

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.

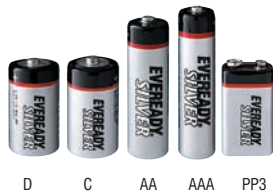
- Established and reliable battery technology
- 0% mercury and cadmium
- 3 year shelf life

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	3 x R12	(LxWxD) 67x22x67		107g	3R12R/1BP	101-8881

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Type	Pack Qty	Order Code	Price Each			
			1+	10+	25+	50+
AAA	4	101-8876				
AA	4	101-8877				
C	2	101-8878				
D	2	101-8879				
PP3	1	101-8880				
3 x R12	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) Approx.	Order Code
			L	Dia.		
1.5	AAA	540	44.5	10.5	9.7	131-9795
1.5	AA	1100	50.5	14.5	18	122-0702
1.5	C	3000	50	26.2	48	392-5500
1.5	D	5900	61.5	34.2	100	392-5511

Note: Supplied and priced in packs

234759

Can Style	Pack Qty	Order Code	Price Per Pack		
			1+	18+	72+
AAA	4	131-9795			
AA	4	122-0702			
C	2	392-5500			
D	2	392-5511			

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) Approx.	Mfrs. List No.	Order Code
			L	Dia.			
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	26.5x17.5	38	GP1604G-U1	501-9280
4.5	1289	3R12	67	62x22	115	GP312G-C1	501-9345

337173

Can Style	Pack Qty	Order Code	Price Per Pack			
			1+	10+	100+	500+
Blister						
AAA	4	501-9242				
AA	4	501-9254				
PP3	1	501-9280				
3R12	1	501-9345				
Bulk						
AAA	40	501-9291				
AA	40	501-9308				
C	24	501-9310				
D	20	501-9321				
PP3	10	501-9333				

Alkaline Batteries

Evolta 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

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

536555

Type	Pack Qty.	Order Code	Price Per Pack		
			1+	3+	12+
AAA	4	171-2514			
AA	4	171-2515			
C	2	171-2516			
D	2	171-2517			

Alkaline Batteries - continued

Alkaline Manganese - Duracell Plus Mercury Free

DURACELL



- 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

NEW

Voltage (V)	Can Style	Dia	Dimensions (mm)			Weight (g) Approx.
			H	W	D	
1.5	AAA	10.5	44.5	-	-	11
1.5	AA	14.5	50.5	-	-	24
1.5	C	26.2	50	-	-	69
1.5	D	34.2	61.5	-	-	139
9	PP3	-	48.5	26.5	17.5	45

643906

Can Style	Pack Qty.	Order Code	Price Per Pack			
			1+	3+	12+	25+
AAA	8	206-2016				
AA	8	206-2017				
AA	12	206-2012				
C	4	206-2018				
C	8	206-2013				
D	4	206-2019				
D	8	206-2014				
PP3	2	206-2020				
PP3	4	206-2015				

Ultimate Super Premium

Energizer



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

488642

Can Style	Pack Qty.	Mfrs. List No.	Order Code	Price Per Pack		
				1+	10+	25+
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			

Ultra + Alkaline

Energizer



- Blister packed
- Mercury and cadmium free
- Guaranteed against leakage
- 7 year shelf life (5 yrs PP3)
- Optimum performance

Voltage (V)	Can Style	Dimensions (mm)		Diameter	Weight (g) Approx.
		Length (max)	Diameter		
1.5	AAA	44.5	10.5	11	
1.5	AA	50.5	14.3	23	
1.5	C	50.5	26.2	66	
1.5	D	61.1	34.2	142	
9	PP3	48.4	26.2 x 16.7	46	
1.5	N	29.4	12	9	

Note: Supplied and priced in blister packs

234760

Ultra + Brand	Can Style	Pack Qty.	Order Code	Price Per Pack		
				1+	12+	48+
Ultra + Business Packs	AAA	4	392-5535			
	AAA	8	508-1531			
	AAA	12	167-8332			
	AA	4	392-5547			
	AA	8	508-1543			
	AA	12	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		
				1+	12+	48+
Energizer Brand	AAA	10	207-5720			
	AA	10	207-5721			
	C	20	100-0096			
	D	20	100-0097			
	PP3	20	100-0098			

