

# Batteries, Chargers & Holders

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## Standard Batteries

### Zinc Carbon Special Power



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
- 0% mercury and cadmium
- 3 year shelf life

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	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) 67x22x67		107g	3R12R/1BP	101-8881

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Type	Pack Qty	Order Code	Price Each
AAA	4	101-8876	
AA	4	101-8877	
C	2	101-8878	
D	2	101-8879	
PP3	1	101-8880	
3R12	1	101-8881	

### 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)	Order Code
			L	Dia.	Approx.	
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	26.2	48	392-5500
1.5	D	5900	61.5	34.2	100	392-5511
9	PP3	405	48.5 x 26.5		38	392-5523

Note: Supplied and priced in packs

234759

Can Style	Pack Qty	Order Code	Price Per Pack
AAA	4	131-9795	
AA	4	122-0702	
C	2	392-5500	
D	2	392-5511	
PP3	1	392-5523	

### 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. Dimensions		Weight (g)	Mfrs. List No.	Order Code
			L	Dia.	Approx.		
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
9	PP3	6F22	48.5 x 26.5		38	GP1604G-U1	501-9280
4.5	1289	3R12	67	22x62	115	GP312G-C1	501-9345

337173

Can Style	Pack Qty	Order Code	Price Per Pack
<b>Blister</b>			
AAA	4	501-9242	
AA	4	501-9254	
PP3	1	501-9280	
3R12	1	501-9345	
<b>Bulk</b>			
AAA	40	501-9291	
AA	40	501-9308	
C	24	501-9310	
D	20	501-9321	
PP3	10	501-9333	

### Primary

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



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

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Can Style	Order Code	Price Each
PJ996	305-5905	
PP9	300-159	

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## Alkaline Batteries

### EVOIA High Performance Alkaline Batteries



- World's No.1 long lasting AA alkaline battery\*
- Recognised by Guinness World Records™
- Exceptional performance in all low to high drain applications
- Delivers up to 90 more digital photos than standard Panasonic alkaline and up to 20 hours more music than Panasonic Oxyride in FM radios
- 7 year shelf life
- Easy to open packaging



536555

Type	Pack Qty.	Order Code	Price Per Pack
AAA	4	171-2514	
AA	4	171-2515	
C	2	171-2516	
D	2	171-2517	

\* Measured against ANSI, IEC and JIS standards (as of January 2008)

### Alkaline Manganese - Ultra For Hi-Tech Power Hungry Appliances



- 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.	Mftrs. 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
<b>Card Packs</b>			
AAAA	2	100-3456	
AAA	4	378-5749	
AA	4	378-5750	
C	2	378-5762	
D	2	378-5774	
PP3	1	378-5786	
<b>Multi Packs</b>			
AAA	8	495-1475	
AA	12	495-1487	
PP3	10	495-1517	

### 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.	Mftrs. 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.	Mftrs. List No.	Order Code	Price Per Pack
AAA	4	629604	149-4853	
AA	4	629601	149-4854	
C	2	629720	149-4856	
D	2	629801	149-4857	
PP3	1	629781	149-4858	

### 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

233514

Can Style	Pack Qty.	Order Code	Price Per Pack
<b>Card Packs</b>			
AAA	8	387-6536	
AA	8	387-6548	
C	4	387-6550	
D	4	387-6561	
PP3	2	387-6573	
<b>Multi Packs</b>			
AA	12	NEW 149-9735	
C	8	NEW 149-9736	
D	8	NEW 149-9738	
PP3	4	NEW 149-9739	

### Ultra + Alkaline



- Blister packed
- Mercury and cadmium free
- Guaranteed against leakage
- 7 year shelf life (5 yrs PP3)
- 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 Qty.	Order Code	Price Per Pack
AAA	4	392-5535	
AAA	8	508-1531	
AAA	12	NEW 167-8332	
AA	4	392-5547	
AA	8	508-1543	
AA	12	NEW 167-8333	
C	2	392-5559	
D	2	392-5560	
PP3	2	392-5572	

**Ultra + Business Packs**

Can Style	Qty.	Order Code	Price Per Pack
AAA	20	100-0094	
AA	40	100-0095	
C	20	100-0096	
D	20	100-0097	
PP3	20	100-0098	

**Energizer Brand**

Can Style	Qty.	Order Code	Price Per Pack
N	1	279-249	

**Super / Ultra Plus 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 free Alkaline Manganese Batteries
- Long shelf life (36 months)
- Optimum performance
- Supplied in blister packs or bulk packed in boxes

Voltage	Can Style	L (mm)	Max. Dia. (mm)	Weight (g) Approx.
1.5	N Super	30.2	12	9
1.5	AAA Ultra Plus	44.5	10.5	12.5
1.5	AAA Super	44.5	10.5	11.4
1.5	AA Ultra Plus	50.5	14.5	24.5
1.5	C Super	50	26.2	60
1.5	C Ultra	50	26.2	60
1.5	D Super	61.5	34.2	143
1.5	D Ultra	61.5	34.2	130
9V	PP3 Super	47.5 x 25.5 x 16.5 mm		47
9V	PP3 Ultra	47.5 x 25.5 x 16.5 mm		48

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Can Style	Pack Qty.	Order Code	Price Per Pack
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**Blister Packed**

Can Style	Pack Qty.	Order Code	Price Per Pack
N Super	2	505-6949	
AAA Ultra Plus	4	171-5540	
AA Ultra Plus	4	171-5541	
AA Ultra	12	144-0736	
C Super	2	505-6974	
C Ultra	2	NEW 177-9014	
D Super	2	505-6986	
D Ultra	2	NEW 177-9015	
PP3 Super	1	505-6998	
PP3 Ultra	1	NEW 177-9016	

**Bulk Packed**

Can Style	Pack Qty.	Order Code	Price Per Pack
N Super	20	505-7000	
AAA Super	40	505-7012	
C Super	24	505-7036	
D Super	20	505-7048	
PP3 Super	10	505-7050	

**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 L W D	Weight (g) Approx.	Mfrs. List No.	Order Code
1.5	AAA	1175	44.5 — 10.5	11	MN2400	249-816
1.5	AA	2700	50.5 — 14.5	24	MN1500	249-828
1.5	C	7750	50 — 26.2	67	MN1400	249-830
1.5	D	18000	61.5 — 34.2	141	MN1300	249-841
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
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AAA	MN2400	249-816	
AA	MN1500	249-828	
C	MN1400	249-830	
D	MN1300	249-841	
PP3	MN1604	249-853	

**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

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Type	Pack Qty.	Order Code	Price Per Pack
AAA	4	152-0478	
AA	4	152-0479	
C	12	152-0480	
D	12	152-0481	
PP3	12	152-0482	

**FOR MORE INFORMATION & CHOICE**

**Product Search**

Alkaline Batteries



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**AA Alkaline Classic Bulk Batteries**



- Energizer AA Classic alkaline batteries available in bulk quantities
- 319 AA Classic batteries at a fantastic price
- Mercury and cadmium free
- 7 year shelf life



600713

Mfrs List No.	Pack Qty.	Order Code	Price Each
611469	319	171-5437	

**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 mAh	Max. Dimensions L W D	Weight (g) Approx.	Small Pack Qty	Mfrs. List No.	Order Code
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
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

## Alkaline Batteries - continued

### Alkaline Manganese-Specialised - continued

Mfrs. List No.	Order Code	Price Each
LR44 2PK	495-1451	
MN9100	300-251	
MN1203	300-342	
MN21	300-378	

230457

### 12 Volt Miniature



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

Mfrs. List No.	Order Code	Price Each
GP23A	300-408	
GP27A	724-051	
GP11A	908-575	

230458

### Lantern Batteries



- 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	4LR25-2	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
PJ996	MN908	207-925
4LR25-2	MN918	207-937
—	PC926	207-949

### 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	PJ996	26	110 67 67	0.82	529 (PJ996)	434-0541

249142

Mfrs. List No.	Order Code
529 (PJ996)	434-0541

## Technical information at your fingertips



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## Bulk Buy Alkaline Batteries



### 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	Voltage	Capacity	Dimensions L W/Dia. D	Weight (g) Approx.
AAA	1.5	1200	44.5 10.5	11
AA	1.5	2600	50.5 14.5	23
C	1.5	7800	50 26.2	61
D	1.5	16500	61.5 34.2	134
9V	9	550	48.5 26.5 17.5	46

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	Order Code	Price Per Pack
AAA Pack of 500	168-2906	
AA Pack of 500	508-8100	
C Pack of 200	508-8112	
D Pack of 100	508-8124	
PP3 Pack of 200	508-8136	

### Industrial Alkaline Batteries



Industrial Alkalines are designed with a power reservoir that enables them to last longer. High current and large capacity are standard, which means high performance for the customer.

