	Order Code	1+	5+	10+
EasyPack S	863-6338	12.26	11.53	11.04
EasyPack M	863-6346	8.02	7.54	7.22
EasyPack L	863-6354	13.26	12.46	11.94
EasyPack XL	863-6362	22.84	21.47	20.55
Chargers				
Wall Charger, UK	878-8189	21.22	20.80	20.38
Wall Power Supply, UK	878-8219	14.29	13.49	13.00
Wall Power Supply, Euro	878-8227	17.12	16.15	15.56
Black Mains Lead				
Mains Plug, Euro	120-4150	1.28	1.23	1.14

EasyPack Charging Evaluation Kit



Kit Includes:

- EasyPack 550, 750, 1000 and 2000
- Development board
- Comprehensive User - including circuit diagram for "charging reference design" and component specification
- 3-pin UK or 2-pin Euro power supply

The Varta EasyPack charging evaluation kit is especially designed as a "charging reference design" to charge Varta EasyPack lithium po-

lymer batteries. It is therefore easy for the electronic design engineer to implement the core charging circuitry within their application and greatly reduce development time. The development board is ready to go with the addition of external power source, it also has a user breadboard area for adding your own additional circuitry and incorporates battery ID. Temperature control that are built-in to the EasyPack as standard. Self diagnosis functions are also included to help you realise and resolve problems quickly.

Mfrs. List No.	Voltage	Capacity	H	W/Dia.	L	Weight (Approx.)
EasyPack S	3.7V	550mAh	5.8	35.4	43.5	14g
EasyPack M	3.7V	750mAh	5.2	36.6	64.5	20g
EasyPack L	3.7V	1000mAh	6.4	36.6	64.5	25g
EasyPack XL	3.7V	2000mAh	11.4	36.6	64.5	46.5g

386250

Mfrs. List No.	Order Code	1+	5+	10+
Easy Pack Evaluation Kit Euro	130-1602	161.25	157.03	155.04

Lithium Polymer
PolyFlex

- Slim and lightweight
- High energy density
- Versatile form factor
- Good load performance
- No free liquid electrolyte
- Environmentally friendly (no heavy metals)
- Short circuit, overcharge and reverse polarity internal protection

- No memory effect
- Supplied with 50mm fly leads
- Allow for 0.2mm dimension change through swelling
- Ideal for applications requiring high capacity in a limited space
- Typical applications include mobile phones, digital cameras, PDAs, notebooks, medical devices, Bluetooth devices, industrial and consumer electronics

Do not disassemble, deform or apply excessive force to these batteries. Do not incinerate. Always read the handling instructions.

Voltage (V)	Capacity (mAh)	Std Charge Current (mA)	Operating Temperature (°C)	H	W	D	Mfrs. List No.	Order Code
3.7	370	185	-20 to 60°C	2.6	34	41	PLF263441	135-7482
3.7	660	330	-20 to 60°C	4.4	33.8	41	PLF443441	135-7483
3.7	590	295	-20 to 60°C	3.2	34	49.2	PLF323450	135-7484
3.7	1000	500	-20 to 60°C	5.2	34	49.2	PLF523450	135-7485
3.7	1170	585	-20 to 60°C	4.6	37	58.5	PLF463759	135-7486
3.7	980	490	-20 to 60°C	3.8	35	62	PLF383562	135-7489
3.7	1320	660	-20 to 60°C	5	35	62	PLF503562	135-7490
3.7	1060	530	-20 to 60°C	4.2	35	66	PLF423566	135-7491

46975

Mfrs. List No.	Order Code	1+	10+	25+
PLF263441	135-7482	15.47	14.39	13.47
PLF443441	135-7483	15.47	14.39	13.47
PLF323450	135-7484	15.47	14.39	13.47
PLF523450	135-7485	16.74	15.64	14.67
PLF463759	135-7486	17.26	16.16	15.13
PLF383562	135-7489	15.47	14.39	13.47
PLF503562	135-7490	17.46	16.31	15.29
PLF423566	135-7491	11.68	10.91	10.23

Lithium Ion Chargers

Li-Ion Plug-In Charger

2241 Series - Medical Approved



L=90,
W=45,
H=32mm

A small fully automatic universal voltage input plug top or desk charger suitable for charging Li-Ion batteries.

- Suitable for charging 1-4 cells
- Interchangeable mains heads
- Can be used as desktop chargers
- Medically approved to EN60601-1
- 3 step charge control with current detection as charge termination
- Reverse polarity and short circuit protection
- Supplied with loose 2.1mm and 2.5mm output plugs

	1 Cell	2 Cell	3 Cell	4 Cell
Input Voltage	90 - 264 Vac			
Charge Current	1.3A	1.3A	1.2A	0.9A
Operating Temperature	-25°C to +40°C			
Insulation Class	2			
Weight	115 g			

434481.434382

Description	Order Code	1+	5+	10+
1 Cell	119-6523●	28.39	--	--
2 Cell	119-6524●	28.39	--	--
3 Cell	119-6525●	28.39	--	--
4 Cell	119-6526●	28.39	--	--
Exchangeable Input Plug Adapters				
UK	119-6527●	1.30	1.19	1.08
Euro	119-6528●	1.30	1.19	1.08
USA	119-6529●	1.30	1.19	1.08

Li-Ion Switchmode Plug-in Chargers

FRIWO®



Dimensions W=51.5, H=34, L=87.5mm

A range of interchangeable switchmode plugtop Li-Ion chargers, suitable for rapid charging in any application of between 2-4 Li-Ion cells.

- Lightweight, compact size
- LED charging display
- Low standby power
- Approved to EN60601-1 Class BF for Medical applications
- Conforms to UL2601-1, IEC 60335-2-29, VDE
- Applications include medical devices, commercial and industrial applications

Input Voltage	Output Voltage	Output Current	No. of Cells	Capacity	Mfrs. List No.	Order Code
100-240Vac	8.4V	800mA	2	0.8 to 10Ah	1826003	129-3339
100-240Vac	12.6V	800mA	3	0.8 to 10Ah	1826004	129-3340
100-240Vac	16.8V	800mA	4	0.8 to 10Ah	1826006	129-3341

450430

Mfrs. List No.	Order Code	1+	5+	10+
2 Cells	1826003	129-3339●	34.70	31.82
3 Cells	1826004	129-3340●	34.70	31.82
4 Cells	1826006	129-3341●	34.70	31.82
Exchangeable Input Plug Adaptors				
UK	117-6583●	2.27	1.97	1.78
Euro	117-6582●	1.66	1.43	1.30
USA	117-6585●	1.66	1.43	1.30
AUS	117-6586●	1.86	1.61	1.45
Exchangeable Output Plug Adaptors				
1.3 x 3.5 x 9.5 Coax	117-6588●	0.36	0.32	0.29
1.7 x 4 x 11 Coax	117-6589●	0.36	0.32	0.29
2.1 x 5.5 x 9.5 Coax	117-6590●	0.36	0.32	0.29
2.1 x 5.5 x 11.5 Coax	117-6592●	0.36	0.32	0.29
2.1 x 5.5 x 14 Coax	117-6593●	0.36	0.32	0.29
2.5 x 5.5 x 9.5 Coax	117-6594●	0.36	0.32	0.29
2.5 x 5.5 x 11 Coax	117-6595●	0.36	0.32	0.29
DIN 45323	117-6597●	0.36	0.32	0.29
2.5 Jack	117-6598●	0.36	0.32	0.29
3.5 Jack	117-6599●	0.36	0.32	0.29

Silver Oxide Button Cells

Silver Oxide Button Cell Equivalents

230513

Order Code	IEC	VARTA	DURACELL	Energizer	Panasonic	RAY-O-VAC	RENATA
304-4865	SR1154SW	V303	D303/WS14	303	SR44SW	303/357	
304-4877	SR67	V315	D315	315	SR716SW	315	315
304-7908	SR62	V317	D317	317	SR516SW	317	317
174-531	SR64	V319	D319	319	SR527SW	319	319
174-520	SR65	V321	D321	321	SR616SW	321	321
304-7910	SR731SW	V329	D329	329	SR731SW	329	329
300-860	SR44	V357	D357/10L14	357	SR44W	303/357	357
300-780	SR58	V362	D362/10L180	362	SR721SW	361/362	362
300-779	SR60	V364	D364	364	SR621SW	364	364
304-7921	SR69	V370	D370	370	SR920SW	370/371	370
174-555	SR69	V371	D371	371	SR916SW	370/371	371
304-7933	SR68	V373	D373	373	SR626SW	373	373
174-543	SR66	V377	D377	377	SR521SW	376/377	377
249-907	SR63	V379	D379	379	SR1120SW	379	379
304-7945	SR55	V381	D381/10R130	381	SR41SW	381/391	381
304-7957	SR41	V384	D384/10L15	384	SR43W	384/392	384
300-858	SR43	V386	D386/10L124	386	SR1130W	301/386	386
300-834	SR54	V389	D389/10L122	389	SR1130SW	389/390	389
304-7969	SR54	V390	D390	390	SR1120W	389/390	390
300-822	SR55	V391	D389/10L130	391	SR41W	381/391	391
300-792	SR41	V392	D392/10L125	392	SR754W	384/392	392
300-809	SR48	V393	D393/10L123	393	SR936SW	309/393	393

Order Code	IEC	VARTA	DURACELL	Energizer	Panasonic	RAY-O-VAC	RENATA
300-810	SR45	V394	D394/10L126	394	SR927SW	394	394
174-567	SR57	V395	D395	395	SR726W	395/399	395
304-7970	SR59	V396	D396/10R102	396	SR726W	396/397	396
249-919	SR59	V397	D397	397	SR726SW	396/397	397
304-7982	SR57	V399	D399	399	SR927W	395/399	399



- High stability discharge compared to alkaline button
- Applications include watches, clocks, calculators and remote controls
- Supplied in single "capsules"

Operating temperature -10°C to +65°C

Voltage	Capacity mAh	Max. L	Dimensions Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	115	4.2	11.6	1.8	V301	863-6370
1.5	170	5.4	11.6	2.3	V303	304-4865
1.5	21	1.6	7.9	0.33	V315	134-9698
1.5	12.5	1.7	5.8	0.18	V317	134-9699
1.5	18	2.7	5.8	0.31	V319	134-9700
1.5	13	1.7	6.8	0.3	V321	174-520
1.5	39	3.1	7.9	0.58	V329	150-3783
1.5	165	5.4	11.6	2.3	V357	300-860
1.5	18	2.1	7.9	0.4	V361	863-6184
1.5	21	2.1	7.9	0.4	V362	300-780
1.5	20	2.2	6.8	0.3	V364	300-779
1.5	30	2.1	9.5	0.6	V370	304-7921
1.5	44	2.1	9.5	0.6	V371	174-555
1.5	30	1.6	9.5	0.5	V373	134-9701
1.5	27	2.6	6.8	0.4	V377	174-543
1.5	14	2.1	5.8	0.2	V379	249-907
1.5	45	2.1	11.6	0.9	V381	304-7945
1.5	38	3.6	7.9	0.7	V384	304-7957
1.5	105	4.2	11.6	1.8	V386	300-858
1.5	85	3.1	11.6	1.3	V389	300-834
1.5	80	3.1	11.6	3.1	V390	304-7969
1.5	40	2.1	11.6	0.9	V391	300-822
1.5	38	3.6	7.9	0.7	V392	300-792
1.5	65	5.4	7.9	1.1	V393	300-809
1.5	67	3.6	9.5	1	V394	300-810
1.5	42	2.7	9.5	0.8	V395	174-567
1.5	25	2.6	7.9	0.6	V396	304-7970
1.5	30	2.6	7.9	0.5	V397	249-919
1.5	42	2.7	9.5	0.8	V399	304-7982

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Mfrs. List No.	Order Code	1+	10+	100+	500+
V301	863-6370	0.91	0.80	0.71	0.65
V303	304-4865	1.63	1.44	1.25	1.11
V315 (E)	134-9698	1.23	1.12	1.05	0.95
V317 (E)	134-9699	1.13	1.03	0.97	0.91
V319 (E)	134-9700	1.23	1.12	1.05	0.95
V321	174-520	0.87	0.79	0.73	0.67
V329 (E)	150-3783	0.86	0.76	0.67	0.58
V357	300-860	1.35	1.25	1.19	1.14
V361	863-6184	0.68	0.60	0.53	0.48
V362	300-780	0.52	0.46	0.41	0.37
V364	300-779	0.67	0.62	0.59	0.57
V370	304-7921	1.16	1.09	1.03	0.97
V371	174-555	0.91	0.83	0.76	0.71
V373 (E)	134-9701	1.42	1.29	1.22	1.13
V377	174-543	0.57	0.53	0.51	0.48
V379	249-907	0.77	0.69	0.59	0.52
V381	304-7945	0.84	0.73	0.64	0.58
V384	304-7957	0.77	0.69	0.60	0.53
V386	300-858	1.23	1.09	0.93	0.86
V389	300-834	1.24	1.13	1.08	1.03
V390	304-7969	1.18	1.03	0.90	0.81
V391	300-822	0.71	0.63	0.55	0.50
V392	300-792	1.00	0.90	0.86	0.81
V393	300-809	0.51	0.44	0.40	0.35
V394	300-810	0.91	0.80	0.71	0.65
V395	174-567	0.87	0.79	0.73	0.67
V396	304-7970	0.41	0.35	0.31	0.27
V397	249-919	0.51	0.43	0.40	0.34
V399	304-7982	0.81	0.72	0.63	0.57

Zinc Air Batteries

DURACELL

Zinc Air - EasyTab™

Hearing Aid



- 1.4V Zinc Air batteries
- Improved performance-up to 30% longer life than previous Duracell hearing aid batteries
- Easy to open package and remove the batteries
- Easy to insert into your hearing aid
- Colour coded for correct battery selection

Type	Capacity (mAh)	Max. L	Dimensions Dia.	Equivalents	Order Code
DA13	210	5.4	7.9	PR48, A13, V13A, PR13	432-7287
DA10	50	3.6	5.6	PR70, V10AT, V230A, PZA230	432-7299
DA312	105	3.6	7.8	PR41, A312, V312A, PR312	432-7305
DA675	510	5.4	11.6	PR44, A675, V675A, PR675	432-7317



Zinc Air Batteries - continued

Zinc Air - EasyTab™ - continued

Hearing Aid - continued

248845

Type	Pack Qty	Order Code	1+	10+	20+	100+
DA13	6	432-7287	4.30	4.11	3.99	3.79
DA10	6	432-7299	4.30	4.11	3.99	3.79
DA312	6	432-7305	2.54	2.42	2.34	2.23
DA675	6	432-7317	4.30	4.11	3.99	3.79

Zinc Air
Hearing Aid

PowerOne hearing aid batteries offer consistently high performance under extreme conditions.

- 1.4V Zinc Air batteries
- High capacities
- Rapid activation
- Longer life even in high drain applications and digital devices
- Easy removal of cells from clear colour coded packaging
- Implant Plus designed for longer running time in cochlear implants

Type	Capacity (mAh)	Max. H	Dimensions Dia.	Weight (g)	Order Code
P10	95	3.6	5.8	0.3	508-8203
P13	300	5.4	7.9	0.83	508-8215
P312	170	3.6	7.9	0.58	508-8227
P675	650	5.4	11.6	1.85	508-8239
P675 Implant Plus	570	5.4	11.6	1.85	863-6311

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Type	Pack Qty	Order Code	1+	10+	20+	100+
P10	6	508-8203	3.19	3.07	2.97	2.79
P13	6	508-8215	3.19	2.98	2.89	2.71
P312	6	508-8227	3.19	3.07	2.97	2.79
P675	6	508-8239	3.19	3.07	2.97	2.79
P675 Implant Plus	6	863-6311	4.54	4.23	4.08	3.87

Emergency Lighting Batteries

High Temperature Emergency Lighting Batteries

VTD70C



A range of high temperature battery sticks for replacement Emergency Lighting applications. The VTD70C range is now used by major manufacturers worldwide for longer lifetime at higher temperatures.

- 2.4V to 12V Nickel Cadmium batteries fitted with end caps
- Supplied with push fit flying leads
- Easy installation
- No soldering required
- Charge current 400mA (cyclic), 200mA (float)
- 4 years life duration at higher temperatures
- Meets IEC 61951-1 & 619551-2

Type	Voltage (V)	Capacity (Ah)	Dimensions (mm) H Dia. or W D	Operating Temp. (°C) Under Discharge	200mA Cont.	Order Code
2 x D Single Stick	2.4V	4	154 35	-20 to 70	15 to 55	150-5705
3 x D Single Stick	3.6V	4	215 35	-20 to 70	15 to 55	150-5706
4 x D Single Stick	4.8V	4	273 35	-20 to 70	15 to 55	150-5707
5 x D Single Stick	6V	4	335 35	-20 to 70	15 to 55	150-5708
2 x 3 D Twin Stick	7.2V	4	215 72	35 -20 to 70	15 to 55	129-2967
2 x 5 D Twin Stick	12V	4	335 72	35 -20 to 70	15 to 55	129-2969
2 x D Side x Side	2.4V	4	65 70	35 -20 to 70	15 to 55	129-2970
3 x D Side x Side	3.6V	4	65 98	35 -20 to 70	15 to 55	129-2971
4 x D Side x Side	4.8V	4	65 160	35 -20 to 70	15 to 55	129-2972

450450 450461

Type	Order Code	1+	5+	10+
2 x D Single Stick	150-5705	9.95	9.08	8.34
3 x D Single Stick	150-5706	13.35	12.24	11.27
4 x D Single Stick	150-5707	17.92	16.35	15.04
5 x D Single Stick	150-5708	22.10	20.16	18.53
2 x 3 D Twin Stick	129-2967	26.65	24.57	22.79
2 x 5 D Twin Stick	129-2969	45.18	41.60	38.53
2 x D Side x Side	129-2970	10.08	9.19	8.45
3 x D Side x Side	129-2971	13.33	12.29	11.40
4 x D Side x Side	129-2972	18.08	16.64	15.42

NiCd Emergency Lighting Packs

DMS technologies



High performance Nickel Cadmium cells offer an ideal solution for Emergency Lighting applications. Small and lightweight, they have low internal resistance giving them a stable voltage profile during high rate discharge and have a long service life. Available in a range of sizes, capacities and configurations, they are a cost-effective way of providing high discharge power in various voltage options, where size must be kept to a minimum.

- High discharge current capability
- Excellent cycle life
- Long service life (5 years @ 25°C)
- Install in any orientation
- Quick recharge (<4 hours)
- Sealed, no maintenance
- Excellent shock resistance
- Can be stored discharged

Type	Nominal Capacity Ah	Dimensions L H D	Mfrs. List No.	Order Code
3.6V stick pack sleeved with end caps, leads and connector	4	180 33 378	7140-0050	508-7934
4.8V stick pack sleeved with end caps, leads and connector	4	240 33 504	7140-0051	508-7946
6.0V stick pack sleeved with end caps, leads and connector	4	300 33 630	7140-0052	508-7958
7.2V 2x3 stick pack sleeved with end caps, leads and connector	4	180 66 33 736	7140-0053	508-7960
3.6V side by side pack sleeved with leads and connector	4	99 60 33 378	7140-0055	508-7983
4.8V side by side pack sleeved with leads and connector	4	132 60 33 504	7140-0056	508-7995
6.0V side by side pack sleeved with leads and connector	4	165 60 33 630	7140-0057	508-8008

338672

Mfrs. List No.	Order Code	1+	10+	25+	100+	500+
7140-0050	508-7934	19.54	18.80	18.10	17.45	16.03
7140-0051	508-7946	25.64	24.72	23.81	22.98	21.08
7140-0052	508-7958	31.26	29.81	28.48	27.27	26.14
7140-0053	508-7960	36.86	35.15	33.58	32.43	30.82
7140-0055	508-7983	18.50	17.79	17.13	16.52	15.45
7140-0056	508-7995	25.96	24.97	24.04	23.17	21.27
7140-0057	508-8008	30.55	29.41	28.38	27.40	25.66

Rechargeable Nickel Metal Hydride Batteries

Nickel Metal Hydride (Ni-MH) rechargeable batteries offer certain advantages over traditional Ni-Cad cells.