Energizer Brand	Can Style	Qty.	Order Code	Price Per Pack		
				1+	10+	50+
Energizer Brand	N	1	279-249			

Super / Ultra Plus Alkaline

GPB



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)	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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Blister Packed	Can Style	Pack Qty.	Order Code	Price Per Pack		
				1+	10+	100+
Blister Packed	N Super	2	505-6949			
	AAA Ultra Plus	4	171-5540			
	AA Ultra Plus	4	171-5541			
	AA Ultra	12	144-0736			
	C Ultra	2	NEW 177-9014			
	D Ultra	2	NEW 177-9015			
Bulk Packed	PP3 Ultra	1	NEW 177-9016			

Bulk Packed	Can Style	Pack Qty.	Order Code	Price Per Pack		
				1+	10+	100+
Bulk Packed	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

DURACELL PROCELL



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

Voltage	Can Style	Capacity mAh	Max. Dimensions			Weight (g) Approx.	Mfrs. List No.	Order Code
			L	W	D			
1.5	AAALR03	1175	44.5	—	10.5	11	MN2400	249-816
1.5	AALR6	—	50.5	—	14.5	24	MN1500	249-828
1.5	CLR14	7750	50	—	26.2	67	MN1400	249-830
1.5	DLR20	18000	61.5	—	34.2	141	MN1300	249-841
9	PP36LR61	550	48.5	26.5	17.5	45	MN1604	249-853

Note: Supplied and priced in packs

230455

10 Per Pack		Mfrs.	Price Per Pack	
Can Style	List No.	Order Code	1+	
AAALR03	MN2400	249-816		
AALR6	MN1500	249-828		
CLR14	MN1400	249-830		
DLR20	MN1300	249-841		
PP36LR61	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)	Dimensions H x Dia. (mm)
AAA	1.5	1250	44.5 x 10.5
AA	1.5	2850	50.5 x 14.5
C	1.5	8350	50 x 26.2
D	1.5	20500	61.5 x 34.2
PP3	9	625	Dimensions H x W x D (mm) 48.5 x 26.5 x 17.5

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Type	Pack Qty	Order Code	Price Per Pack		
			1+	10+	50+
AAA	10	207-5711			
AA	10	207-5712			
C	12	152-0480			
D	12	152-0481			
PP3	12	152-0482			

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	12 V
GP27A	28	7.7	12 V
GP11A	16.5	10.3	6 V

230458

Mfrs. List No.	Order Code	Price Each					
		1+	50+	100+	250+	500+	1K+
GP23A	300-408						
GP27A	724-051						
GP11A	908-575						

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			Weight (g) Approx.	Mfrs. List No.	Order Code
			L	W	D			
12	—	13000	127	136.5	73	1.39	PC926	207-949

337968

Can Style	Mfrs. List No.	Order Code	Price Each			
			1+	12+	96+	1K+
—	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			Weight (g) Approx.	Mfrs. List No.	Order Code
			H	W	D			
6V	PJ996	26Ah	110	67	67	0.82kg	529 (PJ996)	434-0541

249142

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

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	C	D	PP3
Order Code	508-8100	508-8112	508-8124	508-8136

Can Style	Voltage	Capacity mAh	Dimensions L W/Dia. D	Weight (g) Approx.	Reference IEC	Order Code
AAA	1.5	1200	44.5 10.5	11	LR03	168-2906
AA	1.5	2600	50.5 14.5	23	LR6	508-8100
C	1.5	7800	50 26.2	61	LR14	508-8112
9V	9	550	48.5 26.5 17.5	46	6LR61	508-8136

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Order Code Price Per Pack

	Order Code	Price Per Pack
AAA Pack of 500	168-2906	
AA Pack of 500	508-8100	
C Pack of 200	508-8112	
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

NEW

Mfrs. List No.	Type	Voltage (V)	Dimensions (mm)		Pack Qty	Order Code
			Length	Dia.		
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	Price Per Pack
AA	500	173-8554	
AAA	500	173-8555	
C	80	173-8556	
D	85	173-8557	

Bulk Buy Alkaline Batteries - continued

Batteries



The EnerChip™ CBC012 and CBC050 parts are surface-mount, solid state, thin film, rechargeable energy storage devices rated at 12µAh and 50µAh at 3.8V.