Applications:

- Cameras
- Electric shavers
- Electronic calculator
- Electronic door locks
- Fire detectors
- High-power flashlights



Mfrs. List No.	Type	Voltage (V)	Dimensions (mm) Length Dia.	Pack Qty	Order Code
LR6AD/B	AA	1.5	50.1 14.1	500	173-8554
LR03AD/B	AAA	1.5	44.3 10.4	500	173-8555
LR14AD/B	C	1.5	49.6 25.4	80	173-8556
LR20AD/B	D	1.5	60.6 33	85	173-8557

545058

Type	Pack Qty	Order Code
AA	500	173-8554
AAA	500	173-8555
C	80	173-8556
D	85	173-8557

## 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	D36/10L180	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	D384/10I15	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

Order Code	IEC	VARTA	DURACELL	Energizer	Panasonic	RAY-O-VAC	RENATA
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
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.	Mftrs. List No.	Order Code
1.5	170	5.4	11.6	2.3	303101501	304-4865
1.5	13	1.7	6.8	0.3	321101501	174-520
1.5	165	5.4	11.6	2.3	357101501	300-860
1.5	20	2.2	6.8	0.3	364101501	300-779
1.5	30	2.1	9.5	0.6	370101501	304-7921
1.5	44	2.1	9.5	0.6	371101501	174-555
1.5	30	1.6	9.5	0.5	V373	134-9701
1.5	27	2.6	6.8	0.4	377101501	174-543
1.5	14	2.1	5.8	0.2	V379	249-907
1.5	45	2.1	11.6	0.9	381101501	304-7945
1.5	38	3.6	7.9	0.7	384101501	304-7957
1.5	105	4.2	11.6	1.8	386101501	300-858
1.5	85	3.1	11.6	1.3	389101501	300-834
1.5	80	3.1	11.6	1.3	390101501	304-7969
1.5	40	2.1	11.6	0.9	391101501	300-822
1.5	38	3.6	7.9	0.7	392101501	300-792
1.5	65	5.4	7.9	1.1	393101501	300-809
1.5	67	3.6	9.5	1	394101501	300-810
1.5	42	2.7	9.5	0.8	395101501	174-567
1.5	42	2.7	9.5	0.8	399101501	304-7982

230471

Mftrs. List No.	Order Code	Price Each
303101501	304-4865	
321101501	174-520	
357101501	300-860	
364101501	300-779	
370101501	304-7921	
371101501	174-555	
V373 (E)	134-9701	
377101501	174-543	
V379	249-907	
381101501	304-7945	
384101501	304-7957	
386101501	300-858	
389101501	300-834	
390101501	304-7969	
391101501	300-822	
392101501	300-792	
393101501	300-809	
394101501	300-810	
395101501	174-567	
399101501	304-7982	

**Silver Oxide button Cell**



1.5V battery, suitable for use in electronic equipment including calipers and micrometers. Supplied in packs of 2 batteries.

377033

Order code	Price Per Pack
444-6525	

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“ ” We continually review our prices so that you get the very best value.

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**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
- Charge current 400mA (cyclic), 200mA (float)
- Supplied with push fit flying leads
- 4 years life duration at higher temperatures
- Easy installation
- Meets IEC 61951-1 & 619551-2
- No soldering required

Type	Voltage (V)	Capacity (Ah)	Dimensions (mm)			Operating Temp. (°C)		Order Code
			H	Dia. or W	D	Under Discharge	200mA Cont.	
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	Price Each
2 x D Single Stick	150-5705	
3 x D Single Stick	150-5706	
4 x D Single Stick	150-5707	
5 x D Single Stick	150-5708	
2 x 3 D Twin Stick	129-2967	
2 x 5 D Twin Stick	129-2969	
2 x D Side x Side	129-2970	
3 x D Side x Side	129-2971	
4 x D Side x Side	129-2972	

**NiCd Emergency Lighting Packs**



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

Type	Nominal Capacity Ah	Dimensions L	H	D Weight (g)	Mftrs. List No.	Order Code
3.6V stick pack sleeved with end caps, leads and connector	4	180		33 378	7140-0050	508-7934
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

## Emergency Lighting Batteries - continued

### NiCd Emergency Lighting Packs - continued

Mfrs.	Order Code	Price Each
7140-0050	508-7934	
7140-0052	508-7958	
7140-0053	508-7960	
7140-0055	508-7983	
7140-0056	508-7995	
7140-0057	508-8008	

338672

## 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), 2450mAh (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

239875

Note: Supplied and priced in blister packs

Can Style	Pack Qty	Order Code	Price Per Pack
AAA Supreme	4	128-1251	
AA Supreme	4	133-0278	
C	2	414-0280	
D	2	414-0291	
PP3	1	414-0308	

### Primary Style Rechargeable Cells

### Energizer



- 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		Typical capacity (mAh)	Dimensions		Weight Approx. (g)	Order Code
Voltage	Can Style	(mAh)	L	Dia	Approx. (g)	Order Code
1.2V	AAA	700	44.5	10.5	12	167-8337
1.2V	AAA	850	44.5	10.5	12	880-4168
1.2V	AAA	850	44.5	10.5	12	119-1555
1.2V	AAA	1000	44.5	10.5	12	119-1556
1.2V	AA	1300	50.5	14.5	28	167-8338
1.2V	AA	2000	50.5	14.5	28	129-6442
1.2V	AA	2450	50.5	14.5	30	171-7099
1.2V	AA	2450	50.5	14.5	28.1	167-8336
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

Note: Supplied and priced in blister packs

386856

Can Style	Pack Qty	Order Code	Price Each/Per Pack
AAA-700	2	167-8337	
AAA-850	2	880-4168	
AAA-850	4	119-1555	
AAA-850	10	NEW 178-5687	
AAA-1000	4	119-1556	
AA-2000	4	167-8338	
AA-2000	4	129-6442	
AA-2000	10	NEW 178-5688	
AA-2450	2	171-7099	
AA-2500	4	167-8336	
C	2	880-4192	
D	2	880-4206	
PP3	1	880-4214	

## FOR MORE INFORMATION & CHOICE

### Product Search

Ni-MH Batteries



RoHS Compliant Items Only | Advanced Search

### 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 2850mAh, D cells up to 10000mAh, 9V block up to 250mAh
- Universally applicable

243193

Mfrs. List No.	Capacity (mAh)	Order Code	Price Each
AAA / Micro	1100	1	
C / Baby	4500	1	
D / Mono	10000	1	
9V / PP3	250	1	

### ReCyko+ Pre-Charged Ni-MH Batteries



178-1101

178-1102

178-1098



178-1099



178-1100

- Pre-charged and ready to use
- High capacity retention, 90% charged after 6 months, 85% after 12 months
- 4x longer lasting than alkaline batteries in digital cameras
- Environmentally friendly
- Recharge up to 1000 times
- Ideal for powering high drain devices such as digital cameras, MP3 players and R/C toys

Type	Voltage (V)	Capacity (mAh)	Dimensions (mm)			
			H	Dia.	W	D
AA	1.2	2100	50.5	14.5	-	-
AAA	1.2	850	44.5	10.5	-	-

601149

Description	Pack Qty	Order Code	Price / Pack
AA	4	178-1101	
AAA	4	178-1102	

**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		67 17	1/VH4000	863-6281

203304.405339

Price Each

Mfrs. List No.	Order Code
1/VH2100	868-3042
1/VH4000	863-6281

**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 18mm 3 cell: 215 x 18mm
Cycles	>350		

416081.406963

Price Each

Type	Order Code
2 Cell	101-1458
3 Cell	101-1459

**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 mAh	Dimensions Dia (mm)	Weight (g)	Mfrs. List No.	Order Code
3.6V	18	7.3 x 12 x 12mm	0.9	55802303013	167-4497

526294

Price Each

Mfrs. List No.	Order Code
55802303013	167-4497

**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 / continuous 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	55604303059	167-4498
3.6V	65	19 x 16 x 16mm	14	55707303059	167-4499

526295

Mfrs. List No.	Order Code	Price Each
55604303059	167-4498	
55707303059	167-4499	

**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	55750403012	167-4501
4.8V	500	70 x 49 x 8.5mm	56	55750504012	167-4503
4.8V	500	104 x 26.5 x 15.5mm	90	55750406013	167-4504

526296

Mfrs. List No.	Order Code	Price Each
55750403012	167-4501	
55750504012	167-4503	
55750406013	167-4504	

**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	2.156.8 x 6.8 x 2.15mm	0.28	55996101501	167-4505

526303

Mfrs. List No.	Order Code	Price Each
55996101501	167-4505	

**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	5122101501	167-4507

526304

Mfrs. List No.	Order Code	Price Each
5122101501	167-4507	

Over 500 000 products available online



551004

## Rechargeable Nickel Metal Hydride Batteries - continued

### 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

Vol- age (V)	Can Style	Nom Cap (Ah)	Charge Rate (14hrs) mA	Max. Dis- charge Rate mA	Dimensions L Dia.	Weight (g) Approx.	Solder Tags	Mfrs List No.	Order Code
1.2	N	0.5	50	1500	29.4 12	9.8	No	GP50NH	121-6091
1.2	2/3AAA	0.3	30	840	29 10.2	9	Yes	GP30AAAMHB	206-519
1.2	2/3AF	1.1	100	3300	28.5 17	21	Yes	GP110AFHHB	908-551
1.2	2/3AA	0.75	75	1800	30.5 14.6	13	Yes	GP75AAHBB	507-027
1.2	4/5AF	1.8	180	5400	43 17	32	Yes	GP181AFH	604-525
1.2	4/5AA	1.2	120	3600	43 14.4	22	Yes	GP121AAM	604-537
1.2	AAA	0.7	70	2100	44 10.5	13	Yes	GP70AAAHHB	125-0150
1.2	AAA	0.85	85	2550	45.5 10.5	14.5	No	GP85AAAHC	505-6810
1.2	AA	1.3	130	3600	49.5 14.5	25	No	GP130AAHC	604-549
1.2	AA	1.8	180	4500	50.5 14.5	27	No	GP180AAHC	206-490
1.2	AA	1.8	180	3600	50 14.6	25	Yes	GP180AAHBB	536-970
1.2	AA	2.4	240	7200	50 14.6	32	Yes	GP240AAHBB	150-0145
1.2	AF	2.5	250	6300	50 17	37	Yes	GP250AFH	604-550
1.2	7/5AF	3.7	370	10800	67 18	53	Yes	GP380AFHHB	174-701
1.2	18650	4.1	410	12300	64 18	58	No	GP410LAH1A1P	126-9672
1.2	18670	4.5	450	13500	64 18	60	No	GP450LAH1A1P	126-9673
1.2	Sub-C	3.3	330	6600	43 23	47	Yes	GP330SCHHB	132-1917
1.2	D	7	700	35000	61.5 34.2	155	Yes	GP700DH1A1P	126-9675
8.4	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.