- They have a greater energy density than Ni-Cad, typical capacity for AA Ni-Cad=800mAh; NiMH=1800mAh
- Advanced Ni-MH technology offers up to 50% more life
- Longer life cycle, up to 500 charge/discharge cycles
- Superior temperature range
- Improved self discharge characteristics
- No memory effect-can be topped up
- Do not need to be discharged before charging
- More environmentally friendly than Ni-Cad batteries-zero percent cadmium

230484

Primary Style Rechargeable Cells

DURACELL



- High capacity Duracell Supreme NiMH, 1000mAh (AAA), 2650mAh (AA)
- Premium quality range of Nickel Metal Hydride (NiMH) cells from Duracell
- Premium capacity
- Designed for high drain devices
- Does not need discharging before charging
- Duracell NiMH multi charger
- Universal desktop unit designed for AAA, AA, C, D, PP3 NiMH batteries only
- Fitted with UK 3-pin mains plug

Note: Supplied and priced in blister packs

Batteries Voltage	Can Style	Typical capacity (mAh)	Dimensions L Dia	Weight Approx. (g)	Order Code
1.2	AAA	1000	44.5 10.5	32	128-1251
1.2	AA	2650	50.5 14.5	103	133-0278
1.2	C	2200	50 26.2	128	414-0280
1.2	D	2200	61.1 34.19	145	414-0291
9	PP3	150	48.5 x 26.5 x 17.5	52	414-0308

Charger	(mAh) Capacity	Charging Current	Charge Time (Hours)
AAA	750	120mA	7
AA	1800	310mA	7
C	2200	440mA	7
D	2200	440mA	7
9V	150	15mA	11

239875

Can Style	Pack Qty	Order Code	Price Per Pack
			1+ 5+ 10+ 25+
AAA Supreme	4	128-1251	8.23 8.12 7.96 7.79
AA Supreme	4	133-0278	8.85 8.74 8.57 8.40
C	2	414-0280	8.17 7.79 7.36 7.07
D	2	414-0291	8.17 7.79 7.36 7.07
PP3	1	414-0308	7.72 7.60 7.44 7.27

Primary Style Rechargeable Cells



- A range of Nickel Metal Hydride (NiMH) cells
- Designed for high drain devices
- Do not need discharging before charging
- Longer service life
- Rechargeable up to 1000 times
- No memory effect - can be topped up
- Universal fast charger for up to 4xAAA, AA, C and D batteries or 2x9V batteries
- Charges Nickel Metal Hydride (Ni-MH) and Nickel Cadmium (Ni-Cad) rechargeable batteries
- Microprocessor technology to maximise battery life protection
- LED charging status indication
- Automatic switch to trickle charge for AAA, AA, C and D Cells
- Automatic reverse polarity protection

Batteries Voltage	Can Style	Typical capacity (mAh)	Dimensions L Dia	Weight Approx. (g)	Order Code
1.2V		850	44.5 10.5	12	880-4168
1.2V	AAA	1000	44.5 10.5	12	119-1556
1.2V	AA	2000	50.5 14.5	28	129-6442
1.2V	AA	2500	50.5 14.5	27	880-4184
1.2V	AA	2650	50.5 14.5	27	128-1237
1.2V	C	2500	50 26.2	60	880-4192
1.2V	D	2500	61.5 34.2	73	880-4206
8.4V	PP3	175	48.5 26.5	41	880-4214

Charger	Type	Capacity (mAh)	Charge Time	Charging Current	Trickle Current
AAA	NiMH	650-1000	3h - 3h 45mins	140mA	30mA
AAA	NiCad	300	1h 20mins	140mA	30mA
AA	NiMH	1600-2500	3h 20 - 3h 45mins	275mA	30mA
AA	NiCad	800	1h 45mins	275mA	30mA
C	NiMH	2500	5h	550mA	30mA
C	NiCad	1500	3h	550mA	30mA
D	NiMH	2500	5h	550mA	30mA
D	NiCad	1500	3h	550mA	30mA
9V	NiMH	175	12h	12-16mA	-
9V	NiCad	120	10h	12-16mA	-

Note: Supplied and priced in blister packs

386856

Can Style	Pack Qty	Order Code	Price Each/Per Pack
			1+ 5+ 10+ 25+
AAA-700	2	NEW 167-8337	5.56 5.14 -- --
AAA-850	2	880-4168	4.46 4.30 4.11 3.87
AAA-850	4	119-1555	9.33 8.93 8.56 8.21
AAA-1000	4	119-1556	8.21 7.85 7.51 7.22
AA-2000	4	NEW 167-8338	5.32 4.88 -- --
AA-2000	4	129-6442	7.53 7.21 6.91 6.64
AA-2500	2	880-4176	5.42 5.24 5.06 4.90
AA-2500	4	NEW 167-8336	8.26 7.63 -- --
AA-2650	2	128-1237	5.48 5.32 5.17 5.02
C	2	880-4192	8.93 8.64 8.55 7.92
D	2	880-4206	8.93 8.64 8.55 7.92
PP3	1	880-4214	8.93 8.64 8.55 7.92
UK Charger		128-2047	22.34 21.40 20.51 19.70

FOR MORE INFORMATION & CHOICE

Product Search

Ni-MH Batteries

RoHS Compliant Items Only | Advanced Search

Over 480,000 products online

RoHS Compliant
Non-compliant

08447 11 11 11

Fax: 08447 11 11 12 1209

Ni-MH Rechargeable Batteries

High end line



- Rechargeable Nickel Metal Hydride cells in 5 standard sizes
- High capacities for the greatest demands: AA cells up to 2850 mAh, D cells up to 10000 mAh, 9 V block up to 250 mAh
- Universally applicable

243193

Mfrs. List No.	Capacity (mAh)	Order Code	Price Each
			1+ 5+ 10+ 25+
AAA / Micro	800	417-0003	1.81 1.67 1.52 1.41
AAA / Micro	1100	145-3782	2.32 2.08 1.89 1.72
AA / Mignon	2100	792-7967	2.29 2.13 2.04 1.93
AA / Mignon	2850	145-3781	3.12 2.87 2.70 2.46
C / Baby	4500	117-3788	7.10 6.37 5.75 5.26
D / Mono	10000	117-3791	9.20 8.24 7.47 6.83
9V / PP3	200	417-0064	5.62 5.19 4.84 4.60
9V / PP3	250	417-0076	6.86 6.38 5.98 5.71

Cylindrical NiMH



- High capacity cylindrical NiMH cells
- Over 500 cycles
- Proven technology
- Tagged for combining into larger battery packs
- Applications include portable power systems, hand terminals and cordless telephones

Voltage	Nominal Capacity mAh	Standard Charge Rate (14 hrs)	Dimensions H W/Dia.	Mfrs. List No.	Order Code
V1.2	1900	195	41 16	1/VH2100	868-3042
V1.2	3650	370	67 17	1/VH4000	863-6281

203304.405339

Mfrs. List No.	Order Code	Price Each
		1+ 10+ 25+ 100+
1/VH2100	868-3042	4.34 4.17 3.97 3.81
1/VH4000	863-6281	5.76 5.52 5.29 5.12

Bluetooth Headset



- Designed for use with Nokia and Plantronics M3000 bluetooth headsets
- Nickel Metal Hydride (Ni-MH) cells
- No memory effect
- High capacity
- Can be charged up to 1,000 times

Terminal Voltage	Capacity mAh	Max. Dimensions H W D	Weight (g) Approx.	Mfrs. List No.	Order Code
2.4V	170	18.0 21.4 10.6	8.5	GP17AAAH2X	505-6822

337964

Mfrs. List No.	Order Code	Price Each
		1+ 10+ 25+ 100+
GP17AAAH2X Nokia	505-6822	4.42 4.31 4.21 3.77
GP27AAAM2BMX Plantronics	505-6834	3.91 3.84 3.75 3.34

High Temperature NiMH Emergency Lighting Packs



High temperature 4Ah NiMH batteries that are designed to meet the requirements of emergency lighting applications.

- Can be charged continuously at between 0.033 and 0.05 (130 - 200mA)
- Upper operating temperature of 50°C for up to 4 years
- Supplied in 2 and 3 cell format with a male push on terminal at the +ve and a lead and female push on at the -ve for series connection giving the option of 2, 3, 4, 5 and 6 cell batteries
- Compact size
- Mercury, cadmium and lead free

Discharge Current	400-2000mA (recommended)	Charging Voltage	1.5V @ 400mA (max.)
Capacity	4000mAh (minimum), 4200mAh (typical)	Dimensions (LxDia.)	2 cell: 145 x Ø18mm 3 cell: 215 x Ø18mm
Cycles	>350		

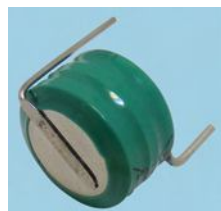
Rechargeable Nickel Metal Hydride Batteries - continued

High Temperature NiMH Emergency Lighting Packs - continued

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Type	Order Code	1+	10+	25+	100+
2 Cell	101-1458	9.35	9.00	8.66	8.34
3 Cell	101-1459	11.43	11.01	10.60	10.22

Rechargeable Nickel Metal Hydride LED Torches - e.g Cigarette Lighter Portable Torches



- Rechargeable, powerful and small
- Low weight
- Long life-time
- High current capability
- Supplies high discharge currents
- Continuous charging possible



Nominal Voltage (V)	Typical Capacity	Dimensions Dia (mm)	Weight (g)	Mfrs. List No.	Order Code
3.6V	18	7.3 x 12 x 12mm	0.9	3/V18HRT	167-4497

526294

Mfrs. List No.	Order Code	1+	10+	25+
3/V18HRT	167-4497●	5.23	4.96	4.77

Rechargeable Nickel Metal Hydride Metering



- Excellent for Automated Meter Reading like ZigBee or additional service functions like LCD illumination
- Support high pulses
- Wide temperature range from -20°C to +65°C (V65HT up to +85°C)
- Long lifetime up to 10 years
- High reliability
- Simple charging system / continous charging is possible

Nominal Voltage (V)	Typical Capacity mAh	Dimensions Dia (mm)	Weight (g)	Mfrs. List No.	Order Code
3.6V	40	16.8 x 12 x 12mm	6	3/V40H	167-4498
3.6V	65	19 x 16 x 16mm	14	3/V65HT	167-4499

526295

Mfrs. List No.	Order Code	1+	10+	100+
3/V40H	167-4498●	4.78	4.54	4.37
3/V65HT	167-4499●	5.40	5.14	4.93

Rechargeable Nickel Metal Hydride Tracking and eCall



- Specially suitable for telematic applications like tracking and ecall
- Works reliable in the harsh automotive environment
- Rechargeable and robust to withstand a car crash
- Designed for high discharge currents and temperatures from -20°C to +85°C
- Extended lifetime
- High current capability

Nominal Voltage (V)	Typical Capacity mAh	Dimensions LxDia (mm)	Weight (g)	Mfrs. List No.	Order Code
3.6V	500	73.5 x 36.5 x 8mm	61	3/V500HT LF WC	167-4501
3.6V	500	50 x 36.5 x 16mm	47	3/V500HT C WC	167-4502
4.8V	500	70 x 49 x 8.5mm	56	4/V500HT	167-4503
4.8V	500	104 x 26.5 x 15.5mm	90	6/V500HT	167-4504

526296

Mfrs. List No.	Order Code	1+	10+	100+
3/V500HT LF WC	167-4501●	7.81	7.41	7.13
3/V500HT C WC	167-4502●	8.09	7.68	7.39
4/V500HT	167-4503●	10.40	9.89	9.50
6/V500HT	167-4504●	15.52	14.74	14.17

Rechargeable Nickel Metal Hydride Solar Charged Watches - Memory Backup



- Powerful and small
- Low weight
- Long life-time
- High current capability
- Supplies high discharge currents
- Continuous charging possible



Nominal Voltage (V)	Typical Capacity mAh	Dimensions LxDia (mm)	Weight (g)	Mfrs. List No.	Order Code
1.2V	6mAh	6.8 x 6.8 x 2.15mm	0.28	V6HR	167-4505

526303

Mfrs. List No.	Order Code	1+	10+	100+
V6HR	167-4505●	0.95	0.90	0.87

Rechargeable Nickel Metal Hydride PP3 9V V7/8H Ready4Use



- Nickel Metal Hydride-rechargeable 9V PP3 Battery
- Fully charged and ready 4 use
- Proven product safety
- Long product life
- 180mAh Capacity
- Suitable for Cordless Microphone, Security detectors, Medical Instruments



Nominal Voltage (V)	Typical Capacity mAh	Dimensions LxDia (mm)	Weight (g)	Mfrs. List No.	Order Code
8.4V	180mAh	48.5 x 26.6 x 25.7	47.5	V7/8H READY4USE	167-4507

526304

Mfrs. List No.	Order Code	1+	10+	100+
V7/8H READY4USE	167-4507●	7.29	6.92	6.66

Standard/Specialised Cells



- A range of rechargeable Nickel Metal Hydride cells
- Enhanced capacity over Nickel Cadmium cells
- No memory effect
- Longer cycle life
- Solder tags fitted to some batteries for battery pack assembly

Operating temperature		0°C to +40°C													
Voltage	Can Style	Nom Cap. Ah	Charge Rate (14hrs)	Max. Dis-charge Rate mA	Dimensions L	Dia.	Weight (g)	Solder Tags	Mfrs List No.	Order Code					
1.2V	2/3AAA	0.3	30	840	29	10.2	9	Yes	GP30AAAMHB	206-519					
1.2V	2/3AF	1	100	3000	29	17	19	Yes	GP100AFHBB	908-551					
1.2V	2/3AA	0.75	75	1800	30.5	14.6	13	Yes	GP75AAHBB	507-027					
1.2V	4/5AF	1.8	180	5400	43	17	32	Yes	GP181AFH	604-525					
1.2V	4/5AA	1.2	120	3600	43	14.4	22	Yes	GP121AAM	604-537					
1.2V	AAA	0.85	85	2550	45.5	10.5	14.5	No	GP85AAHCB	505-6810					
1.2V	AA	1.3	130	3600	49.5	14.5	25	No	GP130AAHC	604-549					
1.2V	AA	1.8	180	4500	50.5	14.5	27	No	GP180AAHC	206-490					
1.2V	AA	1.8	180	3600	50	14.6	25	Yes	GP180AAHBB	536-970					
1.2V	AF	2.5	250	6300	50	17	37	Yes	GP250AFH	604-550					
1.2V	7/5AAA	0.8	80	2400	66.2	10.5	17	Yes	GP80AAAH	604-562					
1.2V	7/5AF	3.7	370	10800	67	18	53	Yes	GP380AFHBB	174-701					
1.2V	CS	3.3	330	6600	43	23	47	Yes	GP330SCHHB	132-1917					
8.4V	PP3	0.17	17	300	48.5	26.5	42	No	GP17R8H	206-477					

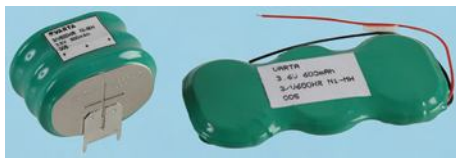
*Note: Charge times may need adjusting due to different charge currents.

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Can Style	Order Code	Price Each				
		1+	10+	25+	100+	500+
N	121-6091	2.13	2.00	1.85	1.69	1.47
18210	126-9670	1.78	1.61	1.45	1.34	1.21
2/3AAA	206-519	1.33	1.31	1.29	1.17	0.94
2/3AF	908-551	3.34	3.24	3.18	2.91	2.61
2/3AA	507-027	2.23	2.17	2.13	1.91	1.72
4/5AF	604-525	5.22	5.05	4.95	4.51	4.02
4/5AA	604-537	3.76	3.63	3.54	3.25	2.90
AAA	125-0150	3.06	2.90	2.69	2.55	2.21
AAA	505-6810	3.51	3.45	3.39	3.10	2.74
AA	604-549	3.31	3.20	3.12	2.87	2.56
AA	206-490	3.34	3.26	3.20	2.93	2.54
AA	536-970	4.43	4.35	4.27	3.90	3.49
AA	150-0145	4.52	4.36	4.20	3.99	3.56
AF	604-550	6.05	5.86	5.74	5.22	4.73
7/5AAA	604-562	2.24	2.17	2.13	1.95	1.74
7/5AF	174-701	9.57	9.38	9.18	8.73	7.78
18650	126-9672	3.88	3.44	3.10	2.83	2.56
18670	126-9673	4.11	3.65	3.27	2.98	2.68
CS	132-1917	4.87	4.77	4.68	4.43	3.97
D	126-9675	8.67	8.09	7.56	7.10	6.60
PP3	206-477	4.55	4.46	4.37	4.26	3.79

Rechargeable Nickel Metal Hydride

Button Cells – High Discharge Rate



- Slimline design
- Low self discharge
- Tagged for combining into larger battery packs
- Fast charge and high discharge capability
- Typical applications include hot swap for notebook PC's, handheld scanners, GPS terminals and alarms
- Ideal for applications requiring high power output, slender profile and a cost effective battery solution
- V65HT has improved life at above average temperatures

Voltage	Nominal Capacity (14-16 Hrs) mA	Standard Charge mA	Trickle Charge mA	Max Discharge Rate mA	Dimensions H W/Dia. L	Weight (g) Approx.	Mfrs. List No.	Order Code
1.2	22	1.8	0.6	100	2 11.5 —	1.1	1/V20HR	351-9557
1.2	70	6.5	1.95	130	6 15.5 —	4	1/V65HT	508-8264
1.2	240	24	7.2	480	6.7 25.1 —	10	1/V250H	863-6290
1.2	460	45	14	2250	4.9 34 24	14.5	1/V450HR	351-9545
1.2	580	58	17.5	3000	24.1 34.1 6.5	14.5	1/V600HR	390-7247
1.2	280	28	8.4	560	7.5 25.1 —	11	1/CP300H	863-6303
3.6	580	58	5.8	3000	26 22 45	45	3/V600HR Stack	108-3710
3.6	580	58	5.8	3000	8.5 74 45	45	3/V600HR Wire	108-3711

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Mfrs. List No.	Order Code	Price Each			
		1+	5+	100+	500+
1/V20HR	351-9557	1.61	1.51	1.38	1.31
1/V65HT	508-8264	1.85	1.57	1.43	1.35
1/V250H	863-6290	1.36	1.27	1.23	1.19
1/V450HR	351-9545	1.49	1.36	1.26	1.21
1/V600HR	390-7247	1.76	1.49	1.35	1.27
1/CP300H	863-6303	1.21	1.14	1.10	1.06
3/V600HR Stack	108-3710	5.03	4.84	4.67	4.49
Polarised PCB					
3/V600HR Flat	108-3711	5.14	4.95	4.77	4.61
75mm Wire					

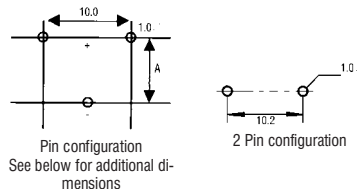
PCB Mounting

NiMH MemPac Memory Protection Range



279-341

279-330



- Drop-in replacement for existing nickel cadmium batteries of equivalent sizes
- More environmentally friendly than nickel cadmium versions

Note: The minimum voltage across the terminals when charging is 1.45V per cell, i.e. Order Code 279-341 has 3x1.45V = 4.35V

Operating temperature 0°C to +60°C

Voltage	Nominal Capacity (14hrs) mA	Standby Rate mA	Max. Discharge Rate mA	Dimensions H W/Dia. A	Weight (g) Approx.	Mfrs. List No.	Order Code
V1.2	150	4.2	220	5.9 14.1 6.35	6.2	1/V150H	863-968
V2.4	80	2.1	120	12 16.5	8.3	2/V80H KM SLF	854-657

V2.4	150	14	4.2	220	11.9	25.6	12.8	12.7	2/V150H	279-330
V2.4	15	1.4	0.45	22	6.7	12	7.4	2.2	2/V15H	863-956
V2.4	220	20	6	300	14	25.6	15.5	17	2/V200H	351-9569
V2.4	250	24	7.2	480	26	26	14	22	2/V250H	351-9582
V3.6	12	1.4	0.45	22	10.5	12	10.1	3.3	3/V15H	524-864
V3.6	80	7	2.1	120	18.3	16.5	19.1	12.5	3/V80H	279-341
V3.6	150	14	4.2	220	18	15.3	18.8	19	3/V150H	279-353
V3.6	220	20	6	300	14	25.6	23	24	3/V200H	351-9570
V3.6	250	24	7.2	480	26	26	20.5	33	3/V250H	351-9594
V4.8	150	14	4.2	220	24	15.3	24.8	25.6	4/V150H	863-970
V6	150	14	4.2	220	30	15.3	30.8	32.2	5/V150H	863-981
V6	300	28	8.4	560	44.5	26.3	42.4	61.5	5/CP300H	863-993

230487

Voltage	Capacity mAh	Order Code	Price Each			
			1+	10+	100+	500+
V1.2	150	863-968	1.31	1.17	1.14	1.12
V2.4	80	854-657	1.95	1.82	1.70	1.60
V2.4	150	279-330	2.54	2.31	2.20	2.10
V2.4	15	863-956	1.69	1.47	1.42	1.35
V2.4	220	351-9569	2.96	2.65	2.49	2.43
V2.4	250	351-9582	3.64	3.33	3.11	3.05
V3.6	12	524-864	2.44	2.30	2.20	2.10
V3.6	80	279-341	3.07	2.89	2.77	2.66
V3.6	150	279-353	3.70	3.47	3.33	3.20
V3.6	220	351-9570	4.41	3.96	3.72	3.60
V3.6	250	351-9594	5.03	4.49	4.21	4.12
V4.8	150	863-970	4.96	4.39	4.29	4.09
V6	150	863-981	7.11	6.29	5.97	5.23
V6	300	863-993	5.85	5.50	5.27	5.11

High Temperature NiMH MemPac range

Rechargeable



- Designed for memory protection applications where climatic conditions are less controlled
- Enhanced performance at high temperature
- Long life expectancy
- Resistant to deep discharging and polar reversing
- Compact construction
- Environmentally friendly

Voltage (V)	Nominal Capacity	Weight (g) Approx.	Mfrs. List No.	Order Code
2.4	110mAh	12	2/V110HT	390-7211
3.6	110mAh	18	3/V110HT	390-7223
4.8	110mAh	24	4/V110HT	390-7235

233562

Ruggedised Mempa S-H

Memory Protection



- Designed for memory protection
- MEMPACS have been hermetically sealed by resin encapsulation
- Injection moulded plastic casing
- Capable of withstanding less control controlled atmospheres
- Ideally suited for direct mounting on PCBs

Voltage	Capacity mAh	Dimensions H L W	Weight (g) Approx.	Mfrs. List No.	Order Code
2.4V	80	10 10 20	10	2/V80H	434-3700
2.4V	150	11.9 14.1 25.6	12.7	2/V150H	279-330
3.6V	80	10.0 55 20	15	3/V80H S-H	305-5930
3.6V	150	16 22.2 40.3	21	3/V150H S-H	305-5942

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Mfrs. List No.	Order Code	Price Each				
		1+	10+	25+	50+	100+
2/V80H	434-3700	4.38	4.15	3.91	3.63	2.87
2/V150H	279-330	2.54	2.31	2.20	2.10	—
3/V80H S-H	305-5930	6.52	6.27	6.07	5.83	4.78
3/V150H S-H	305-5942	7.56	7.27	7.05	6.77	5.53

Camcorder Batteries

Camcorder Batteries



Camcorder Batteries - continued

Camcorder Batteries - continued

A range of high capacity, rechargeable Li-Ion and Ni-MH battery packs designed for use with most popular camcorder models.