The CBC3112 and CBC3150 EnerChip CC parts are the world's first Intelligent Thin Film Energy Storage Devices. Rated at 12 uAh and 50 uAh at 3.3V they are an integrated solution that provides backup energy storage and power management.

The CBC915 EnerChip Energy Processor converts and manages energy from various Energy Harvesting power sources.

- Semiconductor packages
- Eco-friendly - no toxic materials
- Rechargeable >5000 times
- Surface mount reflow tolerant
- Lasts the lifetime of the product

Specifications

- 1, 4, 12 and 50µAh devices
- Internal power management
- 3.3V or 3.8V output
- Wide supply range temperature -20°C to +70°C

Applications

- Real-time clock holdover
- Microcontroller backup
- NVRAM power
- Energy harvesting
- Wireless sensor power

Battery Capacity (mAh)	Battery Voltage (V)	Mfrs. List No.	Order Code
0.012	3.8	CBC012-D5C	206-1689
0.05	3.8	CBC050-M8C	206-1690
0.012	3.3	CBC3112-D7C	206-1691
0.05	3.3	CBC3150-D9C	206-1692

643905

Mfrs. List No.	Order Code	Price Each			
		1+	50+	10+	100+
Batteries					
CBC012-D5C	206-1689				
CBC050-M8C	206-1690				
CBC3112-D7C	206-1691				
CBC3150-D9C	206-1692				
Process Module					
CBC915-ACA	206-1693				

Lithium Battery

DURACELL



- 15 years of shelf life (from production date)
- 33% lighter than our ordinary Alkaline batteries
- Up to 7x more power *
- LiFeS2 Technology with spiral cell construction
- Better performance at extreme low temperatures (-20C) vs our ordinary Alkaline batteries

NEW

* in digital cameras vs. Duracell Plus Power alkaline AA. Results vary by device

Compared to Duracell alkaline it provides longer performance in medium and high drain devices and more intense power, like for example brighter flashlights for longer. If you are looking for the best performing battery from Duracell for your demanding devices chose Duracell Ultra Lithium!

Capacity (mAh)	Voltage (V)	Can Style	Dimensions (mm) Dia H	Weight (g) Approx.	Order Code
3000	1.5	AA	14.3 50.5	15	206-2022

Can Style	Pack Qty.	Order Code	Price Per Pack		
			1+	10+	25+ 50+
AA	4	206-2022			

643907

9 Volt Lithium Manganese

PP3 Can Style



- PP3 style lithium manganese battery
- Constructed in a robust ultrasonic welded, leak-proof canister
- Lasts 5 x longer than Alkaline whilst maintaining the same foot-print as it
- Recognised under the components programme of the Underwriters Laboratory Inc. (UL)
- Safety non-resettable shutdown mechanism should the battery be abused, i.e. overheated due to the short circuit
- Ideal for long rest 'intermittent' applications such as multimeters, smoke alarms and remote controls
- Not suitable for high current discharge
- Up to 10 years shelf life

H=48.2, W=26, D=16.8

Voltage (V)	Can Style	Equivalent	Capacity (mAh)	Weight (g) Approx.	Mfrs. List No.	Order Code
9	PP3	6LF22 or MN1604	1200	37	U9VL-J-P	207-5559

230462

Order Code	Price Each	
	1+	
207-5559		

Lithium Batteries

1.5 Volt Lithium Iron Disulphide

Ultimate Lithium



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

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

Operating Temperature -40°C to +60°C

Voltage (V)	Can Style	Typical Capacity (mAh)	Weight (g)
1.5	AA	3000	15
1.5	AAA	1250	8