230486

### Price Each

Can Style	Order Code
N	121-6091
2/3AAA	206-519
2/3AF	908-551
2/3AA	507-027
4/5AF	604-525
4/5AA	604-537
AAA	125-0150
AAA	505-6810
AA	604-549
AA	206-490
AA	536-970
AA	150-0145
AF	604-550
7/5AF	174-701
18650	126-9672
18670	126-9673
Sub-C	132-1917
D	126-9675
PP3	206-477

### Rechargeable Ni-MH Button Cell



RTC 6



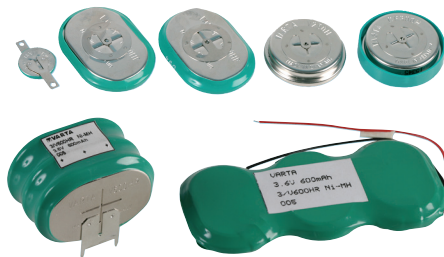
- Optimized for low discharge currents
- Cycle life: extended product lifetime of more than 1000 cycles (IEC)
- Low self discharge
- Overcharge capability
- Real Time Clock back up, especially in very small footprints & rechargeable technology
- Smaller than the current solutions such as CR2032
- 6mm diameter compared with the CR2032 diameter of 20mm
- Applications - PDA, UMPC, Navigation, Smart Phone
- Real Time Clock back up

Type	Voltage	Capacity	Dimensions (mm) H Dia.	Weight (g) Approx.	Order Code
RTC 6	1.2V	6.2mAh	2.15 6.8	0.28	177-3468

Mfrs. List No.	Order Code
55997101501	177-3468

Price Each

### 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)	Standard Charge (14-16 Hrs)	Trickle Charge	Max Discharge Rate	Dimensions H W/Dia. L	Weight (g) Approx.	Mfrs. List No.	Order Code
1.2	70	6.5	1.95	130	6 15.5	—	55707201013	508-8264
1.2	240	24	7.2	480	6.7 25.1	—	1/V250H	863-6290
1.2	460	45	14	2250	24.1 34.1 5.4	14.5	55945201053	351-9545
1.2	580	58	17.5	3000	24.1 34.1 6.5	14.5	55960201012	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 3/V600HR Stack	108-3710
3.6	580	58	5.8	3000	8.5	74	45 3/V600HR Wire	108-3711

230483.258256

### Price Each

Mfrs. List No.	Order Code
55707201013	508-8264
1/V250H	863-6290
55945201053	351-9545
55960201012	390-7247
1/CP300H	863-6303
3/V600HR Stack	108-3710
<b>Polarised PCB</b>	
3/V600HR Flat	108-3711
<b>75mm Wire</b>	

### Rechargeable Nickel Metal Hydride Memory Backup



MBU 20 cells are designed specifically for products requiring low discharge currents as used in most Memory and all RTC backup applications. The MBU 20 has low internal resistance and is suited for high discharge operation up to 3 CA and more for Memory Back up with higher currents and feeding of DC/DC converters to generate 3V from 1.2V Battery.

#### Applications:

- Notebooks with CR2032
- Netbooks
- UMPC (ultra mobile personal computer)
- PND (personal navigation device)
- Smartphones
- Portable Industrial Scanners
- Bar code readers

Mfrs. List No.	Nominal Voltage (V)	Typical Capacity mAh	Dimensions H x Dia (mm)	Weight (g)	Order Code
55803101501	1.2V	18mAh	2.3 x 11.5mm	0.9	177-7566

553270

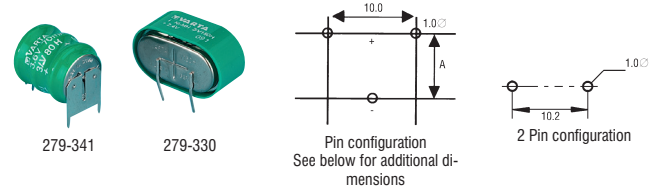
Mfrs. Price Each

List No.	Order Code
55803101501	177-7566

### PCB Mounting



#### NiMH MemPac Memory Protection Range



- 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

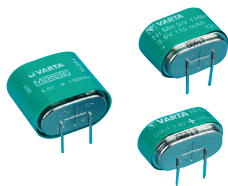
Voltage	Nom. Cap.mAh	Charge Cyclic		Max. Discharge Rate mA	Dimensions			Weight (g)	Mftrs. List No.	Order Code
		(14hrs)	Standby mA		H	W/Dia.	A			
V1.2	150	14	4.2	220	5.9	14.1	6.35	6.2	55615201940	863-968
V2.4	80	7	2.1	120	12	16.5		8.3	55608602059	854-657
V1.2	150	14	4.2	220	11.9	25.6	12.8	12.7	55615602940	279-330
V2.4	15	1.4	0.45	22	6.7	12	7.4	2.2	55602302012	863-956
V2.4	200	20	6	300	14	15	15.5	17	55620302059	351-9569
V2.4	250	24	7.2	480	26	26	14	22	55625602059	351-9582
V3.6	12	1.4	0.45	22	10.5	12	10.1	3.3	55602303013	524-864
V3.6	80	7	2.1	120	18.3	16.5	19.1	12.5	55608303059	279-341
V3.6	150	14	4.2	220	18	15.3	18.8	19	55615603940	279-353
V3.6	200	20	6	300	14	15	23	24	55620303059	351-9570
V3.6	250	24	7.2	480	26	26	20.5	33	55625603059	351-9594
V4.8	150	14	4.2	220	24	15.3	24.8	25.6	55615604940	863-970
V6	150	14	4.2	220	30	15.3	30.8	32.2	55615605940	863-981
V6	300	28	8.4	560	44.5		42.4	61.5	55630605800	863-993

230487

Price Each

Voltage	Capacity mAh	Order Code
V1.2	150	863-968
V2.4	80	854-657
V1.2	150	279-330
V2.4	15	863-956
V2.4	200	351-9569
V2.4	250	351-9582
V3.6	12	524-864
V3.6	80	279-341
V3.6	150	279-353
V3.6	200	351-9570
V3.6	250	351-9594
V4.8	150	863-970
V6	150	863-981
V6	300	863-993

**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.	Mftrs. List No.	Order Code
2.4	110mAh	12	55711602059	390-7211
3.6	110mAh	18	55711603800	390-7223
4.8	110mAh	24	55711604800	390-7235

233552

Price Each

Voltage	Order Code
2.4V	390-7211
3.6V	390-7223
4.8V	390-7235

**Ruggedised Mempac 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 atmospheres
- Ideally suited for direct mounting on PCBs

Voltage	Capacity mAh	Dimensions		Weight (g) Approx.	Mftrs. List No.	Order Code	
		H	L	W			
2.4V	150	16	16	17	16	55615702012	434-3712
3.6V	80	10.0	16	40	15	55608703012	305-5930
3.6V	150	16	22.2	40.3	21	55615703012	305-5942

203233

Price Each

Mftrs. List No.	Order Code
55615702012	434-3712
55608703012	305-5930
55615703012	305-5942

**Nickel Cadmium / Nickel Metal Hydride Chargers**

**NiMH/NiCD Smart Charger PSCH30**



A compact smart charger offering flexibility to charge 8 to 15 cells. O/P can be switched to charge at 0.9A or 1.8A.

- Universal 90-264V AC input. (IEC320 C14 inlet)
- Auto detect to charge 8 to 15 NiMH or NiCD cells in series
- Switch selectable charge current
- Auto cut off when batteries are fully charged
- LED charge status indicator
- Battery over temp protection (thermal sensor supplied, optional use)
- 4 pin DIN connector
- Max O/P power 32W
- Compact size 120mmx 60mm x 38mm
- Meets EN60335-2-29 & EN60335-1
- CE Marked

Input Voltage	90-264VAC
Input Current	2A Max.
Input Frequency	47-63Hz
Safety Ground Leakage Current	<0.5mA
Output Voltage	Varies to charge 9.6V to 18V DC battery pack
Charging Current	500mA to 1.8A (output can be switched to charge at 0.9A or 1.8A)
Over Voltage Protection	Sense level 24V, OVP at 27V max
Short Circuit Protection	Short circuit with auto recovery
Efficiency	75% minimum at full load and 115VAC input
Operating Temperature	0°C to 40°C
Safety	UL/cUL1310 Class 2, EN60335-2-29:2004, EN60335-1, CE
EMV/EMC	CISPR22 'B', FCC Part 15 'B', EN55022 'B'

553269

Price Each

Mftrs. List No.	Order Code
PSCH30	177-5040

**NiMH/NiCD Smart Charger PSCH15**



A compact smart charger offering flexibility to charge 2-12 cells. Should only be used to charge NiMH or NiCAD batteries with a capacity of more than 1000mHA.