Voltage V	Capacity Ah	Dimensions H W D	Weight (g) Approx.	Equivalants	Mfrs. List No.	Order Code
7.4	850	8 40 63	38	BP-208	CA208	127-8816
7.4	850	10 40 63	38	BP-308	CA308	127-8817
7.4	1500	21 38 55	76	BP-511, BP-512	CA511	506-2561
7.4	3000	40 38 55	152	BP-522	CA522	506-2573
6	2000	23 47 89	183	BPE711, BPE714	BPE77NM	506-2597
7.2	750	8 40 60	58	BNV200	J200	107-8171
7.2	700	23 37 41	49	BNV707	J707	127-8818
6	2000	22 49 90	188	BNV20, VVWBS1E, NP-55, BP40	DSP18NM	506-2652
7.2	1100	20 36 59	60	CGRD120E, CGRD08SE1B	DVB120	506-2676
7.4	2000	21 39 70	100	VBL50, SB-L160	SMBL160	506-2690
7.4	800	16 31 54	46	SB-LSM80	SMBLS80	127-8819
7.2	2000	21 39 71	96	NP330, NP530, NP550, L Series	NP550	506-2731
7.2	1500	21 38 56	61	NPFM50, M Series	SM50	506-2743
3.6	3600	41 30 52	101	NPF20, NPF521, S Series	SSF21	506-2755

Camcorder Compatibility

Manufacturer	Models	Order Code
Canon	DC10, 100, 20, 40, IXDV51, MVX400, 450, 460, Optura S1	127-8816
Canon	FV40, 400	506-2561
	MV30, 300, 300i, 30i, 400, 400i, 430, 430i, 450, 450i, 500, 500i, 530, 530i, 550, 550i, 600, 600i, 630, 630i, 650, 650i, 700, 700i, 730, 730i, 750, 750i	
	MVX1, 1i, 100, 100i, 150, 150i, 2i, 3i, Li	
	Optura, Pi, 100MC, 200MC	
	ZR10, 20, 25MC, 30MC, 40, 45, 50, 50MC, 60MC, 65MC, 70MC, 80, 85, 90	
Canon	UC8000, 9500	506-2597
	A1, 100, 11, 110, 2, 9, 10	
	E8, 808, 70, 707, 80, 100, 110, 20, 200, 210, 230, 250, 30, 300, 320, 350, 40, 400, 440, 460, 50, 500, 51, 53, 57, 6, 60, 600, 61, 63, 640, 65, 660, 67, 680, 7, 70, 700, 708, 77, 8, 80, 808, 850, 9, 90	
	EOS1X	
	EX1Hi, EX2Hi	
	FV600	
	H440, 460, 480, 640, 660, 680, 800, 850	
	L1	
	UC10, 100, 1000, 1Hi, 15, 16, 20, 200, 2000, 2Hi, 3000, 30Hi, 40, 4000, 4500, 5, 5000, 5500, 600, 6000, 7, 7Hi, 7000, 7500, 8000, 850, 8500, 8Hi, 9, 900, 9000, 9500, S1	
	UCX10Hi, 7Hi, 8Hi, Hi	
	VME2, 70, 708, 77, 800, 850	
	VTLC50	
JVC	GRD240, 245, 250, 260, 270, 290, 295, 425, 470	127-8818
	GRDF420, 430, 450, 535, 540, 550, 565, 570	
	MG20, 21, 27, 30, 37, 40, 50, 505, 60, 67, 70, 77, X5	
Sony	All Sony 6V camcorders except those using NP22	506-2652
Panasonic	NVDA1	506-2676
	NVDS11, 12, 15, 150, 25, 27, 28, 29, 3, 30, 33, 35, 37, 38, 50, 55, 60, 65, 77, 8, 89, 99, 990,	
	NVGS1, 11, 12, 14, 15, 20, 3, 4, 5, 9	
	NVEX1, 3, 21, NVGX7, NVMG3	
	NVMX1, 2, 3, 5, 500, 7, 8, 300, 350, 1000, 2000, 2500, 3000, 5000	
	NVRX22, 33, 66	
	PVBP8, PVD8P5, PVDC102, 103, 152, 202, 203, 252, 352, 402, 52, 53, 602, 702, 73, 852, 901, 952, 953	
	PVDV100, 101, 102, 103, 200, 201, 202, 203, 351, 400, 401, 402, 51, 52, 53, 600, 601, 602, 701, 702, 710, 73, 800, 851, 852, 900, 901, 951, 952, 953	
	PVVM202, VDRM10, 20	
Samsung	Samsung 8mm & Hi8	506-2690
	VPL 500, 520, 530, 550, 600, 610, 630, 650, 700, 710, 750, 770, 800, 850	
	VPM 50, 51, 52, 53, 54	
	VPSD20	
	VPW 60, 61, 63, 70, 71, 75, 76, 80, 800u, 87	
Samsung	VPD161, 351, 352i, 353i, 354, 355, 452, 453i, 552, 557, 6550, 964W	127-8819
	SC-351, 352, 352i, 353i, 354, 355, 357, D353, 6550	
Sony	All Sony 8mm & Hi8 CCD TR & Handycams using L range of 7.2V battery	506-2731
Sony	All Sony DCR Mini DV range of camcorders using M range of Info-Lithium battery	506-2743
Sony	DCR PC1, 2, 3, 4, 5	506-2755

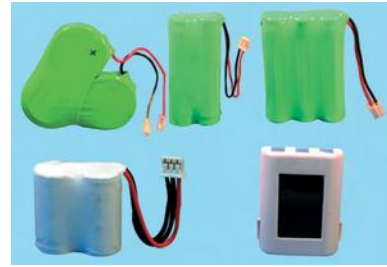
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Mfr.	Original Battery Ref.	Order Code	1+	10+	25+
Canon	BP-208	127-8816	10.98	10.55	10.14
Canon	BP-511, 512	506-2561	27.67	25.31	23.04
Canon	BPE711, 714	506-2597	14.82	14.29	13.77
JVC	BNV707	127-8818	17.54	16.88	16.23
Multifit	BNV20, VVWBS1E, NP-55, BP40	506-2652	15.21	14.61	14.06
Panasonic	CGRD120E, CGRD08SE1B	506-2676	24.64	23.66	22.76
Samsung	VBL50, SBL160	506-2690	22.17	20.56	19.27
Samsung	SB-LSM80	127-8819	15.38	14.76	14.19
Sony	NP330, 530, 550, L Series	506-2731	30.53	28.45	26.15
Sony	NPFM50, M Series	506-2743	30.53	28.45	26.15
Sony	NPF20, FS21, S Series	506-2755	30.53	28.45	26.15

Cordless Telephone Batteries



Cordless Telephone Batteries



A range of rechargeable Ni-Cad and Ni-MH battery packs suitable for use with many popular cordless telephones.

Voltage	Nominal Capacity Ah	Dimensions H W/Dia.	D	Mfrs. List No.	Order Code
V3.6	320	9 51	51	CP03UNM	506-2767
V2.4	600	11 21	45	CP13NM	506-2792
V3.6	600	11 31	46	CP15NM	506-2809
V3.6	600	11 31	46	CP18	506-2810
V3.6	550	10 31	44	CP19NM	506-2822
V3.6	600	12 39	50	CP46	506-2834

Cordless Telephone Compatibility

Manufacturer	Models	Order Code
Alcatel	Daytona	506-2767
Citizen	TF 50N/TF 51N/TF 52N	
Dialatron	Denver/Madison/Palma	
GEC	Esprit 1042/1043	
Geemarc	Capital/Europa PT/400B/400NB	
Panasonic	KX-T4200	
Uniden	AE 155/156/200/300/400/500/700	
Audioline	CDL150/CDL4/FF788/FF888	
Betacom	Discovery/Libero/Ventura/Roma/Quest/XT/XT2/Airlink 8/800/600	
British Telecom	Diverse 5000 Solo Freestyle 50/60/65/70/75/80/90/100/130/300+/320/520/530/600/1000/1050/1000+/1100/1100+/1200/1500/1500+/Quartet 2010/2012/2015 Verve 100	
Bush	201	
Cable&Wireless	CWD250/2500/650/700/800/900 CWR100/200/300/400/600/700/800/900	
Dialatron	Caracas 1000/2000/3000/Miami/Phoenix	
Emerson	TEC 3000	
Geemarc	Atlanta 100/150/200/Clearsound 1000/3000/800	
JVC	TNE 77/88	
Panasonic	KX-A36/T3610/T3611/T3620/T3621/KX-T3640/T3705/T3710/T3720/T3725/KX-T3730/T3820/T3822/T3823/T3824/KX-T3832/T3848/T3850/T3855/T3870/KX-T3875/T3910/T4035/T4050/T4065/KX-T3920/T3930/T3932/T3935/T3940/KX-T3950/T3960/T3965/T3980/T4026/KX-T4060/T4200/T4300/T4046/T4330/KX-T4340/T4350/T4370/T4066/T4400/KX-T4600/TC1005	
Philips	Aleor/Aleoris/Evalia/Icana Xalia 6100/6200/6400/6600/6800/6820/6850	
Sanyo	CAS 120/130/CLA Series CLT3200/340/3600/440/520/6100/6300	
Siemens	Gigasat 100	
Sony	SPP A20/22/A40/55/A57/A60/SPP 65/90/D15/D57	
Southwestern Bell	FF 700/750/760/770/777/780/790/800/880/884/888/889/890/894/895/896/900/901	
Toshiba	FT 6002/6003/6203/6303/6400W/6503/6603	
Uniden	EX 600/XC 310/315/320/340/CT 301	
British Telecom	Freelance 1/2/100/200/300/500 Freestyle 2/300/500 Walk & Talk 970/980	
Doro	2000	
Geemarc	Excursion 255/3201/6000	
Northwestern Bell	KX-T3846/T3856/T3865/T3806/T3515/KX-T3816/T3825/T3835/T3842/T3845/KX-T3880/T3900	
Philips	Golf/Memo 6411/6810	
Samsung	915/918/CLA985/CLT980/CLT982E/CLT985/Cocoon/SP-R915	
Sanyo	CLT880/80/980/981/982E/985/CLT990/CLA400E/500E/CLS200	
Southwestern Bell	FF 650/675/680/1150/1175/1735/1750/1755	
Uniden	EX 255/2100/3101/3102/3800/3810/4100/4101/4102/4800	
British Telecom	Synergy 2000/2010/2020/2100/2110/2120/2150/2200/2210/2220	506-2792
Cable&Wireless	CWD250/2500/650/4100/4101	
Sagem	DPC300/Pack Trio 21300	
Alcatel	Dect/Easy/Comfort/Vocal/Altiset MS/Altiset S Gap BT Dect Fax, Cobra CP205, Ericsson DT200	506-2809
Audioline	5015	
Binatone	Icarus 8/800/8000 Pegasus 8/800/Ranger 100	506-2810
Cable&Wireless	CWR2200	
Casio	2500/2600/T-2600	
Doro Matra	Dunea 160C/260C/350C/360C/362C/60C Solea 160C/250/350C/352C	
Ericsson	Dect 230	
Geemarc	CC50	

Over 480,000 products online



Cordless Telephone Compatibility

Ascom	Arena 233/233+	506-2822
British Telecom	Verve 3010	
Doro	1000	
NTL	D4500/R66/R67	
Panasonic	KXTCD422/KX-TDC961/TDC962	
Samsung	5100/5150	
British Telecom	Synergy 900/1000/1400/1500	506-2834

337920

Capacity mAh	Order Code	1+	10+	50+	100+
320	506-2767	2.43	2.29	2.18	2.08
600	506-2792	4.39	4.16	3.95	3.77
600	506-2809	2.80	2.64	2.50	2.38
600	506-2810	3.65	3.44	3.27	3.11
550	506-2822	3.46	3.28	3.11	2.97
600	506-2834	5.75	5.43	5.15	4.90

Digital Camera Batteries

Digital Camera Batteries



A range of rechargeable Li-Ion and Ni-MH batteries suitable for use with many popular digital cameras.

Batteries Voltage	Capacity (mAh)	Dimensions H W D	Type	Model	Order Code
3.7	850	6 33 52	Li-Ion	BLB2	150-3695
3.7	1000	10.5 32 49.5	Li-Ion	NB-1L	506-2860
7.4	630	15.9 33.2 45	Li-Ion	NB-2L	506-2871
3.7	790	9 32 45	Li-Ion	NB-3L	107-8188
3.7	700	6 35 40	Li-Ion	NB-4L	107-8175
6	650	11 31 49	NiMH	NB-5H	506-2883
3.7	1120	8 32 45	NiMH	NB-5L	150-3696
7.4	1500	21 38 55	Li-Ion	BP511	506-2561
3.7	650	5 30 50	Li-Ion	CS20	506-2895
3.7	1230	9 38 38	Li-Ion	CS40	879-1937
3.7	710	6 35 40	Li-Ion	NP40	506-2901
3.7	1050	7 35 53	Li-Ion	NP60	506-2913
3.6	1500	20 19 55	Li-Ion	NP80	506-2925
3.7	1800	11 35 49	Li-Ion	NP95	150-3697
3.7	730	5 35 47	Li-Ion	KLIC7000	107-8178
3.7	720	6 35 39	Li-Ion	KLIC7001	127-7551
3.7	600	6 27 37	Li-Ion	KLIC7002	127-7552
3.7	1520	14 28 50	Li-Ion	KLIC8000	150-3699
7.2	1500	21 40 56	Li-Ion	NP400	127-7553
3.7	650	7 15 44	Li-Ion	NP900	107-8179
7.4	700	16 32 52	Li-Ion	EN-EL	506-3012
3.7	1000	8 39 53	Li-Ion	EN-EL2	506-3024
7.4	1500	21 39 56	Li-Ion	EN-EL3	506-3036
3.7	1100	7 35 53	Li-Ion	EN-EL5	879-1864
7.4	1100	17 35 56	Li-Ion	EN-EL7	127-7554
7.4	1000	16 36 55	Li-Ion	EN-EL9	150-3700
3.7	1100	10 32 46	Li-Ion	OL10B	506-3050
3.7	660	6 31 40	Li-Ion	OL40B	127-7556
7.2	1500	21 39 55	Li-Ion	BLM-1	879-1880
3.7	1100	17 35 56	Li-Ion	CGA-S004	127-7557
3.7	1150	9 35 40	Li-Ion	CGA-S005	127-7559
7.2	710	19 36 45	Li-Ion	CGR-S006	127-7561
3.7	1000	12 30 37	Li-Ion	CGA-S007	150-3701
3.7	1230	5 33 33	Li-Ion	SLB-1237	127-8815
7.2	2000	21 39 71	Li-Ion	NP550	506-2731
3.6	1236	16 30 50	Li-Ion	NPF10/FS11	506-3073
7.2	1500	21 38 56	Li-Ion	NPFM50	506-2743
3.6	630	12 22 50	Li-Ion	NPFC10	506-3085
3.6	450	5 35 36	Li-Ion	NPFE1	127-7562
7.2	1620	20 38 54	Li-Ion	NP-FM55H	150-3702
3.6	660	5 35 45	Li-Ion	NPFT1	127-7610

Digital Camera Compatibility

Manufacturer	Models	Order Code
BenQ	E43, E53	150-3696
Canon	Digital Ixus 300/330/400/V/V2/V3/430/500	506-2860
Canon	PowerShot S100/S110/S200/S230/S300/S330/S400/S410/S500	
Canon	PowerShot S30/S40/S45/S50/S60/S70/S80/EOS 350D/Rebel XT	506-2871
Canon	Digital Ixus i15/i15s/700/750	107-8188
Canon	PowerShot SD10/SD100/SD110/SD20/SD500/SD550	
Canon	Digital Ixus 30/40/50/55/60/65	107-8175
Canon	PowerShot SD30/SD200/SD300/SD400/SD430/SD450/SD600/SD630	
Canon	A5/PowerShot A50/S10/S20/S520/S700	506-2883
Canon	Ixus 800IS	
Canon	Digital Ixus 800IS, 900	150-3696
Canon	PowerShot SD700, SD900	
Canon	PowerShot G1/G2/G3/G5/G6/P90/Pro 90IS/ EOS 10DS/5D/20D/300D/30D/D10/D30/D60S	506-2561
Casio	EX-M1/M2/M20U/S1/S100/S2/S200/S3/S500/S600/Z3/Z4/Z4U/Z60/ QV-R3/R4/S20U	506-2895
Casio	EX-P505/P600/P700/Z40/Z50/Z55/Z57/Z60/Z500/Z600/Z750/Z850	879-1937
Fuji	Finepix 402/F455/F470/F610/F650/F700/F710/F810/F811/V10/Z1/Z2	506-2901

Digital Camera Compatibility

Pentax	Optio S/S4/S4i/S5i/SV/SV/WP/WP/X/A10	
Kodak	C875/V550/V570/V705	127-7551
Kodak	V530/V603	127-7552
Kodak	Z612	150-3699
Fuji	Finepix 401i/50i/F410/F601/M603	506-2913
Kodak	LS-420/443/633/743/753/Easyshare One/Z730/Z760	
Pentax	Optio 330/330RS/430/430RS	
Ricoh	Caplio RR10/RR30/G3/G3M/G3S	
HP	M307/M407/R507/R607/R707/R717/R817/R818/R927	
Panasonic	SV-AV10	
Traveller	CD-5300	
Samsung	Digimax U-CA 3	
Toshiba	PDR-T20/T30/5300	
Fuji	Finepix 1300/1400/4800/4900/6800/6900/MX-1700/2700/ 2900/600Z/700Z	506-2925
Kodak	DC-4800/4800 EZ	
Kyocera/Yashica	Elite 3300	
Leica	Digilux Zoom	
Ricoh	PR1/RDC7/RDC-6000/RDC-i500/RR1	
Toshiba	PDR-M1/M4/M5/M60/M70	
Fuji	Finepix F30	150-3697
Fuji	DS-260/MX-500/MX-600/MX-700	506-2937
JVC	GC-S5	
Leica	Digilux	
Ricoh	RDC-i700	
Toshiba	PDR-M3	
Pentax	Optio 450/550/555/750Z/MX	
Kodak	LS-755	107-8178
Konica Minolta	Maxxum 7SLR/SD/7D	127-7553
	Dimage A1/A2	
	Dynak 5D/7D	
Yashica/Kyocera	Finecam S3/S3L/S3U/S3R/S3X/S4/S5/S5R/S30/S40 PDR-M3310	
Kyocera	Finecam SL300R/SL300/SL400	879-1899
Konica Minolta	Dimage X50/X60	879-1953
Konica Minolta	Dimage E40/E50	107-8179
Pentax	EL 2000	506-3000
Nikon	Coolpix 775/880/885/995/4300/4500/4800/5000/5400/5700/8700	506-3012
Nikon	Coolpix SQ2500/3500	506-3024
Nikon	D50/D70/D70S/D100/D200	506-3036
Nikon	Coolpix 3700/4200/5200/5900/7900/P3/P4	879-1864
Nikon	Coolpix 8400/8800	127-7554
Nikon	D40	150-3700
Olympus	C-5060/7070/8080, E-1 (SLR), E-300/330/500 Evolt SLR	879-1880
Olympus	D-630/FE-150/FE-160/FE-5500/IR-300/SP-700 mju 700/720SW/Sylus 710	127-7556
Sanyo	VPC-AZ3EX/EX/J2EX/J1/J1/J28KEX/MZ3/X350/XACTI JI	
Panasonic	DMC-LX1/FX01	
	FX8/FX9/LX1	
Panasonic	DMC-FZ30/FZ50/FZ7	127-7561
Panasonic	DMC-TZ1, TZ2, TZ3	150-3701
Fuji	DS-300/330/560/565	506-2731
Sony	IDC-1000Z	
Sony	DSC-D700/D770	
	MVC-CD1000/CD200/FD200/FD5/FD51/FD7/FD71/ FD73/FD75/FD81/FD83/FD85/FD87/FD88/FD89/FD90/ FD91/FD92/FD95/FD97/FD200/FDR1/FDR3	
Sony	DSC-F505/F55/P1/P11/P20/P50/P51	506-3073
Sony	DSC-F707/F717F828/P120/R1/S30/S50/ S70/S75/S85	506-2743
	MVC-CD250/CD300/CD350/CD400/CD500	
Sony	DSC-F77/FX77/P10/P12/P2/P3/P31/P5/P7/P8/P9/P100/V1	506-3085
Sony	DSC-T7	127-7562
Sony	Alpha DSLR-A100, A100K	150-3702
Sony	DSC-L1/M1/M2	127-7610
Sony	DSC-T1/T11/T3/T33/T5/T9	
Samsung	Digimax L55W/L85	127-8815

337921

Manufacturer	Original Battery Ref.	Order Code	1+	10+	25+
BenQ	BLB2	NEW 150-3695	10.35	10.08	9.82
Canon	NB-1L	506-2860	17.03	15.29	13.77
Canon	NB-2L	506-2871	18.58	16.89	15.31
Canon	NB-3L	107-8188	17.66	16.26	14.21
Canon	NB-4L	107-8175	9.87	9.07	8.34
Canon	NB-5H	506-2883	16.27	14.89	13.55
Canon	NB-5L	NEW 150-3696	9.17	8.73	8.05
Canon	BP511	506-2561	27.67	25.31	23.04
Casio	CS20	506-2895	17.59	16.96	16.38
Casio	CS40	879-1937	13.29	12.27	11.28
Fuji	NP40	506-2901	18.58	16.97	15.72
Fuji	NP60	506-2913	17.31	15.94	14.62
Fuji	NP80	506-2925	21.44	20.40	19.47
Fuji	NP95	NEW 150-3697	9.17	8.73	8.05
Kodak	KLIC7000	107-8178	12.30	11.29	10.43
Kodak	KLIC7001	127-7551	10.98	10.55	10.14
Kodak	KLIC7002	127-7552	10.98	10.55	10.14
Kodak	KLIC8000	NEW 150-3699	11.52	10.90	10.07
Konica Minolta	NP200	506-2998	23.43	22.45	21.55
Konica Minolta	NP400	127-7553	13.20	12.66	12.17
Konica Minolta	NP700	879-1953	12.96	11.97	11.00
Konica Minolta	NP900	107-8179	12.30	11.29	10.43
Kyocera	BP780	879-1899	11.00	10.42	9.89
Nikon	EN-EL1	506-3012	26.97	25.82	24.78
Nikon	EN-EL2	506-3024	16.47	14.96	13.58
Nikon	EN-EL3	506-3036	16.47	14.96	13.58
Nikon	EN-EL5	879-1864	18.04	16.94	16.15
Nikon	EN-EL7	127-7554	17.54	16.88	16.23
Nikon	EN-EL9	NEW 150-3700	17.85	17.41	16.87
Olympus	BLM-1	879-1880	17.13	16.36	15.80
Olympus	OL40B	127-7556	8.79	8.45	8.12
Samsung	SLB-1237	127-8815	9.24	8.79	8.39
Panasonic	CGA-S005	127-7559	10.98	10.55	10.14
Panasonic	CGR-S006	127-7561	10.98	10.55	10.14
Panasonic	CGA-S007	NEW 150-3701	8.43	7.85	7.24



Digital Camera Batteries - continued

Digital Camera Batteries - continued

Manufacturer	Original Battery Ref.	Order Code	1+	10+	25+
Sony	NP550	506-2731	30.53	28.45	26.15
Sony	NPFS11	506-3073	30.49	28.10	25.78
Sony	NPFM50	506-2743	30.53	28.45	26.15
Sony	NPFR1	127-7562	10.98	10.55	10.14
Sony	NP-FM55H	NEW 150-3702	20.13	19.52	18.96
Sony	NPFC10	506-3085	18.58	16.97	15.72
Sony	NPFT1	127-7610	19.75	18.98	18.24

PowerPix Digital Camera Batteries



DURACELL
New

By offering higher performance and more power than alkaline batteries, Duracell PowerPix is the ideal battery for the growing power requirements of moderate digital camera users.

- Lasts up to 3 times longer than standard alkaline batteries
- Delivers performance and value to moderate digital camera users
- Nickel Oxyhydroxide technology
- Long shelf life

495259.437378

Type	Pack Qty	Order Code	1+	10+	50+	100+
AAA	4	152-1625	4.01	3.87	3.59	3.30
AA	2	152-1626	2.24	2.11	1.98	1.85
AA	4	152-1628	4.01	3.87	3.59	3.30

Digital Xtreme Power Batteries

Nickel Oxide

Panasonic
ideas for life



The new Panasonic Digital Xtreme Power Battery offers a higher performance and longer life than standard alkaline batteries in digital still cameras.