488557

Order Code		Price Per Pack			
		1+	10+	25+	50+ 100+
AA 2	149-4849				
AA 4	149-4850				
AA 10	178-5686				
AAA 4	149-4852				
AAA 10	178-5685				

9 Volt Lithium-Manganese Dioxide



Safety Features:

- Positive Temperature Coefficient Switch (PTC)
- Burst Proof Venting Holes
- Capacity 800mAh
- Voltage 9V
- Shelf Life 10Yr
- Weight 33.9g
- Operating Temperature -40°C to +60°C

- Recommended for use in smoke alarms and professional audio devices
- Lasts up to 65% longer than Energizer standard alkaline 9V in smoke detectors
- Up to 10 year back-up battery in AC powered smoke detectors
- Up to 2X longer storage life vs. alkaline
- Lightweight (25% lighter than alkaline 9V)

610240

Pack Qty	Order Code	Price Per Pack	
		1+	25+
1	182-5609		
10	182-5610		

Lithium Coin Cells



- Non-rechargeable lithium coin cells
- Operating temperature -20°Cc to +70°C
- Applications include memory back up, watches, calculators, remote control key fobs

NEW

Capacity (mAh)	Size Code	Voltage (V)	Dimensions (mm) Diameter Height	Weight (kg)	Mfrs. List No.	Order Code
Standard						
25	1216	3	12.5 1.6	0.7	CR1216	206-5164
38	1220	3	12.5 2	0.8	CR1220	206-5165
50	1616	3	16 1.6	1.2	CR1616	206-5166
70	1620	3	16 2	1.3	CR1620	206-5167
75	2016	3	20 1.6	2	CR2016	206-5169
120	1632	3	16 3.2	2	CR1632	206-5168
150	2025	3	20 2.5	2.6	CR2025	206-5170
210	2032	3	20 3.2	3.2	CR2032	206-5171
270	2430	3	24.5 3	4.5	CR2430	206-5172
600	2450	3	24.5 5	6.9	CR2450	206-5173
1000	2477	3	24.5 7.7	10.5	CR2477	206-5175

Lithium Batteries - continued

Lithium Coin Cells - continued

CR Series - continued

Voltage (V)	Capacity (mAh)	Dimensions (mm)		Weight (g) Approx.	Mfrs. List No.	Order Code
		H	Dia.			
3	220	3.2	20	3.1	CR-2032/HFN	129-8246
3	220	3.2	20	2.9	CR-2032/HEN	189-2669
3	265	3	23	4	CR2330-HFN	129-8247
3	500	5.4	23	5.9	CR-2354/GUN	129-8249
3	560	5.4	23	5.8	CR-2354/HFN	189-2672
3	1000	7.7	24.5	10.5	CR-2477/HFN	129-8248
Vertical PCB Mount						
3	35	2	12.5	1.2	CR-1220/VCN	189-2665
3	220	3.2	20	2.9	CR-2032/VCN	189-2670
3	500	3.2	30	6.8	CR-3032/VCN	189-2676
3	560	5.4	23	5.8	CR-2354/VCN	189-2673
3	1000	7.7	24.5	10.5	CR-2477/VCN	189-2674

450367

Mfrs. List No.	Order Code	Price Each			
		1+	10+	100+	500+
Standard					
CR-1216/BN	NEW 189-2663				
CR-1220/BN	NEW 189-2664				
CR-1620/BN	521-9565				
CR-1632/DBN	NEW 189-2667				
CR-2025/BN	521-9589				
CR-2032/BN	521-9590				
CR-2330/BN	521-9619				
CR-3032/BN	NEW 189-2675				
CR-2354/BN	NEW 189-2671				
CR-2450/BN	521-9620				
CR-2477/BN	521-9632				

Horizontal PCB Mount					
CR-1220/HFN	129-8244				
CR1632-HEN	129-8245				
CR-2025/HFN	NEW 189-2668				
CR-2032/HFN	129-8246				
CR-2032/HEN	NEW 189-2669				
CR2330-HFN	129-8247				
CR-2354/GUN	129-8249				
CR-2354/HFN	NEW 189-2672				
CR-2477/HFN	129-8248				