- Universal 90-264V AC input. (IEC320 C8 inlet)
- Auto detect to charge 2 to 12 NiMH or NiCD cells in series
- Auto cut off when batteries are fully charged
- LED charge status indicator
- 2.5mm barrel connector.
- Max O/P power 15W
- Compact size 96mm x 44mm x 30mm
- Meets EN60335-2-29 & EN60335-1
- CE Marked

Input Voltage	90-264VAC
Input Current	1A Max.
Input Frequency	47-63Hz
Safety Ground Leakage Current	<0.5mA
Output Voltage	Varies to charge 2.4V to 14.4V DC battery pack
Charging Current	500mA to 1A
Over Voltage Protection	Sense level 18V, OVP at 24V max.
Short Circuit Protection	Short circuit with auto recovery
Efficiency	75% minimum at full load and 115VAC input
Operating Temperature	0°C to 40°C
Safety	UL/cUL1310 Class 2, EN60335-2-29:2004, EN60335-1, CE
EMV/EMC	CISPR22 'B', FCC Part 15 'B', EN55022 'B'

553246

Price Each

Mftrs. List No.	Order Code
PSCH15	177-5039

**NiCd/NiMH Plug-in Charger Basic 4 Plus**



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

- 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

## Nickel Cadmium / Nickel Metal Hydride Chargers - continued

### NiCd/NiMH Plug-in Charger - continued

#### Basic 4 Plus - continued

Battery Type NiCd / NiMH	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)	Price Each
AAA	170-1000	50	4hrs 50mins - 28hrs	450490
AA	700-2700	150	6hrs 30mins - 25hrs 15mins	
9V	120-250	15	11hrs 15mins - 23hrs 20mins	
Mfrs. List No.	Order Code			
Basic 4 Plus	5107343/UK		129-4240	

### 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 NiCd / NiMH	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)	Price Each
AAA	170-1000	50	4hrs 50mins - 28hrs	450493
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	
Mfrs. List No.	Order Code			
Basic 5 Plus	5207303/UK		129-4241	

### Photocam III Plug-In Fast Charger



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

Battery Type UK Version	Capacity (mAh)	Charging Current (mA)	Charge Time	Price Each
AA NiMH	700-2100	400	2 Hrs - 6 Hrs	386194.408076
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	
Description	Mfrs. List No.	Order Code		
Photocam III UK	5007033/UK	128-3929		

### 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, -ΔV 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 NiCd / NiMH	Capacity (mAh)	Charging Current (mA)	Trickle Charge Current (mA)	Charge Time (Hrs)	Price Each
AAA	250-1000	500	50	35mins - 2hrs 25mins	450168
AA	700-2700	500	50	1hr 40mins - 6hrs 30mins	
9V	120-250	15	N/A	11hrs 10mins - 23hrs 20mins	
Mfrs. List No.	Order Code				
Powerline 4 Mobile	5707063/UK		129-4238		

### Digispeed 4 Ultra +

#### NiCd / NiMH Ultra Fast Desktop Charger



- Designed for rapid charging of 1-4 AA/AAA NiCd/NiMH cells
- Safety timer
- Fan cooling technology for optimum battery performance
- Selectable High Speed and Fast Charge Currents via switch
- Cell temperature control function

- Individual charging supervision of each cell
- LED charging status indicator for each cell
- Faulty cell detection
- Trickle charge keeps cells topped up after fast charge
- 100-240V External AC Adaptor for mains use
- Supplied with 4 x High Capacity NiMH AA cells
- Protected against reverse polarity
- CE Marked
- 3 year manufacturer's warranty

#### Battery Charging Times for typical NiMH Cell Capacities:-

Battery Type	Capacity (mAh)	Charging Current (mA)	Charge Time (mins approx.)
AAA	550 - 1100	1100	35 - 75
		550	75 - 145
AA	1200 - 2850	4400	20 - 75
		2200	65 - 90

Mfrs. List No.	Order Code	Price Each
5707153/UK	176-5323	

### Energy 4 Speed Charger Set UK

#### Intelligent Fast Charger



- Intelligent Charger for NiCd/NiMH cells
- Charges 1- 4 AA or AAA cells
- 100-240VAC UK Plugtop Power Supply for worldwide use
- Selectable Fast Charge or Standard Charge
- Individual monitoring of each cell being

- charged
- Cell temperature monitoring
- Microprocessor controlled charging, utilising delta peak charge termination
- Trickle charge after fast charge
- Faulty cell detection
- Supplied with 12VDC car adaptor for mobile use
- Safety Timer
- Supplied with 4 x High Capacity NiMH AA batteries
- LED charge status indication for each cell

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 See inside front cover

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**Battery Charging Times for typical NiMH Cell Capacities:-**

Battery Type	Charge Current (mA)	Nominal Capacity (mAh)	Charge Time (mins approx.)
<b>Fast Charge</b>			
AAA	850	550 - 1000	45 - 85
AA	2100	1300 - 2700	45 - 90
<b>Standard Charge</b>			
AAA	350	550 - 1000	115 - 205
AA	850	1300 - 2700	110 - 230

548220

Mfrs. List No.	Order Code	Price Each
5707143/UK	176-5321	

**Energy 8 Plus UK**  
NiMH / NiCd Charger



Battery Type (NiCd / NiMH)	Capacity (mAh)	Charging Current (mA)	Charge Time
AA	1000	1300 - 2850	1.5hrs - 3.5hrs
AAA	400	550 - 1100	1.65hrs - 3.3hrs
C	1000	1500 - 5000	1.8hrs - 6hrs
D	1000	1800 - 10000	2.2hrs - 12hrs
9V Block	60	120 - 250	2.5hrs - 5hrs

- Multi-functional desk-top charger for both NiCd and NiMH cells
- Charges 1-6 AA, AAA, and/or 1-4 C, D cells and/or 1-2 9V blocks
- Microprocessor controlled charging, utilising delta peak techniques
- Faulty cell detection
- Pre charge function
- Individual supervision of each inserted cell
- Safety timer
- Cell temperature detection
- Reverse connection protection
- Auto-diagnostic of the inserted cell with automatic start of a refreshing process. Damaged cells will be detected and discharged before fast charging
- Supplied with mains plug which can be configured for use in UK or Europe
- 3 colour cell charge status indicators

610030

Mfrs. List No.	Order Code	Price Each
Energy 8 Plus UK	5207442/UK	182-3842

**Energy 16**

Intelligent NiCd / NiMH Charger



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

- High quality table top charger for up to 16 rechargeable batteries
- Charges 1-12 AA or AAA, 1-6 C or D, 1-4 9V / PP3 rechargeable batteries
- Automatic refresh / discharge function
- Microprocessor controlled super-fast charging with  $\Delta V$  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

386199.408078

Mfrs. List No.	Order Code	Price Each
Energy 16 UK	5607083	128-3924
Energy 16 Euro	ENERGY16 EU	125-3164

**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	Price Each
ACS 410P Traveller	4-10	10800mAh	125-3168	
ACS 110 Traveller	1-10	7200mAh	125-3175	
ACS 410 Traveller	4-10	5800mAh	134-1403	

**Plug In Type**  
Medical Approved - 8714 CC Series



L = 100, W = 51, H = 63

- 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

Input Charge Voltage	230V ac	24V at no load	12V at 400mA	Charge current Current limit	50mA to 400mA	Must be limited to 250mA <8.4V
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242749

Mfrs. List No.	Order Code	Price Each
UK Plug	8714CC UK	120-4135
Euro Plug	8714CC EURO	120-4136

**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

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

Price Each

Mfrs. List No.	Order Code	Price Each
3-6 Cells	2115000040	128-3207
5-10 Cells	2115000041	128-3208
10-20 Cells	2115000042	128-3209

386440.406550

Output Power	Order Code	Price Each
UK Mains Lead, 2m	152-2217	
Euro Mains Leads, 1m	120-4150	

**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

## Nickel Cadmium / Nickel Metal Hydride Chargers - continued

### 35W NiCd/NiMH Fast Chargers - continued

#### 2215 Series - Medical Approved - continued

	3 to 6 Cells	5 to 10 Cells	10 to 20 Cells
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

Price Each

Mfrs. List No.	Order Code	
3-6 Cells	2215000084	128-3210
5-10 Cells	2215000085	128-3211
10-20 Cells	2215000086	128-3213

Price Each

Output Power	Order Code	
UK Mains Lead, 2m	152-2217	
Euro Mains Leads, 1m	120-4150	

### 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		

Price Each

Description	Mfrs. List No.	Order Code	
3-6 Cells	2415000051	119-6530	
6-12 Cells	2415000052	119-6531	
12-25 Cells	2415000053	119-6532	

434377.434373

Price Each

Output Power	Order Code	
UK Mains Lead, 2m	152-2217	
Euro Mains Lead, 1m	120-4150	