- New nickel oxide technology designed specifically for digital still cameras
- Lasts up to 3 times longer than Panasonic PowerMax3 alkaline batteries in digital still cameras
- Comparable performance to Ni-MH without the inconvenience of recharging
- 5 year shelf life

Voltage	Can Style	Max Dimensions (mm)		Mfrs. List No.	Order Code
		L	Dia.		
1.5V	AA	50.4	14.5	ZR6/4BP	445-3153

416399.424247

Type	Pack Qty	Order Code	1+	10+	100+
AA	4	445-3153	5.13	4.81	4.55

Troubleshooting tips



Chat live online to one of our technical engineers at
www.farnell.co.uk

Nickel Zinc



- Nickel zinc technology
- Ideal power solution for digital cameras, photographic equipment, motorised toys, shavers and toothbrushes
- Supplied in packs of 4

Voltage	Can Style	Max. L	Dia.	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	AA	50.5	14.5	23	GP15NZ-C4	505-6792



337963

Mfrs. List No.	Order Code	1+	10+	50+	100+
GP15NZ-C4	505-6792	2.22	2.17	2.11	1.94

Universal Fast Charger

Uni-Charger UNO



- All-in-one charger for camcorder and digital camera batteries
- Safe charging of Ni-Cd, Ni-MH, Li-Ion and sealed lead acid batteries
- Reconditions and automatically recharges Ni-Cd batteries to eliminate memory effect
- Charges from AC current at home or through 12Vdc car cigarette lighter adaptor while on the move
- -ΔV charge mode for Ni-Cd and Ni-MH batteries
- Constant current and constant voltage charge mode for Li-Ion and SLA batteries
- Intelligent microprocessor controlled charging
- Built-in short circuit protection
- Safety timer
- Kit includes: Base station charger, ac adaptor, 12V car lead, 4 adaptor plates and adaptor plate voucher

419523.436548

Order Code	1+	5+	10+	25+
110-3254	30.54	29.50	28.51	27.56

Digital Camera / Camcorder Li-Ion Battery Charger

DigiCharger Plus



H=131, W=73, D=25mm

- Universal charger for 3.6V and 7.2V Li-Ion battery packs or 1-4 AAA/AA NiCd/NiMH cells
- Supplied with adaptor plates for charging more than 120 Li-Ion battery packs and NiCd/NiMH cells
- Microprocessor control, fast charge
- -ΔV detection for NiCd/NiMH cells
- Overcharge protection
- Bad battery detection
- Safety timer for both Li-Ion and NiCd/NiMH charging
- Colour LED charge status indication
- Audible end of charge indication
- Supplied with ac adaptor and 12Vdc car adaptor
- 'E' approved for in-vehicle use

Battery Type	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH			
AAA NiCd / NiMH	350-1000	760-840	30mins - 1hr 35mins
AA NiCd / NiMH	700-2700	760-840	1hr - 4hrs 20mins
3.6-3.7V Li-Ion	800-4600	760-840	1hr 25mins - 4hrs
7.2-7.4V Li-Ion	800-4600	760-840	1hr 25mins - 4hrs

450510

	Mfrs. List No.	Order Code	1+	5+	10+
DigiCharger Plus	5025023/UK	129-4243●	35.91	33.53	32.07

CRV3 Li-Ion Charger



- Specially designed to charge CRV3 Li-Ion batteries used in digital cameras
- Will fully recharge one battery in 1-2 hours
- Worldwide voltage input 100-240 Vac
- Supplied with AC mains and 12V cigarette lighter plug
- LED display for quick charge/ready mode
- Supplied with 1 x CRV3 battery
- Automatic cut off/short circuit protection

Battery Capacity	3.7V
Charge Time	2hrs
Charge Rate	850mA
Input Voltage	100 - 240 Vac 50/60Hz

W=50,
H=20,
D=90mm

387240

Mfrs. List No.	Order Code	1+	5+	10+	25+
CRV3KUK	879-1988	26.49	25.05	23.72	21.94

Laptop Computer Batteries

Laptop Computer



A range of high capacity, compatible battery packs that ensure the user has maximum laptop power while on the move.

Manufacturer	Model	Order Code
Aspire 1450	Travelmate 6000/650/660/661/800/8000/8002/8004	102-1980
	EVO N1010/N1050/NX9005	102-1980
	Latitude C, CPI, CPT, CPX, C600 Series	102-4478
	OmniBook XE4100/XE4400/XE4500	128-1149
	Vaio PCG-F/FX/QR/XR Series	102-4478
Sony	Satellite 400/4000 Series	128-1165
	DR15/15S	508-3588
Various	DR15/15S	131-4449
	DR35	113-5506
	DR35S	113-5520
	DR36S	113-5507
	DR202	113-5509

Batteries	Capacity (mAh)	Dimensions (H x W x D)	Type	Original Battery Ref.	Order Code
14.8	4400	19 89 141	Li-Ion	BT.T2905.001, BT.T2303.001	102-1980
14.8	4400	19 94 134	Li-Ion	319411-001, F4809A	102-4478
14.8	4460	21 89 139	Li-Ion	5081P, 9364U, 3149C, 0456R	128-1149
10.8	4500	18.5 70 174	Li-Ion	PA3107U-1BRS, PA248U	508-3588
10.8	2100	19 145 53	NiMH	DR15/15S	131-4449
10.8	4000	18 51 208	NiMH	DR35	113-5506
10.8	3800	17 86 146	NiMH	DR35S	113-5520
12	4000	20 89 148	NiMH	DR36S	113-5507
11.1	6600	20 89 148	Li-Ion	DR202	113-5509

338176

Order Code	1+	5+	10+
102-1980	81.93	80.35	78.09
102-4478	104.38	102.35	99.93
128-1149	86.98	83.41	81.14
508-3588	111.47	109.31	108.20
131-4449	49.57	47.43	46.03
113-5506	55.49	50.95	--
113-5520	55.79	51.20	--
113-5507	62.78	59.16	--
113-5509	77.88	72.61	--

Technical information at your fingertips

Over **352,000** technical datasheets available online.

Visit www.farnell.co.uk and look for the Tech Info heading in your search results.



MP3/Gaming Batteries

UNIROSS

MP3/Gaming Batteries (Compatible)



A range of compatible Li-ion rechargeable batteries for a wide range of MP3 players and hand held game consoles, including iPod 3G/4G, mini, photo, Nintendo DS and Sony PSP.

- High capacity Li-ion batteries allow you to listen and play for longer
- iPod battery installation tools included

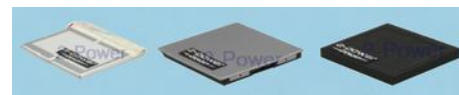
Manufacturer/Model	Rating	Order Code	Manufacturer/Model	Rating	Order Code
Apple iPod 3G	3.7V 620mAh	127-7204	Apple iPod mini	3.7V 600mAh	127-7206
Apple iPod 4G	3.7V 700mAh	127-7205	Apple iPod photo	3.7V 1080mAh	127-7207

448257.444935

Order Code	1+	5+
127-7204	10.33	9.75
127-7205	10.33	9.75
127-7206	10.33	9.75
127-7207	9.24	8.65

PDA Batteries

PDA Batteries



A range of high capacity, compatible batteries for popular PDAs and Pocket PCs.

Manufacturer	Model	Order Code
BlackBerry	6210, 6220, 6230, 6280, 6510, 6710, 6720, 6750, 7210, 7220, 7230, 7250, 7270, 7280, 7290, 7510, 7520, 7730, 7750, 7780	127-7150
	iPAQ 2200, 2210, 2215	127-7152
Compaq	iPAQ 3100, 3600, 3630, 3650, 3660, 3700, 3760	127-7153
Compaq	iPAQ 3800, 3900	127-7154
Compaq	iPAQ HX2000, HX2400, HX2700, HX4700, RX3100, RX3400, RX3700	127-7156

448256.437340

Order Code	1+	5+
127-7152	21.92	20.84
127-7154	28.87	27.48
127-7156	21.92	20.84

Nickel Cadmium/Nickel Metal Hydride Chargers

Eco II Desktop Alkaline Battery Charger



- LCD clearly displays charging cycle and all other relevant information (time left to completion etc...)
- Built-in microprocessor and precision current control handles the batteries in each channel separately ensuring optimum charging performance and conditioning
- Designed to charge primary batteries (Zinc Carbon, Zinc Chloride and alkaline types) as well as high capacity NiCd and NiMH rechargeables
- Recharges AAA, AA, C, D battery types
- Automatically rejects all bad / dead batteries ensuring maximum safety when charging

- Recharges up to 4 batteries

378775.378658

Order Code	1+	5+
830-6044	38.22	37.95

Over 480,000 products online



Nickel Cadmium/Nickel Metal Hydride Chargers - continued

NiCd/NiMH Plug-in Charger

Basic 4 Plus



- Plug-in charger for 1-4 AAA or AA batteries or 1 9V PP3 type battery
- Automatic matching of charging current
- LED charge status indication
- Reverse polarity protection
- Charges both NiCd/NiMH batteries
- 230V ac mains adaptor supplied
- 3 year manufacturer's warranty

H=120, W=68, D=81mm

Battery Type	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH			
AAA	170-1000	50	4hrs 50mins - 28hrs
AA	700-2700	150	6hrs 30mins - 25hrs 15mins
9V	120-250	15	11hrs 15mins - 23hrs 20mins

450490

	Mfrs. List No.	Order Code	1+	5+	10+
Basic 4 Plus	5107343/UK	129-4240●	6.27	5.83	5.57

NiCd/NiMH Desktop Charger

Basic 5 Plus



H=54, W=174, D=142mm

- Desktop charger for 1-4 AAA, AA, C or D type batteries or 1-2 9V PP3 type batteries
- Automatic matching of charging current
- Charges both NiCd/NiMH batteries
- LED charge status indication
- Reverse polarity protection
- 230V ac mains adaptor supplied
- 3 year manufacturer's warranty

Battery Type	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH			
AAA	170-1000	50	4hrs 50mins - 28hrs
AA	700-2700	150	6hrs 30mins - 25hrs 15mins
C	1500-5000	200	10hrs 30mins - 35hrs
D	1500-10000	200	10hrs 30 mins - 70hrs
9V	120-250	15	11hrs 15mins - 23hrs 20mins

450493

	Mfrs. List No.	Order Code	1+	5+	10+
Basic 5 Plus	5207303/UK	129-4241●	8.96	8.33	7.93

Photocam III

Plug-In Fast Charger



- Microprocessor controlled fast charger
- Designed for rapid charging of 2 or 4 AA/AAA NiCd/NiMH cells
- $-\Delta V$ charging
- Overcharge protection
- LED charge indication
- Trickle charge
- Reverse polarity protection
- Supplied with 4 x 2100mAh AA Ni-MH cells (UK version), 4 x AA 2850mAh AA Ni-MH cells (EURO version)
- 3 year manufacturer's guarantee

Battery Type	Capacity (mAh)	Charging Current (mA)	Charge Time
UK Version			
AA NiMH	700-2100	400	2 Hrs - 6 Hrs
AA NiCd	700-1100	400	2 Hrs - 3 Hrs 20 Mins
AAA NiMH	350-900	400	1 Hr - 2 Hrs 45 Mins
AAA NiCd	250-350	400	45 Mins - 1 Hr 5 Mins
EURO Version			
AA NiMH	700-2500	500	1 Hrs 40 Mins - 6 Hrs
AA NiCd	700-1100	500	1 Hrs 40 Mins - 2 Hrs 40 Mins
AAA NiMH	350-900	500	50 Mins - 2 Hrs 10 Mins
AAA NiCd	250-350	500	35 Mins - 50 Mins

386194.408076

Description	Mfrs. List No.	Order Code	1+	3+	5+
Photocam III UK	5007033/UK	128-3929●	15.38	14.94	14.53
Photocam III Euro	5007093/EU	131-2470●	20.56	18.76	18.06

Intelligent NiCd/NiMH Desktop Charger

Photocam Mobile Set



H=107, W=67, D=27mm

Battery Type	Capacity (mAh)	Charge Current (mA)	Trickle Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH				
AAA	350-1000	600	50-90	40mins - 2hrs
AA	700-2700	1400	60-150	35mins - 2hrs 20mins

450507

	Mfrs. List No.	Order Code	1+	5+	10+
Photocam Mobile Set	5007023/UK	129-4242●	27.07	25.09	23.82

NiCd / NiMH Desktop Fast Charger

Powerline 4 Mobile



- Smart fast charger for 2 or 4 AAA/AA cells or 1 9V PP3 type cell
- LED charge status indication
- Discharge function
- Microprocessor controlled charging, $-\Delta V$ charge termination for round cells
- Bad battery detection
- Trickle charge after full charge
- Optional pre-discharge facility for round cells
- 8 hour safety timer for round cells
- Supplied with UK 3-pin mains adaptor and 12Vdc car adaptor
- 'E' approved for in-vehicle use
- 3 year manufacturer's warranty

H=120, W=68, D=38mm

Battery Type	Capacity (mAh)	Charging Current (mA)	Trickle Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH				
AAA	250-1000	500	50	35mins - 2hrs 25mins
AA	700-2700	500	50	1hr 40mins - 6hrs 30mins
9V	120-250	15	N/A	11hrs 10mins - 23hrs 20mins

450168

	Mfrs. List No.	Order Code	1+	5+	10+
Powerline 4 Mobile	5707063/UK	129-4238●	17.82	16.79	15.87

Intelligent NiCd/NiMH Plug-in Charger

Powerline 4 Globe Traveller



H=106, W=70, D=31mm

- Charges 1-4 AAA or AA NiCd/NiMH batteries
- Microprocessor controlled charging, with ΔV charge termination of individual cells
- Individual charging channels
- 2 colour LED charge indication for each cell
- 6 hour safety timer and temperature control
- Top-off charge after full charge, then trickle charge
- Bad battery detection
- 4 way overcharge protection
- 100-240Vac for worldwide use
- Supplied with 4 interchangeable plugs (UK, EU, US, AU) and 12Vdc car adaptor
- Supplied with 4 x 2700mAh Ni-MH AA type batteries
- 3 year manufacturers warranty

Battery Type	Capacity (mAh)	Charge Current (mA)	Top-off Charge Current (mA)	Trickle Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH					
AAA	250-1000	400	40	8	50mins - 3hrs
AA	700-2700	800	80	4	1hr 5mins - 4hrs 5mins

450481

Powerline 4	Mfrs. List No.	Order Code	1+	Price Each	10+
Globe Traveller	5307213	129-4239●	30.48	28.89	27.02

NiCd/NiMH Desktop Charger

Powerline 5 LCD Mobile



H=54,W=174,D=142mm

- For charging 1-4 AAA, AA, C and D cells and 1-2 9V PP3 type cells
- ΔV charging for round cells
- Individual charging supervision of each round cell
- Safety timer for round cells
- Trickle charge after fast charge for round cells
- Faulty cell detection for round cells
- Discharge function for round cells
- LCD display shows charge state of each round cell
- LED charging status indicator for each cell
- 230V AC adaptor for mains use
- 12V DC car adaptor for mobile use
- Protected against reverse polarity
- UK and Euro versions
- CE and e-mark approved
- 3 year manufacturers warranty

Battery Type (NiCd/NiMH)	Capacity (mAh)	Charging Current (mA)	Charge Time (Hrs)
AAA	250-900	500	40 Mins - 2 Hrs 10 Mins
AA	700-2600	1000	50 Mins - 3 Hrs 10 Mins
C	1500-5000	1000	1 Hr 50 Mins - 6 Hrs
D	1800-10000	1000	2 Hrs 10 Mins - 12 Hrs
9V	120-250	15	11 Hrs 10 Mins - 23 Hrs

415373

Description	Mfrs. List No.	Order Code	1+	Price Each	10+
PowerLine 5 LCD UK	5707083/UK	128-3927●	36.78	35.19	33.71
PowerLine 5 LCD Euro	5707083/EU	125-3179●	37.59	35.96	34.46

Intelligent NiCd/NiMH Plug-in Charger

Energy 4



- Plug-in charger for 1-4 AAA / AA NiCd / NiMH type batteries and 1-2 9V PP3 type batteries
- Microprocessor controlled fast charging, with ΔV charge termination and pulse maintenance charging
- 4 Individual charging channels
- Safety timer and temperature control
- Trickle charge after full charge
- LED charge status indication for each cell
- Automatic refresh / discharge function
- Bad battery detection
- Quick capacity test function
- Reverse polarity protection
- 100-240Vac for worldwide use
- Supplied with 4 interchangeable plugs (UK, EU, US, AU)

Battery Type	Capacity (mAh)	Charge Current (mA)	Trickle Charge Current	Charge Time (Hrs)
NiCd / NiMH				
AAA	250-1000	300	Yes	1-4hrs
AA	700-2700	650	Yes	1hr 10mins - 5hrs
9V	120-250	70	Yes	2hrs - 4hrs 20mins

450544

Energy 8 / Energy 16

Intelligent NiCd/NiMH Charger



- High-quality table top charger for up to 16 rechargeable batteries
- Automatic refresh/discharge function
- Microprocessor controlled super-fast charging with ΔV disconnection and pulse maintenance charging, fully automatic control of the charging process
- Individual monitoring of each inserted cell
- Faulty cell detection
- Switch mode power supply for worldwide use
- 3 year manufacturers guarantee

Capacity:

Energy8:

1-6 AAA or AA; 1-4 C or D; 1-2 9V/PP3 rechargeable batteries

Energy16:

1-12 AAA or AA; 1-6 C or D; 1-4 9V/PP3 rechargeable batteries

Battery Type (NiCd/NiMH)	Capacity (mAh)	Charging Current (mA)	Charge Time
AAA	250-900	300	1 Hr - 3 Hrs 40 Mins
AA	700-2500	700	1 Hr 10 Mins - 4 Hrs 20 Mins
C	1500-5000	1000	1 Hr 50 Mins - 6 Hrs
D	1500-10000	1000	1 Hr 50 Mins - 12 Hrs
PP3/9V	120-250	70	2 Hrs 20 Mins - 5 Hrs

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	Mfrs. List No.	Order Code	1+	Price Each	5+	10+
Energy 8 UK	5607142	128-3922●	48.46	46.61	44.90	
Energy 8 Euro	5207132	125-3166●	50.53	48.61	46.81	
Energy 16 UK	5607083	128-3924●	76.54	75.04	72.80	
Energy 16 Euro	5207123	125-3164●	74.11	72.66	70.49	

Chargers for NiCd and NiMH Rechargeable Battery Packs



ACS 410P, and ACS 110/410- Traveller



- Desktop chargers (ACS410P) and plug-in (ACS110/ACS 410 traveller) chargers for NiCd and NiMH rechargeable battery packs
- Wide input range and interchangeable connector set for worldwide use (ACS110&410 traveller only, EU, UK, USA, AUS)
- Microcontroller-controlled charging process for rechargeable battery packs with 4-10 cells (4.8 - 12 V) or 1-10 cells (1.2-12 V) and a capacity range up to 9000 mAh
- Rapid charging, pulse-maintenance charging, rechargeable battery defect identification and discharge function
- 3 year guarantee
- Supplied with secondary connector set

243206

Mfrs. List No.	Accupacks No. of Cells	Capacity Max.	Order Code	1+	Price Each	5+
ACS 410P						
Traveller	4-10	10800mAh	125-3168●	34.75	--	--
ACS 110						
Traveller	1-10	7200mAh	125-3175●	27.29	26.37	25.98
ACS 410						
Traveller	4-10	5800mAh	134-1403●	30.06	28.03	26.67



Nickel Cadmium/Nickel Metal Hydride Chargers - continued

Plug In Type 8314 Series



L = 75, W = 47, H = 49

Input Charge Voltage 230V ac
V max.

Charge current 60mA

- Constant current charger for Ni-MH/Ni-Cad cells
- Full thermal protection
- Protected against reversed polarity and short circuit
- Exchangeable output plugs. 2.1 & 2.5mm x 5.5 x 12mm included with each unit - 2 types
- LED Indicates charging status



242755

	Mfrs. List No.	Order Code	1+	5+	10+
UK Plug	8314 CC UK	120-4133●	15.32	15.01	14.62
Euro Plug	8314 CC EURO	120-4134●	15.32	15.01	14.62

Plug In Type Medical Approved - 8714 CC Series



L = 100, W = 51, H = 63

Input Charge Voltage 230V ac
24V at no load
12V at 400mA

Charge current 50mA to 400mA
Current limit Must be limited to 250mA <8.4V

- Constant current charger for 1 to 10 Ni-MH/Ni-Cad cells
- User adjustable between 50 - 400 mA
- For 500mAh to 4Ah batteries (C/10 charging current)
- Full thermal protection
- Protected against reversed polarity and short circuit
- Exchangeable output plugs. 2.1 & 2.5mm x 5.5 x 12mm included with each unit - 2 types
- Approved to EN60601 for medical applications



242749

	Mfrs. List No.	Order Code	1+	5+	10+
UK Plug	8714CC UK	120-4135●	24.20	23.70	22.94
Euro Plug	8714CC EURO	120-4136●	24.20	23.70	22.94

NiCad/NiMH Fast Charger 8715 Series



L = 100, W = 51, H = 63

Battery capacity (suitability) 850mAh to 1500mAh

Output lead With loose snap in 2.1mm and 2.5mm connectors

Input voltage 230V ac, 50/60Hz

Operating temperature range -20° to 35°C

Weight 450g

- Automatic full charge sensing followed by trickle charge
- Suitable for 850mAh to 1500mAh batteries
- Suitable for 4 to 12 cells
- Output lead fitted with loose snap in 2.1mm and 2.5mm connectors
- Reverse polarity and short circuit protection
- Full thermal protection
- LED indication of charging state
- UK or European mains plug option



337956

	Mfrs. List No.	Order Code	1+	5+	10+
UK Plug	8715000159	120-4146●	36.82	35.15	33.22
Euro Plug	8715000160	120-4147●	29.46	28.12	26.57

16W NiCd/NiMH Fast Chargers 2115 Series - Medical Approved



L = 90, W = 45, H = 32

A small fully automatic 16W universal voltage input desk top charger suitable for charging small packs of NiCd and NiMH batteries.

- Suitable for fast charging NiCd and NiMH batteries
- Medically approved to EN 60601 and UL 60601-1
- Delta V full charge sensing followed by trickle charge
- Safety timer protected
- LED indication of charge state
- Short circuit and reverse polarity protected
- 3 versions available 3-6 cells, 5-10 cells and 10-20 cells



	3 to 6 Cells 90-264V ac	5 to 10 Cells 90-264V ac	10 to 20 Cells 90-264V ac
Input Voltage	90-264V ac	90-264V ac	90-264V ac
Fast Charge Current	1.3A	0.8A	400mA
Top Off Charge Current	160mA	110mA	65mA
Trickle Charge Current	30mA	30mA	25mA
Safety Timer	2H	2H	2H
Temperature Range	-20-40°C	-20-40°C	-20-40°C
Insulation Class	2	2	2

	Mfrs. List No.	Order Code	1+	5+	10+
3-6 Cells	2115000040	128-3207●	32.69	31.26	29.77
5-10 Cells	2115000041	128-3208●	32.69	31.26	29.77
10-20 Cells	2115000042	128-3209●	32.69	31.26	29.77

386440.406550

	Order Code	1+	25+	50+
Output Power	Order Code	1+	25+	50+
UK Mains Lead, 2m	152-2217●	1.02	1.01	0.92
Euro Mains Leads, 1m	120-4150●	1.28	1.23	1.14

18W NiCd/NiMH DC/DC Fast Charger 2515 Series



L = 107, W = 67, H = 37mm

Input Voltage 10-30Vdc

Fast Charge Current 3-6 cell - 2.5A
6-12 cell - 1.5A
10-20 cell - 0.9A

A small fully automatic fast charger suitable for in-vehicle charging of NiCd and NiMH batteries.