Vertical PCB Mount					
CR-1220/VCN	NEW 189-2665				
CR-2032/VCN	NEW 189-2670				
CR-3032/VCN	NEW 189-2676				
CR-2354/VCN	NEW 189-2673				
CR-2477/VCN	NEW 189-2674				

Vanadium Lithium Coin Cells

VL Series



Panasonic
Ideas for life

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

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

Type	Voltage (V)		Capacity (mAh)		Dimensions (mm)		Mfrs. List No.	Order Code
	Nominal		Nominal		LxDia.			
Horizontal	3		7		2 x 12.5		VL-1220/HFN	880-6543
Horizontal	3		20		2.7 x 20		VL-2020/HFN	880-6551
Horizontal	3		30		2.7 x 23		VL-2320/HFN	129-8259
Horizontal	3		50		3.7 x 23		VL2330/HFN	880-6560
Horizontal	3		100		3.9 x 30		VL-3032/HF5N	880-6578
Vertical	3		7		2 x 12.5		VL-1220/VCN	151-4218
Vertical	3		20		2.7 x 20		VL-2020/VCN	151-4219
Vertical	3		30		2.7 x 23		VL-2320/VCN	151-4220
Vertical	3		50		3.7 x 23		VL2330/VCN	151-4221
Vertical	3		100		3.9 x 30		VL-3032/VCN	151-4223

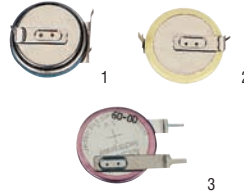
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Mfrs. List No.	Order Code	Price Each			
		1+	10+	25+	50+

Horizontal PCB Mount					
VL-1220/HFN	880-6543				
VL-2020/HFN	880-6551				
VL-2320/HFN	129-8259				
VL2330/HFN	880-6560				
VL-3032/HF5N	880-6578				
Vertical PCB Mount					
VL-1220/VCN	151-4218				
VL-2020/VCN	151-4219				
VL-2320/VCN	151-4220				
VL2330/VCN	151-4221				
VL-3032/VCN	151-4223				

Lithium Battery

Rechargeable Lithium Coin Cells



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

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

Voltage	Capacity mAh	Dimensions (H Dia.)	Charge/Discharge Cycles	Weight (g) Approx.	Cell Type
V3	25	1.6 20	1500 cycles @ 2.5mA	1.8	2016
V3	65	3.2 20	1000 cycles @ 6.5mA	3	2032

- 1 T25 3 Pin Horiz. mount Pins on outer dia. All 3mm
- 2 T6 2 Pin Horiz. mount Pins on outer dia. 1.8(+), 0.75(-)
- 3 T26 3 Pin Vert. mount one centre Pin other Pin 4.92 from dia. All 0.75mm
- 4 T17 2 Pin Vert. mount Pins 4mm on outer dia. 1.8(+), 0.75(-)

203234

Pict. Ref.	Cell Type	Order Code	Price Each			
			1+	10+	25+	50+
2	2016	303-1962				
3	2016	303-1974				
1	2032	303-2000				
3	2032	303-1998				

Lithium Manganese

VARTA



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

Voltage (V)	Can Style	Capacity (mAh)	Dimensions (mm)		Approx. Weight (g)	Pack Qty.	Mfrs. List No.	Order Code
			H	Dia.				
3	CR11108	170mAh	10.8	11.6	3	1	6131201501	178-1983
3	CR11108	170mAh	10.8	11.6	3	1	6131101501	183-7220
3	CR2	850mAh	27	15.6	11	1	6206210501	187-7584
3	CR123A	1550mAh	34.5	17	17	1	6205210501	187-7583

601048

Mfrs. List No.	Order Code	Price Per Pack		
		1+	10+	100+
6131201501	178-1983			
6131101501	NEW 183-7220			
6206210501	NEW 187-7584			
6205210501	NEW 187-7583			