## Nickel Metal Hydride Chargers

### ReCyko+ PowerBank Universal Charger



- For all sizes of rechargeable batteries (not included)
- Universal for household use
- Automatic charging current selection
- Two charging channels, can charge 2 or 4 NiMH AA, AAA, C or D including ReCyko range
- Additional charging slot for 1 or 2 NiMH 9V batteries
- 3 LED indicators
- 100-240V AC for worldwide use



Input Voltage	240V ac 50Hz			
Charging Time	AAA	C	D	9V
AA				
1300mAh - 5hrs	600mAh - 5hrs	2200mAh - 5hrs	2200mAh - 5hrs	170mAh - 16hrs
160mAh - 8hrs	650mAh - 7hrs	3500mAh - 10hrs	4500mAh - 10hrs	
1800mAh - 9hrs	700mAh - 7.5hrs	4000mAh - 12hrs	7000mAh - 16hrs	
2000 series - 9.5hrs	800mAh - 8.5hrs		9000mAh - 21hrs	
2100 series - 10hrs	850mAh - 9hrs			
2200 series - 10.5hrs				
2300 series - 11hrs				
Charging Current	260mA	120mA	440mA	560mA
AA	AAA	C	D	9V
260mA	120mA	440mA	560mA	14mA
Output Voltage				
AA	AAA	C	D	9V
2 x 2.8V DC				2 x 9V DC
Dimensions	178 x 97 x 57mm			

601168

Mfrs. List No.	Order Code	Price Each
PB19BSR-C1	178-1103	
UK to Euro Travel Adaptor	136-7058	

### ReCyko+ NiMH+4XAA Universal Charger



Input Voltage	100 - 240V ac 50 / 60Hz
Charging Time	AA/ AAA x2 - 1hr 50mins AA/ AAA x4 - 3hr 45mins
Charging Current	2x AA 1150mA 4x AA 575mA 2x AAA 475mA 4x AAA 235mA
Trickle Current	AA 1x-4x 102mA AAA 1x-4x 42mA



- Charges 1-4 Ni-MH AAA or AA cells
- Up to 2 hours charging time
- 3 colour LED charge status indicator
- 4 individual battery charging channels
- -ΔV charging and temperature sensor
- Safety cut out
- Battery ejector system
- Alkaline or bad battery detection
- 100 - 240V ac for worldwide use
- Supplied with 4 x 2100mAh AA ReCyko+ batteries

600990

Mfrs. List No.	Order Code	Price Each
GPAP05BSE210B-UW4	178-1097	
UK to Euro Travel Adaptor	136-7058	

### ReCyko+ NiMH Plug-in Battery Charger



Input Voltage	230V ac, 50Hz
Charge Time	AA 2050mAh - 10hrs AAA 820mAh - 10hrs
Charging Current	AA 220mA AAA 100mA
Output Voltage	1.2V dc
Dimensions (HxWxD)	112x45x35mm



- Supplied complete with 2x pre-charged AAA Ni-MH batteries (850mAh)
- Always plugged in for instant energy
- Charges 2x AA or AAA NiMH batteries
- Recyko+ batteries retain 85% capacity after 12 months
- LED charging indicators
- Up to 1,000 cycles

600989

Order Code	Price Each
178-1096	

### ReCyko+ NiMH Plug-in Battery Charger



Input Voltage	230V ac, 50Hz
Charge Time	AA 2050mAh - 16hrs AAA 820mAh - 10hrs
Charging Current	AA 180mA AAA 80mA
Output Voltage	1.2V dc
Dimensions (HxWxD)	110x74x35mm



- Supplied complete with 4x pre-charged AA Ni-MH batteries (2100mAh)
- Always plugged in for instant energy
- Charges 2 or 4xAA/AAA NiMH batteries
- Recyko+ batteries retain 85% capacity after 12 months
- LED charging indicators
- Up to 1,000 cycles

600987

Order Code	Price Each
178-1095	

### PowerBank ReCyko+ Ni-MH Travel Charger



Technical Data  
 Input 100-240Vac 50/60Hz  
 Charge Time AA - 1300mAh - 2hrs 40mins  
 AA - 2100mAh - 4hrs 10mins  
 AA - 2700mAh - 5hrs 10mins  
 AAA - 600mAh - 1hr  
 AAA - 800mAh - 1hr 30mins  
 AAA - 1000mAh - 2hrs

Technical Data  
 Charging Current 600mA  
 Dimensions (HxWxD) 64x75x37mm

553276

Price Each

Mfrs. List No.	Order Code
PB540WP210B-C4	177-9013

**Ni-MH Battery Charger**

**DURACELL**



- 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

Price Each

Order Code

110-1340

**PowerBank S360 Continuous NiMH Battery Charger**



Technical Data  
 Input Voltage 230V ac, 50Hz  
 Charge Time AA 2700mAh - 15.5hrs  
 AA 1800mAh - 11hrs  
 AAA 1000mAh - 11.5hrs  
 AAA 600mAh - 7hrs  
 AA 200mA  
 AAA 100mA  
 Output Voltage 1.4V dc  
 Dimensions (HxWxD) 105x44x36mm

- Supplied complete with 2xAA Ni-MH batteries (1800mAh)
- Always plugged in for instant energy
- Charges 2x AA/AAA NiMH batteries
- LED charging indicators
- Up to 1,000 cycles

553275

Price Each

Mfrs. List No.	Order Code
PB360BSW180-C2	177-9012

**PowerBank S350 Continuous NiMH Battery Charger**



- Supplied complete with 4xAA Ni-MH batteries (1800mAh)
- Always plugged in for instant energy
- Charges 2 or 4xAA/AAA NiMH batteries
- LED charging indicators
- Up to 1,000 cycles

Technical Data  
 Input Voltage 230V ac, 50Hz  
 Charge Time AA 2700mAh - 15.5hrs  
 AA 1800mAh - 11hrs  
 AAA 1000mAh - 11.5hrs  
 AAA 600mAh - 7hrs  
 AA 200mA  
 AAA 100mA  
 Output Voltage 2.8V dc  
 Dimensions (HxWxD) 105x44x48mm

553274

Mfrs. List No.	Order Code	Price Each
PB350BSW180-C4	177-9010	

**NiMH Battery Charger with Night Light Function**



Technical Data  
 Input Voltage 230V ac, 50Hz  
 Charge Time AA 1900mAh - 21hrs  
 AA 1600mAh - 16hrs  
 AAA 800mAh - 16hrs  
 AAA 700mAh - 14hrs  
 9V 170mAh - 16hrs  
 AA 130mA  
 AAA 70mA  
 9V 17mA  
 AA/AAA - 2.8V dc  
 9V - 9V dc  
 130x75x47mm

- Supplied complete with 4xAA Ni-MH batteries (1800mAh)
- Charges 2 or 4xAA/AAA or 1/2x 9V NiMH batteries
- Night light function
- LED charging indicators
- Up to 1,000 cycles

553273

Price Each

Mfrs. List No.	Order Code
PB11BS180-C4	177-9009

**PowerBank M520 Ni-MH Charger**



Technical Data  
 Input 100-240Vac 50/60Hz  
 Charge Time 2x AA - 1800mAh - 2hrs  
 2x AA - 2700mAh - 3hrs  
 4x AA - 1800mAh - 4hrs 10mins  
 4x AA - 2700mAh - 6hrs  
 2xAAA - 600mAh - 1hr 20mins  
 2xAAA - 1000mAh - 2hrs 10mins  
 2xAA 1050mA, 4x AA 525mA  
 2xAAA - 525mA  
 Charging Current 108 x 6 x 29mm  
 Dimensions (HxWxD)

553272

Price Each

Mfrs. List No.	Order Code
PB520BS250SA-C4	177-9008

**PowerBank Smart 2 Ni-Cad/NiMH Charger**



Technical Data  
 Input Voltage 100-240V ac, 50/60Hz  
 Charge Time AA Ni-MH 2100mAh - 1hr 5mins  
 AA Ni-MH 1800mAh - 1hr  
 AAA Ni-MH 800mAh - 48mins  
 AAA Ni-MH 750mAh - 45mins  
 AA Ni-Cad 1000mAh - 1hr 12mins  
 AA Ni-Cad 700mAh - 50mins  
 AAA Ni-Cad 300mAh - 54mins  
 AA Ni-MH 2000mA, AAA Ni-MH 1000mA  
 AA Ni-Cad 1000mA, AAA Ni-Cad 400mA  
 AA Ni-MH 80mA, AAA Ni-MH 40mA  
 AA Ni-Cad 40mA, AAA Ni-Cad 20mA  
 Charging Current 12V dc  
 Trickle Charge Current 119.5 x 85 x 31.5mm  
 Output Voltage  
 Dimensions (HxWxD)

- Supplied complete with 4xAA Ni-MH batteries (2500mAh)
- Charges 1 to 4xAA/AAA Ni-Cad or Ni-MH in approximately 1 hour
- Individual smart charging channels
- Individual safety termination (4x voltage sensor, 4x temperature sensor, 4x safety timer)
- 4 LED charging indicators
- 100-240V ac for worldwide use
- Up to 1,000 cycles
- Alkaline and damaged battery protection
- Trickle charge after full charge

553271

Price Each

Mfrs. List No.	Order Code
PB14BS250SA-C4	177-9007

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## Nickel Metal Hydride Chargers - continued

### Ni-MH 1 Hour Fast Charger

#### DURACELL



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

- Supplied complete with 4xAA Ni-MH batteries (2300mAh)
- Super fast charging of 1 to 4xAA 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 (4xAA) 1.4V dc 2A Ni-MH (4xAAA) 1.4V dc 1A		

419262

Price Each

Description	Order Code
UK Version	110-1338

### Ni-MH Compact Travel Charger



- 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 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)

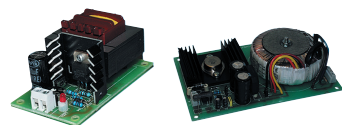
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Price Each

Order Code
167-8340

## Lead Acid Chargers

### Non-Managed Chargers



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 ±10%, 50Hz	230V ac ±10%, 50Hz
LED Indicators	Power	None
Thermal Fuse	No	No
Size	75x45x40mm	160x100x45mm
Weight	0.2kg	0.8kg

244400

Price Each

Mfrs. List No.	Order Code
SLA250PCB12V	119-7522
SLA1500PCB6/12V	119-7524

## REACH - SVHCs



We've checked over 200,000 products for Substances of Very High Concern under REACH and are continuing to check more every day. Easily identify these products online and access supporting safety datasheets when you see this logo. Visit [www.element14.com](http://www.element14.com) to stay up-to-date.