- DC input
- Suitable for fast charging NiCd and NiMH batteries
- ΔV full charge sensing followed by trickle charge
- Safety timer protected and set to 2 hours
- Short circuit and reverse polarity protected
- Temperature range - 20°C to +40°C

434372.434367

	Mfrs. List No.	Order Code	1+	5+	10+
Description	Mfrs. List No.	Order Code	1+	5+	10+
3-6 Cells	2515000041	119-6519●	23.69	22.62	21.64
6-12 Cells	2515000042	119-6520●	38.12	36.41	34.84
10-20 Cells	2515000043	119-6521●	34.07	32.36	30.96

35W NiCd/NiMH Fast Chargers 2215 Series - Medical Approved



L = 107, W = 67, H = 36.5

A compact fully automatic 35W universal voltage input desk top charger suitable for charging small packs of NiCd and NiMH batteries.

- Suitable for fast charging NiCd and NiMH batteries
- Medically approved to EN 60601 and UL 60601-1
- Delta V full charge sensing followed by trickle charge
- Safety timer protected
- LED indication of charge state
- Short circuit and reverse polarity protected
- 3 versions available 3-6 cells, 5-10 cells and 10-20 cells

	3 to 6 Cells 90-264V ac	5 to 10 Cells 90-264V ac	10 to 20 Cells 90-264V ac
Input Voltage	90-264V ac	90-264V ac	90-264V ac
Fast Charge Current	3.0A	1.8A	0.9A
Top Off Charge Current	390mA	270mA	130mA
Trickle Charge Current	100mA	100mA	100mA
Safety Timer	2H	2H	2H
Temperature Range	-20-40°C	-20-40°C	-20-40°C
Insulation Class	2	2	2

386475.406546

	Mfrs. List No.	Order Code	1+	5+	10+
3-6 Cells	2215000084	128-3210●	41.15	39.34	37.44
5-10 Cells	2215000085	128-3211●	41.15	39.34	37.44
10-20 Cells	2215000086	128-3213●	41.15	39.34	37.44

	Order Code	1+	25+	50+
Output Power	Order Code	1+	25+	50+
UK Mains Lead, 2m	152-2217●	1.02	1.01	0.92
Euro Mains Leads, 1m	120-4150●	1.28	1.23	1.14

Coming soon



Register your interest for items that are 'Coming Soon' at www.farnell.co.uk and we'll email you to let you know that they're in stock.

65W NiCd/NiMH Fast Charger
2415 Series -Medical Approved

A compact powerful automatic 65W fast charger featuring universal voltage input.

- Suitable for fast charging NiCd/NiMH batteries
- Medically approved to EN60601-1
- ΔV full charge sensing followed by trickle charge
- 2hr safety timer protected
- LED indication of charge status
- Short circuit and reverse polarity protection

	3 - 6 Cells	6 - 12 Cells	12 - 25 Cells
Input Voltage	60-264Vac		
Fast Charge Current	4.5A	3.0A	1.5A
Trickle Charge Current	150mA	100mA	50mA
Operating Temperature	-20°C to +40°C		
Insulation Class	2		
Dimensions (HxWxD)	135x80x44mm		

Description	Mfrs. List No.	Order Code	1+	5+
3-6 Cells	2415000051	119-6530●	58.62	55.95
6-12 Cells	2415000052	119-6531●	58.62	55.95
12-25 Cells	2415000053	119-6532●	58.62	55.95

434377.434373

	Order Code	1+	Price Each	5+
Output Power		25+		
UK Mains Lead, 2m	152-2217●	1.02	1.01	0.92
Euro Mains Lead, 1m	120-4150●	1.28	1.23	1.14

Nickel Metal Hydride Chargers**Ni-MH Battery Charger**

- Supplied complete with 4xAA Ni-MH batteries (1800mAh)
- Charges 1 to 4xAA or AAA Ni-MH batteries
- Charge termination based on -dV, temperature and/or built-in timer

H=120,
W=80,
D=34mm

Input	100-240V ac, 50/60Hz	Output	5.6Vdc 0.36A per slot (2 or 4 AA NiMH)
Charge time	AA 1800mAh - 6hrs		2.8Vdc 0.16A per slot (2 AAA Ni-MH)
	AA 2050mAh - 7hrs	Operating temperature	0°C to 55°C
	AA 2300mAh - 8hrs	Weight	280g (including batteries)
	AAA 750mAh - 5.5hrs		

419263

Order Code	1+	5+	10+	25+
110-1340●	13.13	12.65	12.21	11.68

PowerBank M510 Ni-MH Travel Charger

Input Voltage	100-240V ac
Output Current	600mA - AA/AAA type
	20-60mA - Trickle charge
Charging Times (selected)	AA 1800mAh - 3h 35m
	AA 2100mAh - 4h 5m
	AA 2500mAh - 4h 55m
	AAA 800mAh - 1h 30m
	AAA 1000mAh - 2h
Dimensions (HxWxD)	84x35x48mm

- Ultra compact and lightweight fast charger for worldwide use
- Charges 1 to 4x NiMH AA or AAA batteries simultaneously
- 3 Colour LED indicators
- Negative ΔV cut-off
- Safety Timer
- Primary battery and bad battery detection
- Supplied with 2x AAA(600mAh) and 2x AA(2100mAh) Ni-MH batteries
- Supplied with detachable travel adaptor plugs (UK, EU & US)

483362.483340

Mfrs. List No.	Order Code	1+	Price Each	5+
PB510BS210/60-C4	144-0733●	16.21		15.64

Charger and AA NiMH Batteries
PowerBank

- Charger complete with 4xAA 1300mAh Ni-MH batteries
- More than 500 charge/discharge cycles, under normal usage
- NiMH batteries do not suffer from memory effect
- Replacement/spare batteries available

Charging temperature	0°C to 40°C
Battery storage temperature	-20°C to 35°C
Dimensions	118x 75x40mm

Mfrs. List No. GPKB01BS-C4=319-7384, GP130AAHC=604-549

203243

	Order Code	1+	5+	10+
Charger + 4 AA 1300mAh NiMH Batteries	319-7384	21.38	20.93	20.28
Spare Batteries		1+	10+	25+
1300mAh AA NiMH Battery	604-549	3.31	3.20	3.12
			2.87	2.56

Ni-MH Fast Charger
PowerBank H500

- Supplied complete with 4xAA Ni-MH batteries (2600mAh)
- Charges 1-4 x AA/AAA NiMH batteries (mixed charging possible)
- 4 individual charging channels
- -Δ V charging
- 3 colour LED charging status
- Auto cut-off safety control
- Alkaline and bad battery detection
- 100-240V ac for worldwide use

Input	100-240V ac, 50/60Hz
Charge time	AA 2600mAh - 2hrs 20mins (1-2pcs), 4hrs 40mins (4pcs)
	AA 2450mAh - 2hrs 10mins (1-2pcs), 4hrs 20mins (4pcs)
	AA 2000mAh - 1hr 50mins (1-2pcs), 3hrs 40mins (4pcs)
	AAA 970mAh - 2hrs 5mins (1-2pcs), 4hrs 10mins (4pcs)
	AAA 920mAh - 2hrs (1-2pcs), 4hrs (4pcs)
	AAA 850mAh - 1hr 48mins (1-2pcs), 3hrs 35mins (4pcs)
Output	1.6V dc 2.5A (AA), 1.05A (AAA)
Charging current	AA 1150mA (1-2pcs), 575mA (4pcs)
	AAA 475mA (1-2pcs), 237.5mA (4pcs)
Trickle charge current	AA 102.5mA (1-4pcs)
	AAA 42.5mA (1-4pcs)
Dimensions (WxHxD)	72.5x30x116mm

450400.450420

Mfrs. List No.	Description	Order Code	1+	5+	10+
PB50BS270-C4	PowerBank H500 UK	129-5483●	21.43	20.48	19.63

Ni-MH LCD Charger
PowerBank V600D

- Supplied complete with 4xAA Ni-MH batteries (2600mAh)
- Charges 1-4 x AA/AAA NiMH batteries in 1-2 hours (mixed charging possible)
- 4 individual charging channels
- -Δ V charging
- LCD display indicates charge status and remaining charge time
- Individual safety timer
- Auto temperature cut-off
- Alkaline and bad battery detection
- 100-240V ac for worldwide use



Nickel Metal Hydride Chargers - continued

Ni-MH LCD Charger - continued

PowerBank V600D - continued

Input	100-240V ac, 50/60Hz
Charge time	AA 2600mAh - 1hr 15mins (1-2pcs), 2hrs 30mins (4pcs) AA 2450mAh - 1hr 10mins (1-2pcs), 2hrs 20mins (4pcs) AA 2000mAh - 1hr (1-2pcs), 2hrs (4pcs) AAA 970mAh - 1hr 5mins (1-4pcs) AAA 920mAh - 1hr (1-4pcs) AAA 850mAh - 50mins (1-4pcs)
Output	12V dc 1A
Charging current	AA 2.2A (1-2pcs), 1.1A (3-4pcs) AAA 1.1A (1-4pcs)
Trickle charge current	AA 160mA (1-4pcs) AAA 60mA (1-4pcs)
Dimensions (WxHxD)	89.5x58x126mm

450409 450421

Mfrs. List No.	Description	Order Code	1+	5+	10+
PB60BS270SA-C4	PowerBank V600D UK	129-5485	31.11	29.82	28.81

Ni-MH 1Hr Charger With Digital Clock

PowerBank H650C



- Supplied complete with 4x AA Ni-MH batteries (2600mAh)
- Charges 1-4 x AA/AAA NiMH batteries in 1 hour
- 4 individual charging channels
- -Δ V charging
- Digital clock
- 3 colour LED charging status
- Individual safety timer
- Auto temperature cut-off
- Alkaline and bad battery detection
- 100-240V ac for worldwide use

Input	100-240V ac, 50/60Hz
Charge time	AA 2600mAh - 1hr 15mins (1-4pcs) AA 2450mAh - 1hr 10mins (1-4pcs) AA 2000mAh - 1hr (1-4pcs) AAA 970mAh - 1hr 5mins (1-4pcs) AAA 920mAh - 1hr (1-4pcs) AAA 850mAh - 50mins (1-4pcs)
Output	12V dc 1.5A
Charging current	AA 2A (1-4pcs) AAA 1A (1-4pcs)
Trickle charge current	AA 160mA (1-4pcs) AAA 60mA (1-4pcs)
Dimensions (WxHxD)	75x29x125mm

450417 450422

Mfrs. List No.	Description	Order Code	1+	5+	10+
PB65BS270SA-C4	PowerBank H650C UK	129-5487	27.65	26.50	25.45

Ni-MH 15 Min Charger With Digital Clock

PowerBank V800C



- Supplied complete with 4x AA Ni-MH batteries (2600mAh)
- Charges 1-4 x AA/AAA NiMH batteries (mixed charging possible)
- 4 individual charging channels
- -Δ V charging
- 3 colour LED charging status
- Digital clock
- Fan cooled charging
- Individual safety timer
- Auto temperature cut-off
- Alkaline and bad battery detection
- 100-240V ac for worldwide use

Input	100-240V ac, 50/60Hz
Charge time	AA 2600mAh - 27mins (1-2pcs), 45mins (3-4pcs) AA 2450mAh - 25mins (1-2pcs), 40mins (3-4pcs) AA 2000mAh - 20mins (1-2pcs), 35mins (3-4pcs) AAA 970mAh - 23mins (1-4pcs) AAA 850mAh - 20mins (1-4pcs) AAA 750mAh - 15mins (1-4pcs)
Output	12V dc 3.3A
Charging current	AA 7A (1-2pcs), 4A (3-4pcs) AAA 3.4A (1-4pcs)
Trickle charge current	AA 160mA (1-4pcs) AAA 60mA (1-4pcs)
Dimensions (WxHxD)	89.5x58x126mm

450418 450423

Mfrs. List No.	Description	Order Code	1+	5+	10+
PB80BS270SA-C4	PowerBank V800C UK	129-5489	34.76	33.37	32.34

Over 480,000 products online



Ni-MH 1 Hour Fast Charger

DURACELL



H=150, W=85, D=42mm

- Supplied complete with 4x AA Ni-MH batteries (2300mAh)
- Super fast charging of 1 to 4x AA or AAA batteries at the same time
- LED charging indicators
- 4 charging slots with 4 independent channels for AA, switchable 2x2 for AAA cells
- Charges battery capacities AA (600-2500mAh) or AAA (300-900mAh)
- Ultra high performance and slim design
- Bad battery detection
- Trickle charge after full charge
- Charge termination based on -dV, temperature or built-in timer
- 100-240V ac for worldwide use

Input	100-240V ac, 50/60Hz	Operating temperature	0°C to 50°C
Charge time	AA 1800mAh Ni-MH - 1 hour	Weight	143g
Output	Ni-MH (4x AA) 1.4V dc 2A Ni-MH (4x AAA) 1.4V dc 1A		

419262

Description	Order Code	1+	5+	10+	25+
UK Version	110-1338	31.78	--	--	--
Euro Version	114-6502	31.78	31.15	30.53	29.26

Ni-MH 1 Hour Fast Charger

Energizer

H=125,
W=80,
D=27.5mm

- Supplied with 4x AA Ni-MH batteries (2500mAh)
- Charges 4x AA 2500 mAh in 1 hour
- LED charging status indicators
- Individual charging channels (charges each battery independently)
- Individual monitoring of cell condition
- Trickle charge after full charge - no capacity loss through self-discharge
- Reverse polarity protection
- Automatic switch-off
- AC input
- Back up timer 80mins
- -dV and temperature sensor
- Alkaline and damaged battery detection
- Supplied with 12V car cigarette plug adaptor for in-car use
- Ideal for recharging digital camera batteries

Input voltage	230V ac, 50Hz	Charge time	AA 2500mAh Ni-MH - 1 hour AAA 850mAh Ni-MH - 1 hour
---------------	---------------	-------------	--

338405

Mfrs. List No.	Order Code	1+	5+	10+	25+
630721	UK Version	167-8341	33.36	31.59	--
626181	Euro Version	128-2055	35.08	33.91	32.70

Ni-MH Compact Travel Charger

Energizer



- Ultra compact size, insert batteries and slide tray shut
- Charges 2-4 AA and AAA Ni-MH batteries
- LED charging status indicators
- Reverse polarity protection with indicators
- Automatic timer switch off prevents overcharging
- 100-240Vac for worldwide use
- Supplied with detachable UK, EU and US adaptor plugs
- Supplied with 2x 2500mAh AA and 2x 850mAh Ni-MH batteries
- Ideal for recharging digital camera batteries

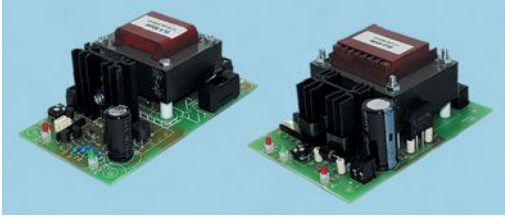
Input Voltage	100-240V ac, 50/60Hz
Charging Current	360mA (2x AA), 120mA (2x AAA)
Charge Time	AA 1300mAh Ni-MH - 4hrs 20mins AA 2100mAh Ni-MH - 7hrs AA 2500mAh Ni-MH - 8hrs 30mins AAA 700mAh Ni-MH - 7hrs AAA 850mAh Ni-MH - 8hrs 30mins
Dimensions (HxWxD)	85x75x40mm (closed)

442655 402005

Order Code	1+	Price Each	5+
167-8340●	21.21		19.97

Lead Acid Chargers

Managed, Automatic Chargers

lawtronics


A range of open PCB managed, automatic chargers for rapid step charging of sealed lead acid batteries. These units should only be used when suitably enclosed, and are ideal for integration into OEM equipment. Corner mounting holes in PCB, with screw terminal blocks for electrical connections.

- Automatic current limited constant voltage charging cycle
- Minimum charge time
- Batteries may be left on indefinitely
- Will reform deep discharged batteries
- Charge cycle LED indicators
- Mains fused, short circuit and reverse polarity protected

	SLA500MPCB	SLA800MPCB
Battery voltage	12V	12V
Output current	500mA	800mA
Battery capacity (suitability)	2 - 6Ah	4 - 10Ah
Input voltage	230V ac $\pm 10\%$, 50Hz	230V ac $\pm 10\%$, 50Hz
LED Indicators	Charge, Ready	Power, Charge, Ready
Thermal Fuse	Yes	No
Size	115x70x45mm	120x85x55mm
Weight	0.4kg	0.7kg

244152

Mfrs. List No.	Order Code	1+	5+	10+	25+
SLA500MPCB12V	119-7527●	27.58	26.38	25.29	24.26
SLA800MPCB12V	119-7528●	48.29	46.20	44.28	42.51

Non-Managed Chargers

lawtronics


A range of open PCB chargers for sealed lead acid batteries. These units should only be used when suitably enclosed, and are ideal for integration into OEM equipment. Corner mounting holes in PCB, with screw terminal blocks for electrical connections.

- Single step constant voltage charging
- May also be used as current limited power supply

	SLA250PCB12V	SLA1500PCB6/12
Battery voltage	12V	6V or 12V (links & trimmer)
Output current	200mA	1500mA
Battery capacity (suitability)	1 - 3Ah	>6Ah
Input Voltage	230V ac $\pm 10\%$, 50Hz	230V ac $\pm 10\%$, 50Hz
LED Indicators	Power	None
Thermal Fuse	No	No
Size	75x45x40mm	160x100x45mm
Weight	0.2kg	0.8kg

244400

Mfrs. List No.	Order Code	1+	5+	10+	25+
SLA250PCB12V	119-7522●	16.19	15.50	14.85	14.26
SLA1500PCB6/12V	119-7524●	55.67	52.78	50.18	47.83

6V/12V Constant Voltage

lawtronics


H=55,
W=60,
D=85
Ex. pins

H = 75,
W = 95,
D = 160

A range of managed, automatic chargers for rapid step charging of sealed lead acid cells. The units are double insulated and comply with EN60950/A1. Supplied with 1.8m lead with stripped, tinned ends.

- Automatic managed charging cycle
- Recovers deeply discharged batteries
- Batteries may be left on-charge indefinitely
- Short circuit and overload protected
- Minimum charge time
- Initial surge current limit
- Reverse polarity protected

RoHS ● Compliant
▲ Non-compliant



08447 11 11 11

Fax: 08447 11 11 12 1221

	Plug-In 12V 300mA	6V 1200mA	Desk-Top 12V 800mA
Battery voltage			
Output current			
Battery capacity			
(suitability)			
Input voltage	1.2 to 4.0Ah	4.8 to 14Ah	3.2 to 9.6Ah
Indication	230V (+ 10%) Power On	230V (+ 10%) Forming, charge, Ready, Power On	230V (+ 10%) Forming, charge, Ready, Power On

230509

	Order Code	1+	5+	10+	25+
Plug-In					
12V, UK	119-7531●	26.86	25.93	25.07	24.26
12V, Euro	119-7532●	26.86	25.93	25.07	24.26
Desk-Top					
6V, Euro	119-7533●	53.66	52.05	50.49	47.75
12V, UK	119-7534●	49.53	48.05	46.61	44.07
12V, Euro	119-7535●	42.93	41.64	40.40	38.19

Plug-in Charger for Lead Acid Rechargeable Batteries

ALCS 2-24A

AN-MANN


- Automatic charger for lead acid rechargeable batteries from 2-24V and 2-24Ah
- Automatic adjustment to the voltage of battery being charged
- LED indication of cell voltage selected
- LED charging indication
- Over charge protection
- Trickle charge after full charge
- Short-circuit and reverse polarity protection
- Supplied with crocodile clip connectors
- 3 years manufacturers warranty

Charging-time table (for empty rechargeable batteries):

Voltage	Final Charge Voltage	Charging Current	Trickle Charge	Charging Time
2 V	2.3 V	900 mA	20mA	40min/500mAh
6 V	6.9 V	700 mA	20mA	50min/500mAh
12 V	13.8 V	600 mA	20mA	60min/500mAh
24 V	27.6 V	300 mA	20mA	120min/500mAh

450543

Mfrs. List No.	Order Code	1+	5+	10+
ALCS2-24A UK	129-4244●	15.31	14.20	13.61
ALCS2-24A Euro	120-5745●	14.48	--	--

6-24V Desktop Lead Acid Battery Chargers

ALCT 6-24

AN-MANN


H=122, W=76, D=60mm (ALCT6-24/1)

H=150, W=80, D=63mm (ALCT6-24/2)

- Automatic desktop charger for 6V, 12V and 24V lead acid batteries
- Adjustment of battery voltage via rotary switch
- Max charging current 1000mA (ALCT6-24/1), 2000mA (ALCT6-24/2)
- Overcharge and short circuit protection
- Reverse polarity protection
- Automatic recharge function
- Stand-by operation
- Supplied with mains adaptor with 1.8m lead, and 1.8m output lead with crocodile clip connectors

Battery Type	Final Charge Voltage	Charge Current (mA)	Capacity (mAh)	Charge Time
ALCT6-24/1				
6V Lead Acid	6.9V	1000	No capacity limit	830mAh / hr
12V Lead Acid	13.8V	1000	No capacity limit	830mAh / hr
24V Lead Acid	27.6V	700	No capacity limit	580mAh / hr
ALCT6-24/2				
6V Lead Acid	6.9V	1500	No capacity limit	1250mAh / hr
12V Lead Acid	13.8V	2000	No capacity limit	1650mAh / hr
24V Lead Acid	27.6V	1000	No capacity limit	830mAh / hr

450525

Mfrs. List No.	Order Code	1+	3+	5+
ALCT6-24/1 UK	129-5660●	19.26	18.08	16.96
ALCT6-24/1 Euro	128-9966●	18.51	17.38	16.31
ALCT6-24/2 UK	129-4245●	25.05	23.79	22.66
ALCT6-24/2 Euro	129-4247●	24.32	23.10	22.00

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Lead Acid Chargers - continued

Desktop Charger for 12V Lead Acid Rechargeable Batteries

ALCT 12-3



- Two-stage desktop charger with 3A charging current for 12 V lead-acid batteries from 3 - 60 Ah
- 100-240Vac for worldwide use
- Overcharge and reverse polarity protection
- Short circuit proof
- LED charge status and power on indication
- Charge control based on IV or V charging characteristic
- Switch to trickle charging after full charge
- Suitable for standby and parallel operation
- 3 year manufacturers warranty
- Supplied with 2 output lead with crocodile clips or spade terminal connections

Nominal Voltage	Charge Current (mA)	Fast Charge Voltage (V)	Float Charge Voltage (V)	Capacity (Ah)	Charge Time
12v	3000	14.7	13.8	No capacity limit	2500mAh / hr

450541

Mfrs. List No.	Order Code	1+	5+	10+
ALCT 12-3 UK	129-4248●	42.28	39.51	37.82
ALCT 12-3 Euro	133-7203●	46.25	43.36	42.21

Dual Stage Bench Charger



H=95, W=160, D=122

- Automatic dual stage charger for 12V lead acid batteries
- Bench-top housing with carrying handle
- Lightweight switch mode technology
- 1.8m mains lead with euro plug and UK converter
- Universal worldwide input 100-240V ac
- 2-stage charging
- Trickle charging
- Primary electrical protection
- Short circuit and reverse polarity protection
- Stand-by and parallel operation
- Power, Charge and Ready LED indicators
- 1.2m output leads terminated with crocodile clips

Nominal Battery Voltage	Charge Current (mA)	Fast Charge Voltage (V)	Float Charge Voltage (V)	Capacity (Ah)	Charge Time
12V	4000	14.7	13.8	4000mAh- no capacity limit	3500mAh/h

465791, 465790

Mfrs. List No.	Order Code	1+	5+	10+
ALCT12-4	134-4741●	30.03	28.96	28.03

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24V Desktop Lead Acid Battery Chargers

ALCT 24-2



H=162, W=80, D=50mm

- 2-stage switch mode desktop charger for 24V lead acid batteries
- Overcharge and reverse polarity protection
- Short circuit protection
- 3 colour LED charge status and power on indication
- Trickle charging
- Max charging current 2000mA
- Stand-by and parallel operation
- 100-240Vac for worldwide use
- Supplied with 2 output leads with crocodile clips or spade terminal connections
- UL approved

Battery Type	Capacity (mAh)	Charge Current (mA)	Fast Charge Voltage	Float Charge Voltage	Charge Time
24V Lead Acid	No capacity limit	2000	29.4V	27.6V	1650mAh / hr

450527

Mfrs. List No.	Order Code	1+	5+	10+
ALCT24-2 UK	129-4249●	42.28	39.51	37.82
ALCT24-2 Euro	129-4250●	36.95	34.52	33.05

Constant Voltage Chargers for Lead Acid Batteries

8714 CV Series - Medical Approved



- Constant Voltage chargers for lead acid batteries
- Max. charge current 650mA
- Suitable for charging batteries from 2.5 to 10Ah
- Full thermal protection
- Reverse polarity and short circuit proof
- UK or European Mains Plug options
- Output leads complete with crocodile clips

L = 100, W = 51, H = 63
 Note: Output lead supplied with croc clips



12V Charger

Charge Voltage
 Charge current
 Battery capacity (suitability)
 Input voltage
 Output lead
 Leakage from Battery - Mains switched off
 Operating Temperature Range
 Weight

14.7V
 650mA
 2.5 to 10Ah
 230V ac
 With battery croc clips
 < 0.1mA
 -10 to 40°C
 450g

242527

	Mfrs. List No.	Order Code	1+	5+	10+
UK Plug	8714CV UK	120-4126●	24.46	23.01	22.02
Euro Plug	8714CV EURO	120-4127●	24.46	23.01	22.02

Switch Mode Chargers
Battery Back Up

A range of specialist power supply chargers designed for battery back-up operations. All units incorporate an internal diode between the charger output and the main output. The charger output is temperature compensated for high reliability whilst charging VRLA batteries. Deep discharge protection and signal outputs are standard on all units.

Volt free relay signal interface boards

A 24V signal adapter board for use with the 45W and 170W chargers to provide volt free relay signals. Two relay outputs are provided,

both with active high or active low TTL compatible inputs.
 An optional DIN Rail kit for use with the 75W and 170W chargers is also available.

45W Charger

- Compact, low cost solution for smaller applications
- Single fault status output

- Universal input

75W Charger

- Designed to meet EN54-4 for the fire protection industry
- Volt free contacts for charger/battery status indications
- Universal input

170W Charger

- Din rail mounting as standard for industrial applications
- Volt free contacts for charger/battery status indications
- 115/230V input (link selectable)
- Battery test facility
- Remote thermistor for battery temperature sensing
- Industry standard Kippon connectors
- Available in 12V or 24V versions

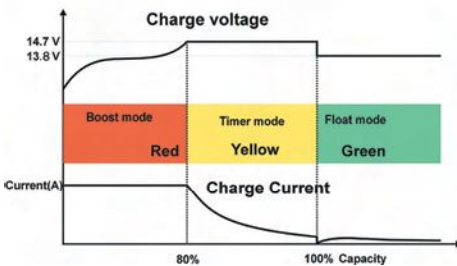
Output Watts	Main Output	Max. Current	Charger Output	Max. Current	Dimensions (WxHxD)	Order Code
45W	28V	1.5A	27.3V	0.5A	90 x 40 x 170	505-6354
45W	14V	3A	13.7V	1A	90 x 40 x 170	505-6366
75W	28V	2.5A	27.3V	1A	96 x 45 x 179.5	505-6378
75W	14V	5A	13.7V	1A	96 x 45 x 179.5	505-6380
170W	28V	6A	27.3V	2A	110 x 59 x 230	505-6391

337142

Mfrs. List No.		Order Code	1+	5+	10+
14852-000	45W Charger (28V)	505-6354	107.40	105.56	103.69
14853-000	45W Charger (14V)	505-6366	107.40	105.56	103.69
14854-000	75W Charger (28V)	505-6378	142.51	140.05	137.56
14855-000	75W Charger (14V)	505-6380	140.74	138.32	135.86
14559-000	170W Charger (28V)	505-6391	206.92	203.09	199.59

3 Step Charging System

Mascot's 3 step chargers offer a unique solution for safe and effective battery charging. After charging the battery to 80 - 90% of capacity, the charger goes into timer mode to complete the charge. At the end of the timer period the charge is reduced to a safe level where the battery can be left for an unlimited time.

Charging diagram (12V)

The LED indicator changes from red to yellow when the timer period starts. At the end of this period the LED changes to green as the constant voltage output is reduced to a safe level where the battery can be left for an unlimited time on float charge.

242756

6, 12 or 24V Switch Mode Chargers**2240 Series - Medical Approved**

L = 90, W = 45, H = 32

Charge current

1.3A (6V charger), 1.0A (12V charger),
0.5A (24V charger)

Battery capacity (suitability)

5-12Ah (6V charger), 4-12Ah (12V charger),
2-12Ah (24V charger)

Input voltage

90-264V ac

Output ripple

<100mV p-p

Constant voltage timer

4 hours ± 30 mins

Operating temperature range

-25° to 40°C

Output lead

With loose snap in 2.1mm and 2.5mm connectors
115g

Weight**LED Indication**

Orange: Constant Current boost
1.3A (6V charger), 1A (12V charger),
0.5A (24V charger)

Yellow: Constant voltage timer

7.35V (6V charger), 14.7V (12V charger),
29.4V (24V charger)

Green: Constant Voltage float

6.9V (6V charger), 13.8V (12V charger),
27.6V (24V charger)

337953



	Mfrs. List No.	Order Code	1+	5+	10+
6V 1.3A	2240000054	120-4137●	25.88	24.70	23.34
12V 1A	2240000055	120-4138●	25.88	24.70	23.34
24V 0.5A	2240000056	120-4139●	25.88	24.70	23.34
Black Mains Leads	Length		1+	5+	10+
UK Plug	2m	152-2217●	1.02	1.01	0.92
Euro Plug	1m	120-4150●	1.28	1.23	1.14

Plug in Chargers**9641 Series – Medical Approved**

L = 100, W = 51, H = 63



- Mascot's 3 step charge system with timer
- Switch mode construction
- Protected against reverse polarity
- 3 colour LED indication
- Exchangeable output plugs. 2.1 & 2.5mm x 5.5 x 12mm included with each unit – 2 types
- Approved to **EN60601** for medical applications

12V Charger**Battery capacity (suitability)****Input voltage****Output lead****Weight****LED Indication**

Red: Constant Current Boost
Yellow: Constant Voltage Timer
Green: Constant Voltage Float

12V Charger

3 to 15Ah (750mA)

10 to 75Ah (2.7A), 5.5 to 30Ah (1.5A)

190 to 264V ac

With exchangeable plug

250g

750mA or 2.7A (12V charger), 1.5A (24V charger)
14.7V (12V charger), 29.4V (24V charger)
13.8V (12V charger), 27.6V (24V charger)

242531

	Mfrs. List No.	Order Code	1+	5+	10+
12V 750mA UK	9641000102	120-4118●	42.99	41.38	38.97
12V 750mA Euro	9641000103	120-4119●	42.99	41.38	38.97
12V 2.7A UK	9641000104	120-4120●	42.99	41.38	38.97
12V 2.7A Euro	9641000105	120-4121●	42.99	41.38	38.97
24V 1.5A UK	9641000116	120-4122●	42.99	41.38	38.97
24V 1.5A Euro	9641000117	120-4123●	42.99	41.38	38.97

60W Bench Top Charger**ED1048 Series**

A range of high efficiency switch mode chargers featuring 3 stage charging, fast charge, timer and float charge. The 12V version is approved to EN60601 medical standard making it suitable for use with medical equipment.

- 60W rated output
- High efficiency
- Reliable design
- Universal input
- 3 stage charging with 3 colour LED
- Certified to EN60601 medical standard (12V)
- Meets EN550022

Input Voltage Range

90-264V ac

Input Frequency

47-63Hz

Output Ripple & Noise

100mV pk-pk (typ.)

Charging Voltage (12V Version)

14.7V ±0.2V for Fast Charging

13.8V ±0.2V for Trickle Charging

Charging Voltage (24V Version)

29.4V ±0.2V for Fast Charging

27.6V ±0.2V for Trickle Charging

Short Circuit Protection

Continuous

Line Regulation

±1% max.

Load Regulation

±1% max.

Isolation Voltage

2121V dc min.

Operating Temperature

0° to 40°

Nominal Input Voltage	Output Voltage	Output Current Min.	Output Current Max.	Regulation	Efficiency	Dimensions (WxHxD)	Mfrs. List No.	Order Code
90-264V ac	12V	0.1A	4.0A	200mV	72%	75x39x140	ED1048-12M	830-4327
90-264V ac	24V	0.1A	2.0A	200mV	72%	75x39x140	ED1048-24M	830-4335

386168

	Mfrs. List No.	Order Code	1+	5+	10+	+
ED1048-12M		830-4327	51.51	50.24	48.92	--
ED1048-24M		830-4335	51.51	50.24	48.92	--

Over 480,000 products online



Lead Acid Chargers - continued

12 or 24V Chargers

2040 Series – Medical Approved



L = 135, W = 80, H = 44



- Mascot's 3 step charging system
- Switch Mode construction
- Universal input voltage
- 3 colour LED indication

- Approved to **EN 60601** for Medical applications
- Mains lead available separately

Charge current
Battery capacity (suitability)
Input voltage
Efficiency
Output ripple
Constant voltage timer
Operating temperature range
Output lead
Weight
LED Indication
Red: Constant Current boost
Yellow: Constant voltage timer
Green: Constant Voltage float

12V Charger	24V Charger
4A	2A
16 to 100 Ah	8 to 50 Ah
90 – 264V ac	
<80%	
100mV p-p	
2 Hours ± 30 min	
-10 to 40°C	
With Battery clips	
350g	

4A	2A
14.7V	29.4V
13.8V	27.6V

242530

	Mfrs. List No.	Order Code	1+	5+	10+
12V Charger	2040 12V 4A	120-4124	62.65	59.18	57.02
24V Charger	2040 24V 2A	120-4125	62.65	59.18	57.02
Black Mains Leads	Length		1+	25+	50+
UK Plug	2m	119-6440	6.91	6.11	5.68

Nominal Input Voltage	Output Voltage	Min.	Max.	Regulation	Efficiency	Dimensions (WxHxD)	Mfrs. List No.	Order Code
90–264V ac	13.8V dc	0.1A	3.5A	1%	80%	60x30x110	PSE48-13V8C8	830-4297
90–264V ac	27.6V dc	0.1A	1.8A	1%	80%	60x30x110	PSE48-27V6C8	830-4300

386234

Mfrs. List No.	Order Code	1+	5+	10+	+
PSE48-13V8C8	830-4297	37.45	36.51	35.57	--
PSE48-27V6C8	830-4300	37.45	36.51	35.57	--

Bench Top Chargers

1.5A, 2A, 6V and 12V 3-Stage



- 3-stage micro-processor controlled
- LED indication of float charge, bulk charge
- Short circuit protection, reverse polarity protection
- Automatic thermal protection
- UK and European version available
- Manufactured to **BS3456, IEC335, EN60335, CE** mark to **EN5008-1**

	6V	6V	12V
Float charge	6.85V	6.85V	13.7V
Bulk Charge	7.25V	7.25V	14.5V
Charge current	1.5mA	2mA	1.5mA
Battery capacity (suitability)	4 to 7Ah	7 to 10Ah	4 to 7Ah
Input voltage	230V UK, 110V Euro		
Output lead	1m lead with croc. clips		
Weight	1.3kg		
Case material	Plastic ABS (Black)		

203245

	Mfrs. List No.	Order Code	1+	5+	10+
1.5A 6V UK	YCP1.5A6	120-1989	44.58	43.40	42.55
1.5A 12V UK	YCP1.5A12	120-1991	43.94	41.30	39.54
1.5A 12V Euro	YCP1.5A12EUR	120-1993	44.58	43.40	42.55
2A 6V UK	YCP2A6	120-1994	51.04	48.48	47.51

Plug Top Chargers

300mA, 600mA, 6V and 12V 3-Stage



- 3-stage micro-processor controlled
- LED indication of float charge, bulk charge
- Short circuit protection, reverse polarity protection
- Automatic thermal protection
- UK and European version available
- Manufactured to **BS3456, IEC335, EN60335, CE** mark to **EN5008-1**

	6V	6V	12V	12V
Float charge	6.85V	6.85V	13.7V	13.7V
Bulk Charge	7.25V	7.25V	14.5V	14.5V
Charge current	300mA	600mA	300mA	600mA
Battery capacity (suitability)	1 to 2.8Ah	2.8 to 3.2Ah	0.8 to 2.8Ah	2.8 to 3.3Ah
Input voltage	230V			
Output lead	1m lead with insulation slide on terminals 6.3 0.8mm			
Weight	410g			
Case material	Plastic ABS (Black)			

203246

	Mfrs. List No.	Order Code	1+	5+	10+
300mA 6V UK	YCP03A6	120-1981	23.53	22.57	22.13
300mA 6V Euro	YCP03A6EUR	120-1982	23.53	22.57	22.13
300mA 12V UK	YCP03A12	120-1983	23.18	21.79	20.87
300mA 12V Euro	YCP03A12EUR	120-1984	23.53	22.57	22.13
600mA 6V UK	YCP06A6	120-1985	27.16	26.55	26.01
600mA 6V Euro	YCP06A6EUR	120-1986	27.16	26.55	26.01
600mA 12V UK	YCP06A12	120-1987	26.77	25.16	24.09
600mA 12V Euro	YCP06A12EUR	120-1988	27.16	26.55	26.01

48W Bench Top Chargers

PSE48 Series



A range of constant current constant voltage power supplies suitable for charging 12V, 24V and 48V sealed lead acid battery packs. All units carry international safety approvals and are class 2 double insulated.

- 48W rated output
- High efficiency
- Reliable design
- Inversal input
- Constant Current/Constant Voltage output
- Class II insulation (double insulated)
- Approved to EN60950
- Meets EN55022

Input Voltage Range	90–264V ac	Line Regulation	±1% max.
Input Frequency	47–63Hz	Load Regulation	±1% max.
Output Ripple & Noise	1% pk-pk (typ.)	Isolation Voltage	2121V dc min.
Short Circuit Protection	Continuous	Operating Temperature	0° to 40°

Bench Charger

2047 Series



W = 109, H = 53.5, L = 192

12V Charger

- Mascot's 3 step charging system
- Switch mode construction
- Unaffected by fluctuations in mains voltage
- Reversed polarity and short circuit proof
- 3 colour LED indication

Charge current	10A	Operating temperature range	-25°C to 40°C
Battery capacity (suitability)	40 to 250 Ah	Output lead	With Battery clips
Input voltage	190 – 264V ac	Weight	980g
Input surge current	< 30 A	LED Indication	
Efficiency	<83%	Red: Constant Current boost	10A
Output ripple	100mV p-p	Yellow: Constant voltage timer	14.7V
Constant voltage timer	4 hours ± 30 mins	Green: Constant Voltage float	13.8V

242529

	Mfrs. List No.	Order Code	1+	5+	10+
UK Plug	2047 12V UK	120-4128●	139.68	133.35	126.43
Euro Plug	2047 12VEURO	120-4131●	139.68	133.35	126.43

100W Battery Chargers

RP1100C Series



A switch mode charger suitable for 12V or 24V sealed lead acid battery packs. The units feature 2 stage charging, have reverse polarity protection and meet UL1012 and EN61000-3-2 standards.

- 100W rated output
- High efficiency
- Reliable design
- Universal input
- Aluminium half brick style case
- 2 year warranty
- Reverse polarity protection
- Short circuit protection
- Meets UL1012

Input Voltage Range	90–264V ac				Line Regulation	±1% max.
Input Frequency	47–63Hz				Load Regulation	±1% max.
Output Ripple & Noise	100mV pk-pk (typ.)				Isolation Voltage	2200V dc min.
Short Circuit Protection	Relay Open				Operating Temperature	-20° to 55°
Nominal Input Voltage	Output Voltage	Output Current	Dimensions	Mfrs.		
		Constant	Max.	Regulation	Efficiency	Order Code
90–264V ac	14.4V	7A	8A	1%	72%	187x48.5x96
90–264V ac	28.8V	3.5A	8A	1%	72%	187x48.5x96
						RP1100C-12F
						RP1100C-24F
						830-4270
						830-4289

386160

Mfrs. List No.	Order Code	1+	5+	10+	+
RP1100C-12F	830-4270	83.62	81.53	79.44	--
RP1100C-24F	830-4289	104.53	101.91	99.30	--

Bench Charger

9740 Series - Medical Approved



L = 184, W = 171, H = 54

- Mascot's 3 step charging system
- Reverse polarity and short circuit protected
- Output leads with battery clips
- 12V and 24V versions

Charge current	10A (12V charger), 5A (24V charger)
Battery capacity (suitability)	40-400Ah (12V charger), 20-200Ah (24V charger)
Input voltage	190-264V ac
Input surge current	<30A
Efficiency	>83%
Output ripple	<100mV p-p
Operating temperature range	-25° to 40°C
Output lead	With Battery clips
Weight	1.7kg
LED Indication	
Orange: Constant Current boost	10A (12V charger), 5A (24V charger)
Yellow: Constant voltage	14.7V (12V charger), 29.4V (24V charger)
Green: Constant Voltage float	13.7V (12V charger), 27.4V (24V charger)

337954

	Mfrs. List No.	Order Code	1+	5+	10+
12V 10A UK	9740000067	120-4140●	149.39	144.52	138.56
24V 5A UK	9740000069	120-4141●	149.39	144.52	138.56

Over 480,000 products online



Bench Charger

2044 Series



H = 58, W = 210, D = 148

- Mascot's 3 step charging system
- High efficiency switch mode construction
- Temperature compensated charge voltage
- Protected against reversed polarity and short circuit
- Output leads with battery clips

12V Charger

Charge current	20A	Operating temperature range	-25°C to 40°C
Battery capacity (suitability)	80 to 500 Ah	Output lead	With Battery clips
Input voltage	190 – 264V ac	Weight	1.55Kg
Input surge current	< 35 A	LED Indication	
Efficiency	<83%	Red: Constant Current boost	20A
Output ripple	100mV p-p	Yellow: Constant voltage timer	14.7V
Constant voltage timer	4 hours ± 30 mins	Green: Constant Voltage float	13.8V

242528

Mfrs. List No.	Order Code	1+	5+	10+
2044 12VUK	120-4132●	179.15	171.51	164.00

Bench Charger

2045 Series



L = 215, W = 186, H = 63.5

- Mascot's 3 step charging system
- Reverse polarity and short circuit protected
- Temperature compensated charge voltage
- Output leads with battery clips
- 12V and 24V versions
- UK or European mains plug option

Charge current	20A (12V charger), 10A (24V charger)
Battery capacity (suitability)	80-1000Ah (12V charger), 40-500Ah (24V charger)
Input voltage	198-264V ac
Input surge current	<35A
Efficiency	>83% (12V), >85% (24V)
Output ripple	<100mV p-p
Constant voltage timer	4 hours ± 30 mins
Operating temperature range	-25° to 40°C
Output lead	With Battery clips
Weight	2.32kg
LED Indication	
Red: Constant Current boost	20A (12V charger), 10A (24V charger)
Yellow: Constant voltage timer	14.7V (12V charger), 29.4V (24V charger)
Green: Constant Voltage float	13.7V (12V charger), 27.4V (24V charger)

337955

	Mfrs. List No.	Order Code	1+	5+	10+
12V 20A UK	2045000045	120-4143●	165.42	157.93	149.29
24V 10A UK	2045000047	120-4144●	165.42	157.93	149.29
24V 10A Euro	2045000048	120-4145●	165.42	157.93	149.29

12V and 24V Starter and Charger

Professional Startmaster P210BC



The Startmaster 210/30 is a professional unit which provides a high speed charge for 12V and 24V batteries, plus a powerful instant engine start. Designed for rugged use with strong steel casing and full thermal overload protection. Designed to combine reliability with powerful performance. Features include:

- Ammeter to indicate precise charging leads
- Heavy duty copper leads
- Overload, short circuit and reverse polarity protection

- Multi position charge regulator
- Full one year manufacturers guarantee

Input Voltage 50Hz	230/240 13A	Charge Rate Settings	Max/Med/Min
Max. Charging Current	30Amps	Packed Dimensions (HxWxL)	260x295x260mm
Max. Start Current	210Amps	Weight	21.1kg
Rated Output Voltages	12/24		

489789 250982

	Order Code	1+	3+
	144-7469●	135.64	127.97

Lead Acid Chargers - continued

3 Step 12V Lead Acid Battery Charger/Optimiser



New



- 3 stage control (Fast/Normal/Float)
- Short circuit output protection
- Over temperature protection
- Reverse polarity protection
- Over voltage & current protection
- LED charge status indicator

3 Stage automatic 12V lead acid battery chargers, with charging current(s) of 1.0A or 1.9A, used for charging and keeping batteries fully charged for long periods of time. Ideal for charging and maintaining motorcycle, moped, boat, lawnmower and small vehicle batteries, which are left unused for long periods. Supplied with mains lead, crocodile clips & slide connectors with ring terminals.