### 6V/12V Constant Voltage



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

- 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

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.

Battery voltage	12V	Battery capacity (suitability)	1.2 to 4.0Ah
Output current	300mA	Input voltage	230V (+ 10%)
		Indication	Power On

230509

Price Each

Plug-In	Order Code
12V, UK	119-7531
12V, Euro	119-7532

### Plug-in Charger for Lead Acid Rechargeable Batteries



#### ALCS 2-24A



- Trickle charge after full charge
- Short-circuit and reverse polarity protection
- Supplied with crocodile clip connectors
- 3 years manufacturers warranty

- 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

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

Price Each

Mfrs. List No.	Order Code
ALCS2-24A UK	129-4244
ALCS2-24A Euro	120-5745

### 6-24V Desktop Lead Acid Battery Chargers



#### ALCT 6-24



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
<b>ALCT6-24/1</b>				
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
<b>ALCT6-24/2</b>				
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

Price Each

Mfrs. List No.	Order Code
ALCT6-24/1 UK	129-5660
ALCT6-24/1 Euro	128-9966
ALCT6-24/2 UK	129-4245
ALCT6-24/2 Euro	129-4247

### 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

Price Each

Mfrs.List No.	Order Code
ALCT 12-3 UK	129-4248
ALCT 12-3 Euro	133-7203

### 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

Price Each

Mfrs. List No.	Order Code
ALCT12-4	134-4741

### 6, 12 or 24V Switch Mode Chargers

2240 Series - Medical Approved



L = 90, W = 45, H = 32

- Mascot's 3 step charging system
- Small and lightweight
- Universal voltage input
- Approved to EN 60601 for medical applications
- Reverse polarity and short circuit proof
- Supplied with 2.1mm and 2.5mm loose DC contacts
- UL listed (UL2601-1 Medical)

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
Weight	115g
<b>LED Indication</b>	
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

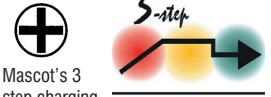
Mfrs. List No.	Order Code	Price Each
6V 1.3A	2240000054	120-4137
12V 1A	2240000055	120-4138
24V 0.5A	2240000056	120-4139
<b>Black Mains Leads</b>	Length	
UK Plug	2m	152-2217
Euro Plug	1m	120-4150

### 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

	12V Charger	24V Charger
Charge current	4A	2A
Battery capacity (suitability)	16 to 100 Ah	8 to 50 Ah
Input voltage	90 - 264V AC	
Efficiency	<80%	
Output ripple	100mV p-p	
Constant voltage timer	2 Hours ± 30 min	
Operating temperature range	-10 to 40°C	
Output lead	With Battery clips	
Weight	350g	
<b>LED Indication</b>		
Red: Constant Current boost	4A	2A
Yellow: Constant voltage timer	14.7V	29.4V
Green: Constant Voltage float	13.8V	27.6V

242530

Price Each

Mfrs. List No.	Order Code
12V Charger	2040 12V 4A 120-4124
24V Charger	2040 24V 2A 120-4125
<b>Black Mains Leads</b>	Length
UK Plug	2m 119-6440

### 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

Price Each

Mfrs. List No.	Order Code
300mA 6V UK	YCP03A6 120-1981
300mA 6V Euro	YCP03A6EUR 120-1982
300mA 12V UK	YCP03A12 120-1983
300mA 12V Euro	YCP03A12EUR 120-1984
600mA 6V UK	YCP06A6 120-1985
600mA 12V UK	YCP06A12 120-1987
600mA 12V Euro	YCP06A12EUR 120-1988

### 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

## Lead Acid Chargers - continued

### Bench Charger - continued

#### 2044 Series - continued

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	<b>LED Indication</b>	
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

#### Price Each

Mfrs. List No.	Order Code
2044 12VUK	120-4132

### Bench Charger

#### 2045 Series



- 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



L = 215, W = 186, H = 63.5

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

<b>LED Indication</b>	
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

#### Price Each

Mfrs. List No.	Order Code
12V 20A UK	2045000045
24V 10A UK	2045000047
24V 10A Euro	2045000048

### 12V Lead Acid Desktop Battery Chargers



- 3 stage control (Fast/Normal/Float)
- Charging currents of 2A-50A
- Full charge with automatic shut-down
- 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

#### Technical Data:-

Charging Current	Input Voltage	Battery Capacity	Dimensions (HxWxD)	Weight (Kg)	Order Code
2.0A	100-240Vac (Auto)	6Ah-20Ah	38x62x120 mm	0.5	166-6329
4.0A	115-230Vac (Auto)	12Ah-40Ah	48x88x186 mm	0.8	166-6330
5.0A	115-230Vac (Auto)	15Ah-50Ah	48x88x186 mm	0.8	166-6331
8.0A	115-230Vac (Auto)	24Ah-80Ah	48x88x186 mm	0.8	166-6333
10.0A	115-230Vac (Auto)	30Ah-100Ah	48x88x186 mm	0.8	166-6334
12.0A	115-230Vac (Auto)	36Ah-120Ah	48x88x186 mm	0.8	166-6335
25.0A	230Vac	75Ah-250Ah	76x186x275 mm	2.9	166-6336

471921.525313

#### Price Each

Charger Type	Order Code
12V 2.0A	166-6329
12V 4.0A	166-6330
12V 5.0A	166-6331
12V 8.0A	166-6333
12V 10.0A	166-6334
12V 12.0A	166-6335
12V 25.0A	166-6336

### 24V Lead Acid Desktop Battery Chargers



- 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



#### Technical Data:-

Charging Current	Input Voltage	Battery Capacity	Dimensions (HxWxD)	Weight (Kg)	Order Code
2.0A	100-240Vac (Auto)	6Ah-20Ah	37.4x61.6x120 mm	0.5	166-6338
4.0A	115-230Vac (Auto)	12Ah-40Ah	47.5x88x186 mm	0.8	166-6339
5.0A	115-230Vac (Auto)	15Ah-50Ah	47.5x88x186 mm	0.8	166-6340
7.0A	115-230Vac (Auto)	21Ah-70Ah	47.5x88x186 mm	0.8	166-6341
10.0A	230Vac	30Ah-100Ah	76x186x235 mm	2.4	166-6342
25.0A	230Vac	75Ah-250Ah	76x186x405 mm	4.9	166-6343

471924.525314

#### Price Each

Charger Type	Order Code
24V 2.0A	166-6338
24V 4.0A	166-6339
24V 5.0A	166-6340
24V 7.0A	166-6341
24V 10.0A	166-6342
24V 25.0A	166-6343

### Battery Balancer



Used to balance the voltage of pairs of batteries during charging to improve performance and extend battery life. Use of the CEQ12 prevents the normal mismatch of one battery being under charged and the other over-charged. This results in the build up of sulphate in the undercharged battery and drying of the electrolyte in the overcharged battery. Can be used with all types of 12 Volt battery, e.g. AGM, GEL, Flooded, Deep Cycle, Marine etc



545065

Mfrs. List No.	Order Code	Price Each
CEQ12A	175-1957	

## 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

#### Price Each

Mfrs. List No.	Order Code
Energy Check	125-3173

### 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.	Price Each
List No.	Order Code
Energy Check LCD	125-3176

**Battery Tester**  
KFZ Power Check



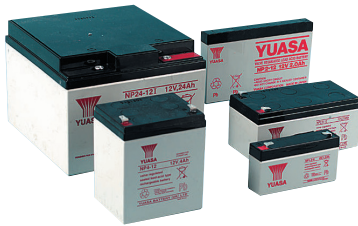
- For testing the alternator charging circuit
- Suitable for testing all 12 V motor vehicle batteries
- Capacity test
- Battery load test
- Monitors the charging process with unregulated charges
- Short-circuit resistant, incorrect polarity protection
- 3 years guarantee

243170

Mfrs.	Price Each
List No.	Order Code
KFZ - Power Check	416-9876

**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
<b>6 Volts</b>						
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
<b>12 Volts</b>						
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
2.3	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	Price Each
<b>6 Volts</b>		
1	146-534	
1.2	143-564	
2.8	279-377	
4	143-566	
7	152-245	
10	147-471	
12	174-774	
<b>12 Volts</b>		
1.2	147-472	
2	150-661	
2.1	279-389	
2.3	174-786	
2.8	279-390	
3.2	174-798	
4	174-804	
7	151-308	
12	149-449	
17	627-057	
18	174-816	
24*	145-408	
24*	521-681	
38*	145-409	
38*	521-693	
65*	147-475	
65*	521-700	

\*7 to 10 Year Standby life expectancy

Heavy Item, special delivery, conditions apply.