Charging Current	Input Voltage	Battery Capacity	Technical Data Dimensions (HxWxD)mm	Weight (Kg)	Order Code
1A	220-240Vac	3Ah-16Ah	69x79x183	1.1	166-6327
1.9A	220-240Vac	6Ah-32Ah	69x79x183	1.6	166-6328

471917.525312

Charger Type	Order Code	Price Each	
		1+	3+
12V 1.0A	166-6327●	19.81	18.82
12V 1.9A	166-6328●	22.26	21.14

12V Lead Acid Desktop Battery Chargers



New

- 3 stage control (Fast/Normal/Float)
- Charging currents of 2A-50A
- Full charge with automatic shutdown
- Short circuit output protection
- Most models with 115/230V input range
- Reverse polarity protection
- Overload protection
- LED charge indication
- Aluminium impact-resistant casing
- Supplied with UK mains leads and crocodile clip connectors

Charging Current	Input Voltage	Battery Capacity	Technical Data Dimensions (HxWxD)mm	Weight (Kg)	Order Code
2.0A	100-240Vac (Auto)	6Ah-20Ah	38x62x120	0.5	BT03796
4.0A	115-230Vac (Auto)	12Ah-40Ah	48x88x186	0.8	BT03797
5.0A	115-230Vac (Auto)	15Ah-50Ah	48x88x186	0.8	BT03798
8.0A	115-230Vac (Auto)	24Ah-80Ah	48x88x186	0.8	BT03799
10.0A	115-230Vac (Auto)	30Ah-100Ah	48x88x186	0.8	BT03800
12.0A	115-230Vac (Auto)	36Ah-120Ah	48x88x186	0.8	BT03801
25.0A	230Vac	75Ah-250Ah	76x186x275	2.9	BT03802
50.0A	230Vac	150Ah-500Ah	76x186x400	4.9	BT03803

471921.525313

Charger Type	Order Code	Price Each	
		1+	3+
12V 2.0A	166-6329●	22.33	21.22
12V 4.0A	166-6330●	40.67	38.64
12V 5.0A	166-6331●	41.47	39.40
12V 8.0A	166-6333●	45.41	43.14
12V 10.0A	166-6334●	46.26	43.95
12V 12.0A	166-6335●	46.26	43.95
12V 25.0A	166-6336●	115.48	109.71
12V 50.0A	166-6337●	178.24	169.32

24V Lead Acid Desktop Battery Chargers



New



- 3 stage control (Fast/Normal/Float)
- Full charge with automatic shutdown
- Short circuit output protection
- Most models with 115/230V input range
- Reverse polarity protection
- Overload protection
- LED charge indication
- Aluminium impact-resistant casing
- Supplied with UK mains leads and crocodile clip connectors

Charging Current	Input Voltage	Battery Capacity	Technical Data Dimensions (HxWxD)mm	Weight (Kg)	Order Code
2.0A	100-240Vac (Auto)	6Ah-20Ah	37.4x61.6x120	0.5	BT03804
4.0A	115-230Vac (Auto)	12Ah-40Ah	47.5x88x186	0.8	BT03805
5.0A	115-230Vac (Auto)	15Ah-50Ah	47.5x88x186	0.8	BT03806
7.0A	115-230Vac (Auto)	21Ah-70Ah	47.5x88x186	0.8	BT03807
10.0A	230Vac	30Ah-100Ah	76x186x235	2.4	BT03808
25.0A	230Vac	75Ah-250Ah	76x186x405	4.9	BT03809

471924.525314

Charger Type	Order Code	Price Each	
		1+	3+
24V 2.0A	166-6338●	22.33	21.22
24V 4.0A	166-6339●	39.32	37.36
24V 5.0A	166-6340●	41.39	39.32
24V 7.0A	166-6341●	42.12	40.02
24V 10.0A	166-6342●	92.35	87.73
24V 25.0A	166-6343●	162.47	154.35

Battery Tester

Primary / Rechargeable Battery Tester Energy Check



The ANSMANN ENERGY-CHECK is used to determine the power still available from primary batteries with the following sizes: LR03 (Micro), LR6 (Mignon), LR14 (Baby), LR20 (Mono) and 6LR61 (9V-Block) as well as all NiCd and NiMH rechargeable batteries of the same size. The LED display, which comprises a total of 8 light-emitting diodes, indicates how full or empty the primary or rechargeable battery is, in 25% steps. The energy in the fitted 9V battery can likewise be checked at any time by pushing the button that is fitted at the side.

243338

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
Energy Check	125-3173	12.49	11.74	11.26

Battery and Rechargeable Battery Tester Energy-Check LCD



- This compact and user-friendly tester checks the energy content of rechargeable batteries and batteries of any type within a very short time
- The actual energy content is indicated in 10% steps within 2-3 s just by making contact with the cell to be checked
- In addition to the percentage capacity, the cell voltage is indicated in volts
- Powered by 1 x 9V battery (supplied)

Cells which can be checked:	
Batteries	A23 (12V), AAA, AA, C, D, 9V
Rechargeables (NiCd/NiMH)	AAA, AA, C, D
Lithium Button Cells:	CR1025, CR1216, CR1220, CR1616; CR1620, CR2016, CR2025, CR2032, CR2320, CR2430, CR2450
Lithium Photo Cells:	CR2, CR123A, CRV3, CRP2, 2CR5
Alkaline Button Cells:	V76, LR43, LR44, LR45, LR48, LR54/LR55, LR59, LR58, LR60, LR66
Zinc Air Button Cells:	V13, V312

406912

Mfrs. List No.	Order Code	Price Each		
		1+	3+	5+
Energy Check LCD	125-3176	31.13	30.29	28.25

Battery Tester with LCD Display



- For testing AAA, AA, C, D, 9V primary and rechargeable batteries
- CR123A, CR2, CR-V3, 2CR5, CR-P2 camera batteries
- 1.5V & 3V button cells
- Powered by 1x AAA alkaline battery (not supplied)
- Dimensions (HxWxD): 23x88x118mm

442654.434559

Order Code	1+	Price Each	5+
125-0892	6.70		6.39

Battery Tester

KFZ Power Check



- For testing the alternator charging circuit
- Suitable for testing all 12 V motor vehicle batteries
- Capacity test
- Battery load test
- Monitors the charging process with unregulated charges
- Short-circuit resistant, incorrect polarity protection
- 3 years guarantee



243170

Mfrs. List No.	Order Code	1+	5+	10+
KFZ - Power Check	416-9876	5.51	5.24	4.99

Rechargeable Lead Acid Batteries

Sealed Lead Acid



A range of maintenance-free, rechargeable lead acid batteries in varying voltages and capacities.

The unique construction and sealing technique ensures no electrolyte leakage from the core or terminals. The method used for electrolyte suspension enables a maximum amount of electrolyte to be solidly bound in a dry state for providing maximum life and service, either in cyclic or standby operation. Connection is by tab terminals with the exception of those marked with ♦ which have bolt terminals.

May be charged/discharged or stored in any orientation excluding continuous use inverted.

Life Expectancy

Standby use: 3 to 5 years NP Series
7 to 10 years NPL Series

Charging method (constant voltage 20°C)

Cyclic use: 6V battery 7.2V to 7.5V Standby use: 6V battery 6.9V
12V battery 14.4V to 15V 12V battery 13.8V

Capacity 20hr. Rate (Ah)	Max. Initial Charge Current (A)	Dimensions H* W D	Tab Size/ Bolt Hole	Weight (kg) approx.	Mfrs. List No.	Order Code
6 Volts						
1	0.25	57.5 51 42.5	4.8mm x 0.8mm	0.25	NP1-6	146-534
1.2	0.3	57.5 97 25	4.8mm x 0.8mm	0.31	NP1.2-6	143-564
2.8	0.7	67 134 34	4.8mm x 0.8mm	0.57	NP2.8-6	279-377
4	1	109 70 47	4.8mm x 0.8mm	0.85	NP4-6	143-566
7	1.75	101 151 34		1.28	NP7-6	152-245
10	2.5	101 151 50	4.8mm x 0.8mm	2.2	NP10-6	147-471
12	3	101 151 50		2.05	NP12-6	174-774
12 Volts						
1.2	0.3	54.5 97 48	4.8mm x 0.8mm	0.57	NP1.2-12	147-472
2	0.5	89 150 20	4.8mm x 0.8mm	0.7	NP2-12	150-661
2.1	0.5	67 178 34	4.8mm x 0.8mm	0.83	NP2.1-12	279-389
2.3	0.7	67 178 34		0.94	NP2.3-12	174-786
2.8	0.7	67 134 67		1.1	NP2.8-12	279-390
3.2	0.8	67 134 67		1.17	NP3.2-12	174-798
4	1	106 90 70		1.57	NP4.0-12	174-804
7	1.75	97.5 151 65	4.8mm x 0.8mm	2.8	NP7-12	151-308
12	3	97.5 151 98		4	NP12-12	149-449
17	3.8	167 181 76	5.5♦	6.1	NP17-12	627-057
18	4.5	167 181 76	5.5♦	6.2	NP18.0-12	174-816
24	6	125 166 175	5.5♦	8.5	NP24-12	145-408
24	6	125 166 175	5.5♦	9	NPL24-12	521-681
38	9.5	170 197 165	5.5♦	13.8	NP38-12	145-409
38	9.5	170 197 165	5.5♦	14.7	NPL38-12	521-693
65	16.25	174 350 166	6.9♦	22.7	NP65-12	147-475
65	16.25	174 350 166	6.9	24	NPL65-12	521-700

H* = Height including terminals

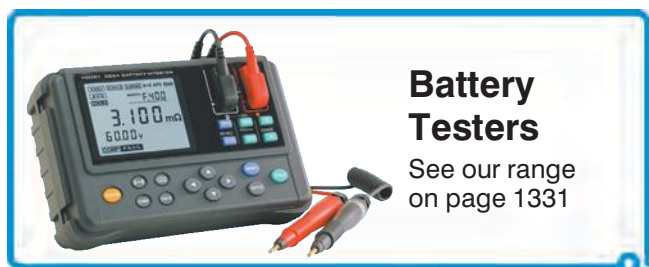
♦ = Bolt terminals

224340

Capacity Ah	Order Code	1+	5+	Price Each	25+	50+	100+
6 Volts							
1	146-534	13.82	13.35	12.87	12.43	12.04	
1.2	143-564	9.25	8.88	8.69	8.39	8.14	
2.8	279-377	12.48	11.98	11.63	11.18	10.74	
4	143-566	13.06	12.60	12.27	11.90	11.52	
7	152-245	22.75	21.84	21.39	20.65	19.98	
10	147-471	17.68	17.26	16.84	16.45	16.08	
12	174-774	18.89	18.43	18.01	17.58	17.18	
12 Volts							
1.2	147-472	13.25	12.72	12.46	12.00	11.60	
2	150-661	29.69	28.68	27.71	26.80	25.94	
2.1	279-389	16.90	16.24	15.65	15.08	14.58	
2.3	174-786	12.22	11.93	11.48	11.07	10.69	
2.8	279-390	17.94	17.28	16.63	16.04	15.50	
3.2	174-798	17.72	17.14	16.59	16.07	15.57	
4	174-804	17.94	17.67	17.40	17.14	16.89	
7	151-308	22.44	21.74	21.14	20.53	19.76	
12	149-449	39.92	38.32	36.82	35.45	34.16	
17	627-057	50.00	49.20	48.42	47.66	46.94	
18	174-816	50.15	49.49	48.59	47.89	47.05	
24*	145-408	60.07	58.03	56.07	54.22	52.51	
24*	521-681	76.36	75.21	74.07	72.95	71.86	
38*	145-409	93.80	90.73	87.72	84.88	82.24	
38*	521-693	110.79	109.11	107.16	105.59	104.05	
65*	H 147-475	158.75	156.00	153.36	150.80	148.31	
65*	H 521-700	193.75	187.38	181.31	175.61	170.46	

*7 to 10 Year Standby life expectancy

H Heavy item, special delivery, conditions apply.



Battery Testers

See our range on page 1331

12 Volt Sealed Lead Acid

Deep Discharge, Cyclic



Rechargeable maintenance-free lead acid batteries with excellent deep discharge recovery during cyclic applications. May be charged/discharged or stored in any orientation excluding continuous use inverted. Ideally suited to applications including, automatic guided vehicles, communications equipment, electric tools, wheelchairs, trolleys, etc.

Operating temperature -15°C to +50°C
Charging method 2.5V Cyclic, 2.3V Standby

Mfrs. List No.	Max. Initial Charge Current (A)	Capacity 20hr. Rate (Ah)	Bolt Hole	Dimensions H W D	Weight (kg) Approx.	Order Code
NPC17-12	3.8	17	5.5	167 76 181	6.1	627-069
NPC24-12	6	24	5.5	125 168 175	9	249-683
NPC38-12	9.5	38	5.5	170 197 165	14.2	249-695

224341

Capacity Ah	Order Code	1+	10+	Price Each	25+	50+	100+
17	627-069	65.25	62.76	60.37	58.18	56.22	
24	249-683	66.32	63.90	61.60	59.45	57.45	
38	249-695	100.31	97.12	94.00	91.07	88.32	

Sealed Gel Lead Acid-A500 Dryfit



Maintenance-free, rechargeable lead acid batteries with a unique thixotropic gel electrolyte and flat plate electrode construction. Designed for use in stand-by/float applications and cyclic.



Rechargeable Lead Acid Batteries - continued

Sealed Gel Lead Acid-A500 Dryfit - continued

Operating temperature -20°C to +50°C
Charging method (constant voltage 20°C)

Cyclic use: 6V battery 7.2V to 7.35V Standby use: 6V battery 6.9V to 7.05V
12V battery 14.4V to 14.7V 12V battery 13.8V to 14.1V

Maximum charge current 0.5A/Ah

Capacity 20hr. Rate (Ah)	Max. Discharge Current (A)	Dimensions H* W D	Tab Size/ Bolt Hole	Weight (kg) Approx.	Mfrs. List No.	Order Code
6 Volts						
1.2	40	54.9 97.3 25.5		0.3	A506/1.2S	463-360
3.5	60	64.4 134.5 34.5		0.75	A506/3.5S	463-371
6.5	80	98.4 151.5 34.5		1.33	A506/6.5S	463-383
10	80	98.4 151.7 50.5		2.05	A506/10.0S	463-395
12 Volts						
1.2	40	54.9 97.5 49.5		0.65	A512/1.2S	463-401
2	40	64.4 178.5 34.1		1	A512/2.0S	463-413
3.5	60	64.4 134.5 66.8		1.5	A512/3.5S	463-425
6.5	80	98.4 151.7 65.5		2.6	A512/6.5S	463-437
10	80	98.4 152 98		4.1	A512/10.0S	463-449
16	200	167 181 76	5♦	6	A512/16.0G	463-450
25	200	126 176 167	5♦	9.65	A512/25G	463-462
30	400	180 197 132	6♦	11.1	A512/30G	463-474
40	400	175 210 175	6♦	14.6	A512/40G	463-486
65	440	190 353 175	6♦	24.4	A512/65G	463-498

H* = Height including terminals

♦ = Bolt terminals

230510

Capacity Ah	Order Code	1+	10+	25+	100+
6 Volts					
1.2	463-360	16.73	16.38	15.56	14.34
3.5	463-371	26.72	26.17	24.58	22.87
6.5	463-383	31.47	30.87	29.86	28.60
10	463-395	37.29	36.57	34.63	33.03
12 Volts					
1.2	463-401	25.13	24.58	22.96	21.98
2	463-413	30.97	30.19	28.27	27.03
3.5	463-425	40.90	40.05	37.80	36.42
6.5	463-437	49.28	48.12	45.00	42.28
10	463-449	60.10	58.82	54.76	52.50
16	463-450	76.76	72.88	69.39	65.70
25	463-462	65.92	64.31	60.65	57.74
30	463-474	81.87	79.07	74.97	71.73
40	463-486	113.11	110.70	103.08	98.78
65	463-498	196.80	192.61	179.36	171.89

H Heavy Item, special delivery, conditions apply.

BEG120260	26	6.5	126	176	166	8.8	B M5 Bolt	508-5354
BEG120330	33	8.0	160	130	195	10.9	A M6 Bolt	508-5366
BEG120440	44	11.0	170	165	197	14.0	B M6 Bolt	508-5378
BEG120550	55	14.0	207	137	228	17.5	A M6 Bolt	508-5380
BEG120700	70	18.0	208	168	259	21.5	A M6 Bolt	508-5391

338198

Mfrs. List No.	Order Code	1+	10+	25+	50+
BEG060075	508-5305	13.62	13.20	12.79	12.42
BEG060120	508-5317	17.28	16.74	16.24	15.75
BEG120075	508-5329	20.59	19.96	19.37	18.80
BEG120120	508-5330	32.34	31.33	30.40	29.50
BEG120180	508-5342	44.03	42.66	41.36	40.15
BEG120260	508-5354	61.01	59.11	57.32	55.65
BEG120330	508-5366	84.73	82.10	79.60	77.27
BEG120440	508-5378	98.40	95.33	92.44	89.72
BEG120550	508-5380	120.82	117.08	113.62	110.37
BEG120700	508-5391	159.60	154.61	149.93	145.51

Sealed Gel Lead Acid - GF-Y Range (Dryfit A500 Cyclic)

Deep Discharge, Cyclic



- Rugged battery system designed specially for cyclic operations
- Maintenance free and leak proof
- Low self discharge
- Long service life
- Reliable in deep discharge applications
- Utilises VRLA (valve regulated lead acid) technology
- A512C/56 has a terminal post type connection A DIN 723

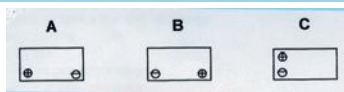
Charging method (20°C)	Cyclic use only	Charge voltage Output voltage	14.4V 12V
Mfrs. List No.	Capacity 20hr. Rate (Ah)	Max. Load Current Approx. A	Weight (kg) Approx.
GF12014YF	14	200	167 76 181 6.0
GF12025YG	25	400	180 132 197 11.1
GF12051Y1	51	400	190 175 278 21.8

203228

Capacity Ah	Order Code	1+	10+	25+	50+
14	206-544	79.17	75.52	72.19	68.63
25	206-568	94.30	93.37	92.39	86.27
51	206-581	191.21	179.74	172.09	164.78

Sealed Gel Lead Acid - Europa Plus

Deep Discharge



Sealed and completely maintenance free lead acid batteries with a thixotropic gel electrolyte and cast calcium/tin-lead alloy positive and negative grids to reduce grid growth and corrosion. Performance characteristics include increased durability and deep cycling for heavy demand applications with a low self discharge.

- Ideal for repeat cycling
- Excellent cycle life
- Full recovery from deep discharge
- Fully operational in any orientation
- Improved charging characteristics
- FAA and IATA approved as non-hazardous
- Suitable for many applications including golf carts and wheelchairs

Operating Temperature

-20°C to +50°C
Constant Voltage @25°C
Float 2.30VPC
Cyclic 2.35VPC
All types 5-7Nm

Torque Setting

Mfrs. List No.	Capacity 20hr. Rate (Ah)	Max. Charge Current (A)	Dimensions H W L	Weight (kg)	Terminals	Order Code
6 Volts						
BEG060075	7.5	1.5	96 34 150	1.3	A 187 Tab	508-5305
BEG060120	12	2.4	98 50 151	2.0	A 250 Tab	508-5317
12 Volts						
BEG120075	7.5	1.5	99 65 151	2.5	C 187 Tab	508-5329
BEG120120	12	2.4	100 97 150	4.0	C 250 Tab	508-5330
BEG120180	18	4.5	167 76 181	5.9	B M5 Bolt	508-5342

Sealed Lead Acid L400 Longlife



- 12 year lifespan
- Valve regulated lead acid technology
- Direct output terminals with threaded inserts
- Anti-leak system to ensure operational safety when used in the horizontal or vertical position
- Flat anti-corrosion plates and anti-bypass separator to prevent short circuit
- Fire resistance lid and cover in accordance with UL94-V0
- Complete with all connections nuts and accessories

Reliable, high performing designed for sensitive stand by applications requiring an excellent relationship between lifespan and cost.

Operating temperature	15°C to +35°C	Charge voltage	13.68V @ 20°C
Capacity 10h @ 1.8V/cell	Dimensions H W D	Weight(kg) Approx.	Output Type
32	168 175 198	13.5	M6 Bolt
42	190 169 234	18.5	M8 Bolt
55	189.5 166 271.5	22	M8 Bolt

203225

Mfrs. List No.	Order Code	1+	10+	25+	50+
L412/32	174-841	89.82	88.91	86.24	80.50
L412/42	174-853	114.88	113.74	110.30	102.98
L412/55	174-865	139.95	138.56	134.38	125.46

Troubleshooting tips



Chat live online to one of our technical engineers at
www.farnell.co.uk

Dryfit Trafficbatt



A 6V 4.5Ah maintenance free, rechargeable, valve regulated lead acid battery (VRLA) with gel electrolyte. Suitable for traffic warning systems (flashing light beacons) and many other applications.

- Withstands deep discharge
- Easy and safe to transport (including transport in passenger aircraft)
- Can be used in any orientation
- Functional at temperatures down to -20°C
- Protected against short circuit by integrated polyswitch



Charging Voltage	6.9V (Float)	Operating Temp.	-20°C to +45°C
	7.2V (Cyclic)	Weight	0.96kg
Max. charge current	2A	Dimensions (HxW xD)	98.5x66.8x66.8mm
Max. discharge current	3A	Height:	(110mm inc. contacts)

489679.489677

Description	Order Code	1+	5+	10+	25+
A506	149-5041	27.27	26.23	25.21	24.26

Cyclon Sealed Lead Acid Cells and Monoblocs

DMS technologies



A wide range of exceptionally high performance 2V cells, monoblocs and custom built packs designed for use in applications using the unique technology of spirally wound electrodes made of pure lead. The Cyclon range is designed for use in applications where high rate, high temperature and fast charge is required.

Charging

For single cells and monoblocs: -

Cyclic Charge Voltage: 2.35 to 2.5 VPC

Float Charge Voltage: 2.27 to 2.35 VPC

No current limit is required when using a voltage regulated charger.