**REC10-12**



- Superb recovery from deep discharge
- Electrolyte suspension system
- Multipurpose: float or cyclic use
- Usable in any orientation (except continuous inverted)
- Superior energy density



REC10-12 utilises the latest advanced design oxygen recombination technology to produce the optimum design of sealed lead acid batteries.

Maximum Discharge Current (A)	Energy Storage Capacity 20hr (Ah)	Output Voltage (V)	Dimensions H W D (mm)	Tab Size (mm)	Weight (kg)	Mfrs. List No.	Order Code
40	10	12	115.5 151 65	7.9 x 6.35	3.4	REC10-12	179-9643

605106

Mfrs. List No.	Order Code	Price Each
REC10-12	179-9643	

**12 Volt Sealed Lead Acid**  
Deep Discharge, Cyclic



- Rechargeable maintenance-free lead acid batteries
- 500 charge/discharge cycles, twice as many as conventional batteries
- Ideally suited to applications including, Golf Trolleys, Mobility, Lawn Mowers, Toy Cars, Portable Electric Equipment, Communications

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
NP17-12	3.8	17	5.5	167 76 181	6.1	627-069
NP24-12	6	24	5.5	125 168 175	9	249-683
NP38-12	9.5	38	5.5	170 197 165	14.2	249-695

224341

Capacity Ah	Order Code	Price Each
17	627-069	
24	249-683	
38	249-695	

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## Rechargeable Lead Acid Batteries - continued

### 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.

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
<b>6 Volts</b>						
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
<b>12 Volts</b>						
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

Price Each

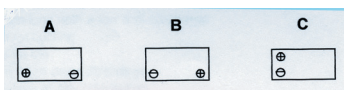
Capacity Ah	Order Code
<b>6 Volts</b>	
1.2	463-360
3.5	463-371
6.5	463-383
10	463-395
<b>12 Volts</b>	
1.2	463-401
2	463-413
3.5	463-425
6.5	463-437
10	463-449
16	463-450
25	463-462
30	463-474
40	463-486
65	463-498

**H** Heavy Item, special delivery, conditions apply.

### 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
<b>6 Volts</b>						
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
<b>12 Volts</b>						
BEG120075	7.5	1.5	99 65 151	2.5	C 187 Tab	508-5329

12 Volts	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
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. Price Each

List No.	Order Code
BEG060075	508-5305
BEG060120	508-5317
BEG120075	508-5329
BEG120120	508-5330
BEG120180	508-5342
BEG120260	508-5354
BEG120330	508-5366
BEG120440	508-5378
BEG120550	508-5380
BEG120700	508-5391

### 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 14.4V Output voltage 12V

Mfrs. List No.	Capacity 20hr. Rate (Ah)	Max. Load Current Approx. A	Dimensions H W L	Weight (kg) Approx.	Terminals	Order Code
GF12014YF	14	200	167 76 181	6.0	Screw 05	206-544
GF12025YG	25	400	180 132 197	11.1	Screw 06	206-568
GF12051Y1	51	400	190 175 278	21.8	A DIN72311	206-581

203228

Capacity Price Each

Ah	Order Code
14	206-544
25	206-568
51	206-581

### Cyclon Sealed Lead Acid Cells and Monoblocs



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

Price Each

Mftrs. List No. Order Code

Mftrs. List No.	Order Code
9810-0004	147-180
9860-0004	174-828
9800-0004	147-181
9850-0004	174-830
9820-0004	147-183

Mftrs. List No.	Order Code
9819-0012	427-3369
9809-0012	427-3370
9859-0012	427-3382
9819-0020	121-8977
9809-0020	121-8981
9859-0020	121-8982

**VRLA Batteries**

**Trickle Long-Life Series**



- This series was developed by studying and analyzing the factors which caused deterioration of conventional batteries.
- The safety and reliability of these batteries has been greatly improved through the adoption of flame-retardant resins.
- Applications include communication infrastructure, wind turbines, medical equipment and emergency lighting



Energy Storage (Ah)	Length	Dimensions (mm) Width	Height	Mftrs. List No.	Order Code	
6V	1.3	97	24	55	LC-R061R3P	176-9769
	3.4	134	34	66	LC-R063R4P	176-9770
	4.5	70	48	108	LC-R064R5P	176-9771
	7.2	151	34	100	LC-R067R2P	176-9772
	12	151	50	100	LC-R0612P	176-9773
	15	151	50	100	LC-R0615P	176-9774
12V	1.3	97	47.5	55	LC-R121R3PG	176-9775
	2.2	177	34	66	LC-R122R2PG	176-9776
	3.4	134	67	66	LC-R123R4PG	176-9778
	7.2	151	64.5	100	LC-R127R2PG	176-9779
	12	151	98	101.5	LC-RA1212PG	176-9780
	15	151	98	100	LC-RA1215P	176-9781
	33	195.6	130	180	LC-R1233P	176-9782

600718

Energy Storage (Ah) Price Each Order Code

Energy Storage (Ah)	Order Code
6V	
1.3	176-9769
3.4	176-9770
4.5	176-9771
7.2	176-9772
12	176-9773
15	176-9774
12V	
1.3	176-9775
2.2	176-9776
3.4	176-9778
7.2	176-9779
12	176-9780
15	176-9781
33	176-9782

**VRLA Batteries**

**Cycle Long-Life Series**



- This series was developed in an effort to reduce the number of battery replacements.
- This battery can be used as the main power supply for a variety of products, including electric cars, electric lawn mowers, medical equipment, golf-caddies etc.

Energy Storage (Ah)	Length	Dimensions (mm) Width	Depth	Mftrs. List No.	Order Code
12V	12	151	98	LC-CA1212P	176-9783
	15	151	98	LC-CA1215P	176-9784
	22	181	76	LC-XC1222P	176-9785
	28	165	125	LC-XC1228P	176-9786
	38	197	165	LC-XC1238P	176-9787

600985

Energy Storage (Ah) Price Each Order Code

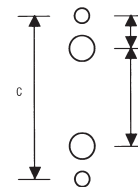
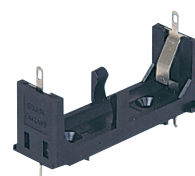
Energy Storage (Ah)	Order Code
12V	
12	176-9783
15	176-9784
22	176-9785
28	176-9786
38	176-9787

**Battery Holders**



**1/2AA, 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 (1/2AA PCB only)
- Chassis mounting solder tags accept snap-on terminals (2.8 0.5)
- Interlocking lugs allow multiple assemblies of the same holder (except 1/2AA)
- Manufactured in black filled nylon

Can Style	Dimensions			Drilling Pattern			Mftrs. List No.	Order Code
	W	H	D	A	B	C		
	38.1	28.2	71.0	16.0	35.6	29.5	BX0037	301-097
	30.25	26.7	59.1	11.9	31.8	55.6	BX0036	301-085
	17.5	25.0	60.3	11.9	33.0	56.8	BX0035	301-073
	13.5	17.1	52.4	10.5	27.9	48.9	BX0034	301-061

230515

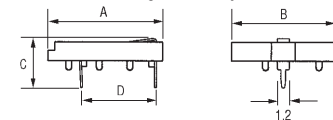
Can Style	Order Code	Price Each
	301-097	
	301-085	
	301-073	
	301-061	

**Coin Cell Holders**

**KEYSTONE**



- 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	2	28.35	22.76	8.50	20.50	676-469
20mm	1	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

Over 500 000 products available online



## Battery Holders - continued

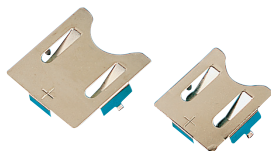
### Coin Cell Holders - continued

230516

Cell Dia.	Order Code	Price Each
12mm	302-9839	
12mm	908-630	
16mm	676-482	
20mm	676-469	
20mm	302-9827	
24mm	676-470	
24mm	302-9815	

### Coin Cell Retainer Clips

### KEYSTONE



- 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	Order Code	Price Per Pack
Cell Dia.		
12mm	908-642	
20mm	908-654	
23mm	908-666	

### Surface Mount Coin Cell Holders

### KEYSTONE

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

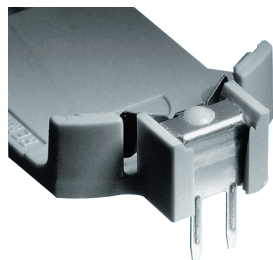
- Compatible with vacuum and mechanical pick and place machines
- Safe for soldering and reflow operations

203231

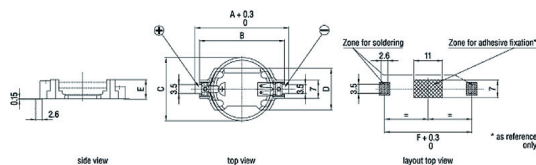
	Order Code	Price Each
Single Cell	128-2702	
Dual Cell	128-2703	

### Lithium Coin Battery Holders

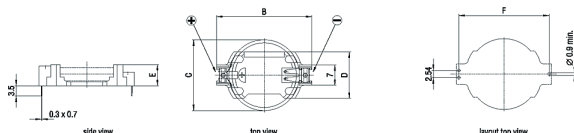
Surface Mount/Through Hole



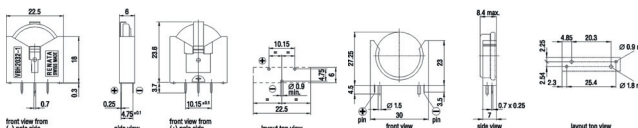
- Surface Mount (SMT) and Through Hole battery holders
- Designed for automatic 'pick and place' mounting
- Simple and fast replacement of battery
- Cell held firmly in position
- Clear separation of connections
- Heat resistant, glass fibre filled LCP/Flammability rating UL 94 V-0
- Short circuit and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



Model	Dimensions						Order Code
	A	B	C	D	E	F	
<b>SMT Battery Holders</b>							
SMTU 1225-1-LF	23.7	20.3	12.5	12.7	4.8	21.1	121-6353
SMTU 1632-1	27.7	24.3	16.0	14.5	5.4	25.1	508-5135
SMTU 2032-1-LF	32.0	28.5	20	16.1	5.4	29.3	121-6354
SMTU 2430-1-LF	36.5	33.0	24.5	16.1	4.9	33.8	121-6355
SMTU 2450N-1-LF	36.6	33.0	24.5	16.1	7.5	33.8	121-6356
SMTU 2477N-1-LF	36.7	33.0	24.5	16.1	10.3	33.8	121-6357

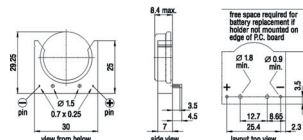


Model	Dimensions					Order Code
	B	C	D	E	F	
<b>Through Hole Battery Holders</b>						
HU 1632-1	24.3	16.0	14.5	5.2	22.7	508-5196
HU2032-LF	28.5	20	16.1	5.2	26.9	131-9749
HU 2450N-1-LF	33	24.5	16.1	7.3	31.5	121-6358



Vertical Battery Holder 121-6359

Vertical Battery Holder 121-6360



Horizontal Battery Holder 121-6361

337057

Type	Order Code	Price Each
<b>SMT Battery Holders</b>		
SMTU 1225-1-LF	121-6353	
SMTU 1632-1	508-5135	
SMTU 2032-1-LF	121-6354	
SMTU 2430-1-LF	121-6355	
SMTU 2450N-1-LF	121-6356	
SMTU 2477N-1-LF	121-6357	
<b>Through Hole Battery Holders</b>		
HU 1632-1	508-5196	
HU2032-LF	131-9749	
HU 2450N-1-LF	121-6358	
<b>Vertical Mount Holders</b>		
VBH2032-1-LF	121-6359	
NH5077-LF	121-6360	
NL5077-LF	121-6361	

### Aluminium Holders

### KEYSTONE

PCB and Chassis Mounting



- 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	Price Per Pack
AA (PCB)	128-2693	
2xAA (PCB)	128-2695	
AA (Solder)	128-2696	
2xAA (Solder)	128-2697	
C (Solder)	128-2698	

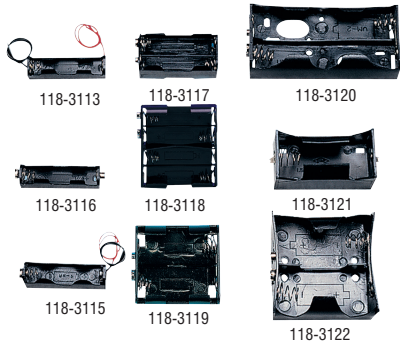
**FREE technical support**  
Our trained engineers are here to help!

See inside front cover

See inside front cover

[www.element14.com](http://www.element14.com)

**Single/Multicell**



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

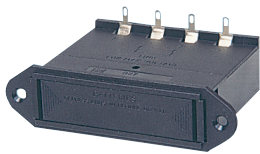
Can Style	Connection	W	D	H	Order Code
AA	Leads	56	16	13	118-3113
AA	Leads	58	25	17	118-3115
AA	Snap terminals	56	25	17	118-3116
AA	Snap terminals	60	30	28	118-3117
AA	Snap terminals	58	29	59	118-3118
C	Snap terminals	60	53	21	118-3119
C	Snap terminals	108	53	23	118-3120
D	Solder Tags	69	36	27	118-3121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

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

224348

Can Style	Order Code	Price Per Pack
AA	118-3113	
AA	118-3115	
AA	118-3116	
AA	118-3117	
AA	118-3118	
C	118-3119	
C	118-3120	
D	118-3121	
D	118-3122	

**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.

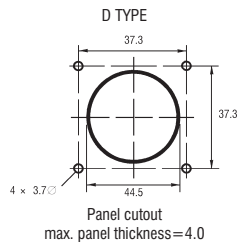
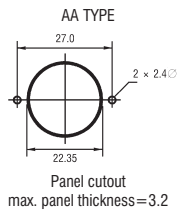
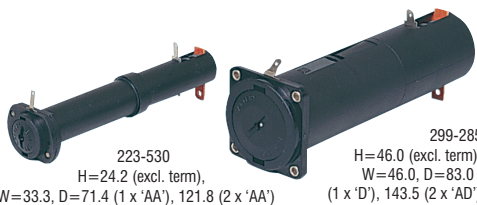
Depth behind panel=57.2  
 Panel cut-out=72 21.2,  
 Contact rating 20A  
 Contacts Nickel silver  
 Mfrs. List No. BX0027

Fixing centres=82.6 3.8 dia

224349

Order Code	Price Each
118-4194	

**Panel Mounting AA, D**



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 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	Price Each
1 AA	223-529	
2 AA	223-530	
1 D	908-629	
2 D	299-285	

**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)

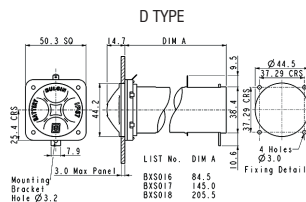
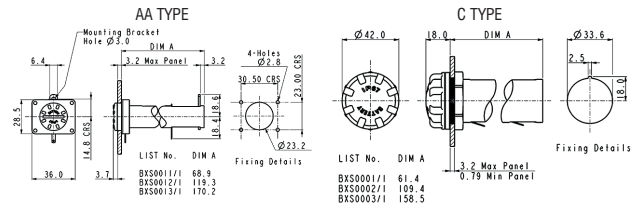
Max panel thickness=3.2, Panel cut out=33, Dia. (Bezel)=38.1

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

224351

Can Style	Order Code	Price Each
1 C	908-605	
2 C	908-617	

**Front Panel Sealed to IP67**



- Panel mounting battery holders for AA, C and D size cells
- Front panel sealing for IP67
- AA and D cells flange mounting from rear of panel with circular low profile face visible
- AA and D sizes have bayonet caps with finger grip, AA size also has coin slot
- C size is single hole mounting with screw on, finger grip cap
- All sizes supplied with sealing gasket and sealing grommets for flange mount screws

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

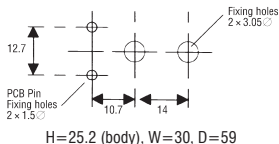
Mfrs List No: BXS011/1 = 4274015, BXS012/1 = 4274027, BXS001/1 = 4274039, BXS002/1 = 4274040, BXS017 = 4274064.

249606

Cell Size	Order Code	Price Each
AA	427-4015	
AA	427-4027	
C	427-4039	
C	427-4040	
D	427-4064	

## Battery Holders - continued

### 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 Contacts Nickel silver  
PCB pins 5A Mfrs. List No. BX0033

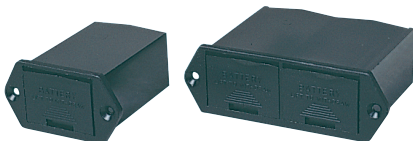
230521

Price Each

Order Code

301-103 ●

### 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 Nos: BX0023 = 145-359, BX0026 = 146-770

224353

Price Each

Order Code

118-4193 ●

146-770 ●

## Battery Connectors

### Snap-On



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

Price Per Pack

Type	Order Code
1	118-3123 ●
2	118-3124 ●

### 9V PCB Snap-On

### KEYSTONE



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

230529

5 Pairs Per Pack

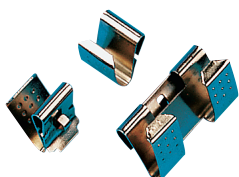
Price Per Pack

Order Code

723-988 ●

### Snap-On Contacts

### KEYSTONE



- 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

230530

5 Per Pack

Price Per Pack

Order Code

908-708 ●

908-710 ●

A/AA

165-0690 ●

302-9803 ●

### Snap-In Battery Clips

### KEYSTONE

PCB Mounting



- 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

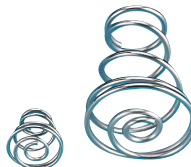
Price Per Pack

Order Code

908-721 ●

908-733 ●

### Spring Contacts



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

203241

10 Per Pack

Price Per Pack

Order Code

AA/A

326-0938

C/D

326-0940

## FREE technical support

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See inside front cover



[www.element14.com](http://www.element14.com)