Cyclon Cells

- High rate performance
- Temperature range -65°C to +80°C
- 2 years storage life at 25°C
- Fast charge capability
- Maximum assembly variations
- No loose electrolyte
- 15 year design life (float 20°C)
- High cycle life
- Shock and vibration resistant

Cyclon Monoblocs

- High rate performance
- Standard voltage options
- Temperature range -40°C to +40°C
- 10 year design life (float 20°C)
- Fast charge capability
- No loose electrolyte
- Integral fixing holes
- 2 years storage life at 25°C

Single Cell Technical Information

Capacity	Max. Pulse Discharge (A)	Terminals	Dimensions Height (mm)	Diameter (mm)	Weight Kg	Mftrs. List No.
2V 2.5Ah	200	4.8mm x 0.8mm	67.3	35.5	0.2	9810-0004
2V 4.5Ah	200	4.74x0.64 tags	103	34	0.3	9860-0004
2V 5Ah	285	6.35mm x 0.8mm	80.3	46	0.4	9800-0004
2V 8Ah	330	6.35mm x 0.8mm	109	44	0.6	9850-0004
2V 25Ah	1335	M8 Stud + M6 Stud -	174	65	1.7	9820-0004

Monobloc Technical Information

Capacity	Max. Pulse Discharge (A)	Terminals	Dimensions Width (mm)	Weight kg	Mftrs. List No.
6V 2.5Ah	200	4.8mm x 0.8mm	45	0.52	9819-0012
6V 5Ah	285	6.35mm x 0.8mm	54	0.98	9809-0012
6V 8Ah	330	6.35mm x 0.8mm	54	1.43	9859-0012
12V 2.5Ah	200	4.8mm x 0.8mm	90	1.2	9819-0020
12V 5Ah	285	6.35mm x 0.8mm	108	2.2	9809-0020
12V 8Ah	330	6.35mm x 0.8mm	108	3.3	9859-0020

244566.274452

Mftrs. List No.	Order Code	1+	10+	25+	100+	250+
Cyclon Cells						
9810-0004	147-180	5.45	5.14	4.92	4.53	4.33
9860-0004	174-828	7.87	7.60	7.37	7.08	6.86
9800-0004	147-181	8.39	8.06	7.77	7.49	7.22
9850-0004	174-830	13.83	13.27	12.78	12.32	11.41
9820-0004	147-183	34.77	33.67	32.58	31.49	30.43
Cyclon Monoblocs						
9819-0012	427-3369	12.98	12.71	12.47	12.21	11.26
9809-0012	427-3370	17.56	17.30	16.96	16.90	15.80
9859-0012	427-3382	22.36	21.92	21.48	21.05	19.59
9819-0020	121-8977	25.57	24.71	23.91	23.15	22.44
9809-0020	121-8981	33.30	32.19	31.13	30.14	29.20
9859-0020	121-8982	44.13	42.64	41.22	39.92	38.68

Solar Chargers

135mA Solar Charger



- Eliminates dead 12V batteries in stored or occasional-use vehicles
- Extends battery life - saves on cost of replacement
- Provides immediate trickle-charge when exposed to daylight - fully functional when cloudy
- Protects against natural battery discharge and electronic drain
- Connects quickly and easily - includes cigarette lighter adaptor and battery clamps

- Mounts virtually anywhere - includes suction cups for window mounting
- 10 year power warranty

Rated Power	2W	Weight	0.64kg
Output Current/Voltage	135mA, 15V	Dimensions (HxWxD)	68x166x465mm

419696.419693

Mftrs. List No.	Order Code	1+	5+
SE-135	109-6174	19.49	17.78

400mA Solar Charger



- Eliminates dead 12V batteries in stored or occasional-use vehicles
- Extends battery life - saves on cost of replacement
- Provides immediate trickle-charge when exposed to daylight - fully functional when cloudy
- Protects against natural battery discharge and electronic drain
- Connects quickly and easily with plug and play cables - includes cigarette

lighter adaptor (male and female), battery clamps and 3m extension and connector cable

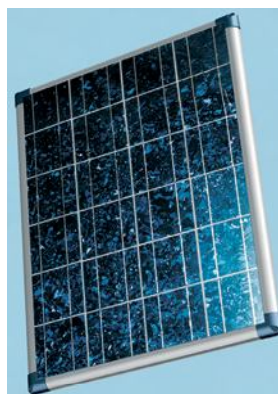
- 2 or more panels can be connected together to increase output using connector cables
- Designed for outdoor use
- 10 year power warranty

Rated Power	6W	Weight	2.36kg
Output Current/Voltage	400mA, 15V	Dimensions (HxWxD)	68x400x445mm

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Mftrs. List No.	Order Code	1+	5+
SE-400	109-6176	49.40	45.07

Solar Panel Chargers



- Highly efficient, polycrystalline solar cells ensure powerful battery recharging
- Replaces expensive diesel, propane & gas generators with a free renewable energy source
- Installs quickly & easily, plug and play allows expansion without rewiring
- Works with vehicles electrical system to charge multiple batteries at once
- Rugged design specially engineered to withstand high-vibration, mobile applications
- Aerodynamic frames reduce wind drag
- Ideal for charging large power systems that run appliances (renewable energy alternative to expensive fuel-powered generators)
- Use 10A charge controller (109-6182), or 25A charge controller (order code 109-6183)
- 10 year power warranty

Contents: Solar module, 10' power cable and steel S mount brackets



Solar Chargers - continued

Solar Panel Chargers - continued

Rated Power
Output Current/Voltage
Amp-Hrs/Day
Weight
Dimensions (HxWxD)

SE-4000
65W
4A, 16.5V
20Ah
10kg
36x72x806mm

419699.419682

Mfrs. List No.	Order Code	Price Each
SE-4000	109-6179	385.00

10A Charge Controller



- Reduces system maintenance, prevents overcharging of 12V batteries
- Protects batteries for up to 10A of solar power
- Built-in voltage indicator & reverse polarity protection
- Essential for use with solar charger SE4000/6000 to protect your battery from overcharging and optimise the charging process
- 2 year manufacturers warranty



419700.419689

Mfrs. List No.	Order Code	1+	5+
CC10000	109-6182	20.88	19.04

25A Charge Controller



- Monitors system performance, prevents over-charging of 12V batteries
- Protects batteries for up to 25A of solar power
- Built-in voltage indicator & reverse polarity protection
- Essential for use with solar charger SE4000/6000/8000 to protect your battery from overcharging and optimise the charging process
- Handles 12V or 24V with automatic indicator
- 2 year manufacturers warranty

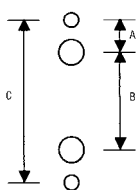


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Mfrs. List No.	Order Code	1+	5+
CC25000	109-6183	55.21	50.47

Battery Holders

½AA, AAA, AA, C, D
PCB chassis Mounting



PCB Drilling pattern
(see below for dimensions)

- A range of open frame battery holders
- Suitable for PCB or chassis mounting (½AA PCB only)
- Chassis mounting solder tags accept snap-on terminals (2.8 0.5)
- Interlocking lugs allow multiple assemblies of the same holder (except ½AA)
- Manufactured in black filled nylon

Contact rating

Solder tag 20A, PCB pins 5A (2A/½AA)

Can Style	Dimensions W H D	Drilling Pattern A B C	Mfrs. List No.	Order Code
D	38.1 28.2 71.0	16.0 35.6 29.5	BX0037	301-097
C	30.25 26.7 59.1	11.9 31.8 55.6	BX0036	301-085
AA	17.5 25.0 60.3	11.9 33.0 56.8	BX0035	301-073
AAA	13.5 17.1 52.4	10.5 27.9 48.9	BX0034	301-061
1/2AA	16.5 15.2 34.5	10.7 15.5 29.5	BX0031	174-725

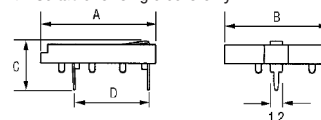
230515

Can Style	Order Code	1+	25+	50+	100+	250+	500+
D	301-097●	1.38	1.30	1.25	1.19	1.14	1.09
C	301-085●	1.19	1.13	1.08	1.03	0.99	0.94
AA	301-073●	1.07	1.01	0.93	0.89	0.87	0.78
AAA	301-061●	0.98	0.93	0.90	0.87	0.82	0.80
1/2AA	174-725●	1.31	1.18	1.06	0.93	0.85	0.79

Coin Cell Holders



- A range of PCB mountable coin cell holders
- PCB connections via solder pins
- Contacts are spring steel nickel plate and copper
- Suitable for single cells only



Maximum Cell Dia.	No. of Cells	A	B	C	D	Order Code
12mm	1	11.43	15.06	7.92	9.98	302-9839
12mm	2	11.43	15.06	9.65	9.98	908-630
16mm	1	22.79	19.05	7.93	11.76	676-482
20mm	1	28.35	22.76	8.50	20.50	676-469
20mm	2	30.96	27.76	11.48	20.50	302-9827
24mm	1	30.96	22.76	8.50	20.50	676-470
24mm	2	30.96	27.76	11.48	20.50	302-9815

230516

Cell Dia.	Order Code	1+	25+	50+	100+
12mm	302-9839●	1.44	1.35	1.29	1.23
12mm	908-630●	1.56	1.49	1.40	1.23
16mm	676-482●	1.44	1.36	0.75	0.73
20mm	676-469●	1.36	1.29	1.01	0.93
20mm	302-9827●	1.16	0.99	0.63	0.61
24mm	676-470●	1.44	1.35	1.25	1.15
24mm	302-9815●	1.16	0.99	0.61	0.58

Coin Cell Retainer Clips



- Low profile, through hole mounting
- Retains cell securely, withstands shock and vibration
- Clearly marked polarity (+)
- Compatible with vacuum and mechanical Pick & Place assembly systems

230517

5 Per Pack Cell Dia.	Order Code	1+	5+	20+
12mm	908-642●	3.08	2.91	2.82
20mm	908-654●	3.05	2.91	2.77
23mm	908-666●	3.60	3.42	3.27

Surface Mount Coin Cell Holders

Single and Dual Cell



- Accepts 20mm batteries
- Low profile for high density packaging
- Ideal for memory back up applications
- Clearly marked polarity (+)
- Viewable solder tail assures reliable joint inspection
- Compatible with vacuum and mechanical pick and place machines
- Safe for soldering and reflow operations

203231

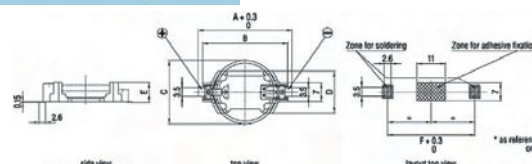
	Order Code	1+	25+	50+	100+
Single Cell	128-2702●	1.04	0.98	0.94	0.91
Dual Cell	128-2703●	1.05	1.00	0.95	0.92

Lithium Coin Battery Holders

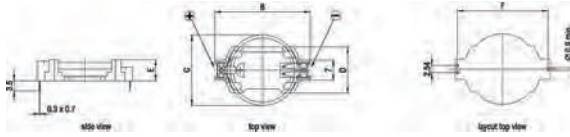
Surface Mount/Through Hole



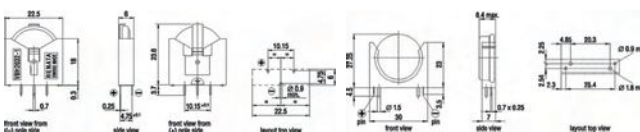
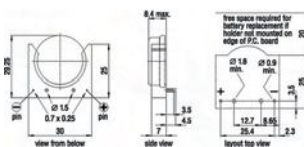
- Surface Mount (SMT) and Through Hole battery holders
- Designed for automatic 'pick and place' mounting
- Simple and fast replacement of battery
- Cell held firmly in position
- Clear separation of connections
- Heat resistant, glass fibre filled LCP/Flammability rating UL 94 V-0
- Short circuit and inverse polarity protection
- Solid design, Swiss made



Dimensions						
Model	A	B	C	D	E	Order Code
SMT Battery Holders						
SMTU 1225-1-LF	23.7	20.3	12.5	12.7	4.8	121-6353
SMTU 1632-1	27.7	24.3	16.0	14.5	5.4	508-5135
SMTU 2032-1-LF	32.0	28.5	20	16.1	5.4	121-6354
SMTU 2430-1-LF	36.5	33.0	24.5	16.1	4.9	121-6355
SMTU 2450N-1-LF	36.6	33.0	24.5	16.1	7.5	121-6356
SMTU 2477N-1-LF	36.7	33.0	24.5	16.1	10.3	121-6357



Dimensions						
Model	B	C	D	E	F	Order Code
Through Hole Battery Holders						
HU 1632-1	24.3	16.0	14.5	5.2	22.7	508-5196
HU2032-LF	28.5	20	16.1	5.2	26.9	131-9749
HU 2450N-1-LF	33	24.5	16.1	7.3	31.5	121-6358

Vertical Battery Holder
121-6359Vertical Battery Holder
121-6360Horizontal Battery Holder
121-6361

337057

Type	Order Code	1+	25+	100+	250+
SMT Battery Holders					
SMTU 1225-1-LF	121-6353●	0.82	0.78	0.74	0.70
SMTU 1632-1	508-5135	0.87	0.86	0.82	0.78
SMTU 2032-1-LF	121-6354●	0.74	0.70	0.66	0.60
SMTU 2430-1-LF	121-6355●	0.82	0.78	0.74	0.70
SMTU 2450N-1-LF	121-6356●	0.84	0.80	0.76	0.72
SMTU 2477N-1-LF	121-6357●	1.13	1.03	0.99	0.94
Through Hole Battery Holders					
HU 1632-1	508-5196	0.69	0.68	0.65	0.62
HU2032-LF	131-9749●	0.74	0.70	0.66	0.60
HU 2450N-1-LF	121-6358●	0.84	0.80	0.76	0.72
Vertical Mount Holders					
VBH2032-1-LF	121-6359●	0.84	0.80	0.76	0.72
NH5077-LF	121-6360●	2.12	2.07	2.02	1.96
NL5077-LF	121-6361●	2.12	2.07	2.02	1.96

Aluminium Holders
PCB and Chassis Mounting

KEYSTONE



- Sturdy construction
- Low cost and lightweight
- Brass eyelets and lugs, nickel plated
- Moisture proof insulation washer
- Single and multicell configuration
- Both solder lugs and direct pcb mounting types available

203230

5 Per Pack	Order Code	1+	5+	20+
AA (PCB)	128-2693●	8.49	8.16	7.84
2xAA (PCB)	128-2695●	13.43	13.10	12.31
AA (Solder)	128-2696●	8.73	8.38	8.05
2xAA (Solder)	128-2697●	13.44	13.11	12.33
C (Solder)	128-2698●	8.64	8.42	8.08
D (Solder)	128-2699●	12.59	12.28	11.79
2xD (Solder)	128-2701●	8.84	8.62	8.27

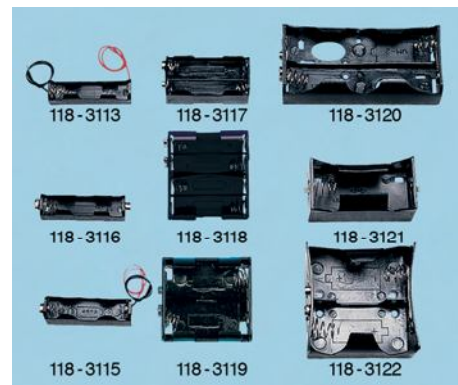
Over 480,000 products online

RoHS Compliant
Non-compliant

08447 11 11 11

Fax: 08447 11 11 12 1231

Single/Multicell



A range of general purpose battery holders moulded in black plastic suitable for project work.

Can Style	Connection	W	D	H	Order Code
AA	Leads	56	16	13	118-3113
AA	Leads	58	25	17	118-3115
AA	Snap terminals	56	25	17	118-3116
AA	Snap terminals	60	30	28	118-3117
AA	Snap terminals	58	29	59	118-3118
C	Snap terminals	60	53	21	118-3119
C	Snap terminals	108	53	23	118-3120
D	Solder Tags	69	36	27	118-3121
D	Snap terminals	68	68	30	118-3122

Note: Not suitable for use with nickel cadmium cells or for industrial applications

224348

5 Per Pack

Can Style	Order Code	1+	5+	20+
AA	118-3113●	1.05	0.90	0.79
AA	118-3115●	1.32	1.14	1.01
AA	118-3116●	1.20	1.06	0.92
AA	118-3117●	1.32	1.14	1.01
AA	118-3118●	3.13	3.04	2.72
C	118-3119●	1.71	1.51	1.31
C	118-3120●	2.13	1.86	1.64
D	118-3121●	2.09	1.82	1.61
D	118-3122●	2.17	1.89	1.66

Enclosed Four AA



An enclosed panel mounting battery holder which will accept four AA type cells. They may be connected either, all in series or in two pairs of cells. Manufactured in robust glass filled black nylon with removable draw. Connection may be made via solder tags, which will accept snap-on terminals (2.8 0.5) if required see **CONNECTORS - CRIMP TERMINALS** Section.

Depth behind panel=57.2

Panel cut-out=72.21.2,

Contact rating

Contacts

Mfrs. List No.

Fixing centres=82.6 3.8 dia

20A

Nickel silver

BX0027

224349

Order Code	1+	10+	25+	100+	250+
118-4194●	7.03	6.69	6.16	5.21	4.70

Panel Mounting AA, D



AA TYPE

H=24.2 (excl. term),

W=33.3, D=71.4 (1 x 'AA'), 121.8 (2 x 'AA')

2 x 2.4

Panel cutout

max. panel thickness=3.2

D TYPE

H=46.0 (excl. term),

W=46.0, D=83.0

(1 x 'D'), 143.5 (2 x 'AD')

4 x 3.7

Panel cutout

max. panel thickness=4.0

Panel mounting battery holders suitable for 1 'AA', 2 'AA' or 1 'D', can style batteries. They are simply mounted from the rear of the panel leaving the circular matt face visible. The flush fitting bayonet cap with coin slot is clearly marked 'Battery'. Good battery contact is

Battery Holders - continued

Panel Mounting AA, D - continued

ensured by a spring at the rear of the holder which also aids with cell ejection. Connections are made via snap-on terminals (2.8 0.5, 'AA' can styles; 4.8 0.5, 'D' can style). See **CONNECTORS - CRIMP TERMINALS** Section. The 'AA' versions are manufactured in black polyester (cap is nylon) and the 'D' version is manufactured in black polycarbonate (cap is glass filled nylon).

Contact rating 10A max, AA style Contacts Brass, Tin plated and Nickel Silver (AA)
20A max, D style Brass, Nickel Plated (D)

Mfrs. List No. BX0011/1=223-529, BX0012/1=223-530, BX0017=299-285, BX0016=908-629

224350/BAT47

Can Style	Order Code	1+	25+	50+	100+	250+
1 AA	223-529●	3.18	2.99	2.87	2.74	2.61
2 AA	223-530●	3.56	3.35	3.20	3.08	2.93
1 D	908-629●	4.28	3.60	3.16	2.59	2.47
2 D	299-285●	6.82	6.41	6.14	5.88	5.56

Panel Mounting C



- Low profile panel mounting
- Screw cap
- Connections via Snap-on terminals (2.8 0.5)
- Manufactured in black polyester (cap is glass filled nylon)

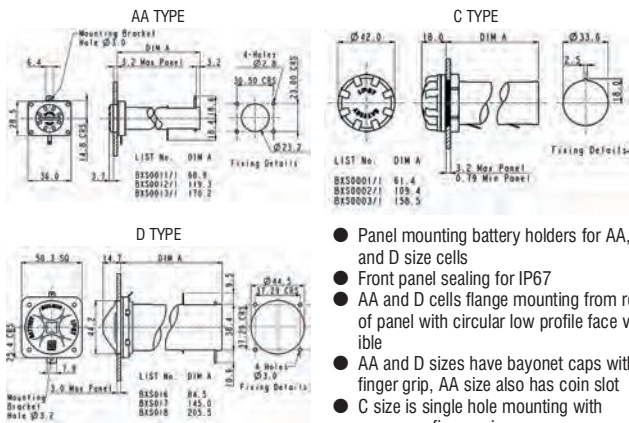
Max panel thickness=3.2, Panel cut-out=33, Dia. (Bezel)=38.1

Mfrs. List No: BX0001/1=908-605, BX0002/1=908-617

224351

Can Style	Order Code	1+	25+	50+	100+	250+
1 C	908-605●	3.79	3.56	3.42	3.29	3.11
2 C	908-617●	4.99	4.70	4.32	4.08	3.89

Front Panel Sealed to IP67



Cell Size	AA	C	D
Terminations	2.8mm tabs	2.8mm tabs	4.8mm tabs
Mouldings	Nylon, UL94V-0	Nylon, UL94V-0	Nylon, UL94V-0
Contacts	Brass, tin plate and Nickel Silver		Brass, nickel plate
Dimensions			
Flange	28.5x36	42 (dia)	50.3x50.3
Mounting hole dia.	23.2	33.6	44.5
Length 1 cell/2 cells	68.9/119.3	61.4/109.4	84.5/145

Mfrs List No: BXS011/1 = 4274015, BXS012/1 = 4274027, BXS001/1 = 4274039, BXS002/1 = 4274040, BXS016 = 4274052, BXS017 = 4274064.

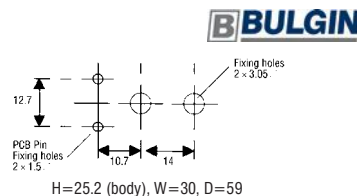
249606

Cell Size	Order Code	1+	25+	50+
AA	427-4015●	3.94	3.70	3.56
AA	427-4027●	4.51	4.24	4.07
C	427-4039●	4.84	4.56	4.36
C	427-4040●	5.46	5.14	4.92
D	427-4052●	6.41	6.04	5.79
D	427-4064●	7.48	7.04	6.75

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Open Frame PP3



A PP3 battery holder suitable for either PCB or chassis mounting. Connection may be made via solder tags or PCB solder pins either of which may be cropped if not required.

Contact rating Solder tag 20A PCB pins 5A Contacts Mfrs. List No. Nickel silver BX0033

230521

Order Code	1+	25+	50+	100+	250+
301-103●	0.98	0.92	0.88	0.84	0.79

Enclosed PP3



145-359 Depth behind panel=54 Panel cut-out=34.5 24.5 Fixing centres=43
146-770 Depth behind panel=54 Panel cut-out=67.1 24.5 Fixing centres=75.6

PP3 battery magazines, suitable for panel of chassis mounting, finished in matt black.

The 145-359 has one removable PP3 battery magazine, the 146-770 has two removable PP3 battery magazines.

The battery is self-contacting as the magazine is locked in full insertion position. The holder is fitted with rear solder tag terminals.

Mfrs. List No: BX0023 = 145-359, BX0026 = 146-770

224353

Order Code	1+	10+	25+	100+	250+
118-4193●	2.38	2.24	2.14	2.04	1.96
146-770●	4.51	4.24	4.07	3.88	3.71

Battery Connectors

Snap-On



Lead length = 150 Type 1 Type 2

Snap-on connector for use with PP3 and PP6 batteries.

Type 1 replaces the BH9 connector. Type 2 has a rigid plastic housing with strain relief.

230522

10 Per Pack Type	Order Code	1+	25+	100+
1	118-3123●	1.45	1.21	1.08
2	118-3124●	2.64	2.44	2.21

9V PCB Snap-On



- Horizontal 9 volt snap-on connectors
- Mounts directly to the PCB
- Compact to save space

KEYSTONE

230529

5 Pairs Per Pack Order Code	1+	Price Per Pack 25+	50+
723-988●	3.95	3.66	3.19

Snap-On Contacts



- Economical and reliable
- Ideal for moulded cases
- Single and dual contacts available
- Solder lug for wire lead
- Reliable spring tension
- Sharp barbs securely anchor contact in place

KEYSTONE

230530

5 Per Pack	Order Code	Price Per Pack		
		1+	5+	20+
A/AA Single	908-708●	1.33	1.27	1.21
A/AA Dual	908-710●	1.53	1.47	1.40
A/AA	165-0690●	0.15	0.14	0.12
AAAA/AAA/N Single	302-9803●	1.23	1.21	1.05

Snap-In Battery Clips

PCB Mounting

KEYSTONE

- 2 types of battery clips in nickel plated steel
- Retains battery securely to withstand shock and vibration
- Advanced snap-in design for secure through hole mounting
- 908-721 AAA and N size cells
- Low profile, economical design
- 908-733 AA and A size cells

230531

5 Per Pack	Order Code	Price Per Pack		
		1+	5+	20+
	908-721●	1.40	1.35	1.28
	908-733●	1.63	1.56	1.49

Spring Contacts

- Nickel plated steel spring contacts
- Economical and reliable
- Available in 2 sizes
- Sold in packs of 10

203241

10 Per Pack	Order Code	Price Per Pack		
		1+	5+	10+
AA/A	326-0938	0.81	0.78	0.75
C/D	326-0940	1.43	1.39	1.36

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