Lithium Manganese

DURACELL



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

Operating temperature -30°C to +60°C

Voltage (V)	Capacity mAh	Dimensions		Weight (g) Approx.	Pack Qty.	Mfrs. List No.	Order Code
		L	Dia.				
3	160	10.8	11.6	10	1	DL1/3N	300-469
3	1500	34	16.9	16	1	DL123AB1 ULTRA M3	300-470
3	1500	34	16.9	16	2	DL123AB1 ULTRA M3 2pk	495-1530
6	160	25.2	13	9	1	PX28L	300-482

230464

Mfrs. List No.	Order Code	Price Per Pack			
		1+	10+	100+	1K+
DL1/3N	1 300-469				
DL123AB1 ULTRAM3	1 300-470				
DL123AB1 ULTRA M3	2 495-1530				
PX28L	1 300-482				

3/6V Lithium Manganese Ultra

DURACELL



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

Operating temperature -30°C to + 60°C

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

Mfrs. List No.	Order Code	Price Each		
		1+	10+	100+
DLCR2	1 207-550			
DL223A	1 463-334			
DL245	1 207-512			
DLCR-V3	1 433-3974			

Photo Lithium

Panasonic
Ideas for life



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

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

CR-V3 Digital Camera Battery

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

Voltage (V)	Capacity mAh	Dimensions		Mfrs. List No.	Order Code
		H	W	D	
3	850	27	-	15.6	CR2
3	1400	34.5	-	17.1	CR-123AL/1BP
6	1400	45	34	17	2CR5M
6	1400	36	34	19.5	CRP2P
3	3000	52	29	14.5	CRV3

Mfrs. List No.	Order Code	Price Each			
		1+	+	+	+
CR2	434-2902				
CR-123AL/1BP	434-2914				
2CR5M	434-2926				
CRP2P	434-2938				
CRV3	434-2940				

BR435 3V Pin Cell



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

Mfrs. List No.	Order Code	Price Each		
		1+	10+	100+
BR435	128-0826			

Lithium Cylindrical Batteries

Panasonic
Ideas for life



189-2633 189-2634, 189-2635 189-2636 189-2637 189-2638

NEW

Panasonic Cylindrical Lithium Batteries are notable for their high voltage, energy density, durability, and stable operation.

Features:

- High voltage
- High energy density
- Long shelf life
- Stable operation
- High rate discharge
- Strong leakage resistance
- Excellent durability
- Cameras
- Electrical lock
- Electronic Counter
- Electronic measurement equipment
- Emergency signal light
- Gas safety emergency cutoff system
- Memory back-up
- Utility meters

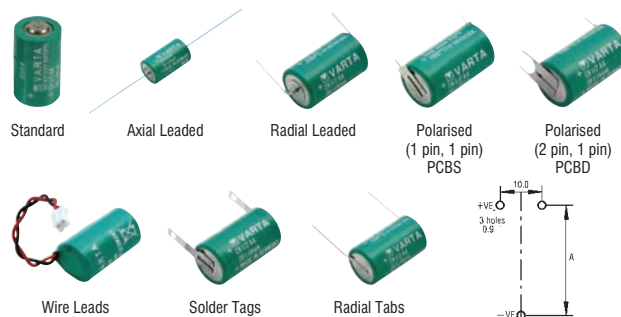
Applications:

Size Code	Battery Capacity (mAh)	Battery Voltage (V)	Dimensions (mm)		Weight (g)
			Diameter	Height	
1/2AA	1000	3	14.5	25.5	8
2/3A	1200	3	17	33.5	13.5
2/3A	1200	3	17	33.5	13.5
A	1800	3	17	45.5	18
A	2200	3	17	45.5	18
C	5000	3	26	50	42

Mfrs. List No.	Order Code	Price Each			
		1+	20+	100+	+
BR-1/2AAE2PN	189-2633				
BR-2/3AE2SPN	189-2634				
BR-2/3AY4PN	189-2635				
BR-A/BN	189-2636				
BR-AG/BN	189-2637				
BR-CT2SP	189-2638				

Primary 3 Volt Lithium Manganese

VARTA



- Non-rechargeable
- Wide operating temperature: -30°C to +75°C
- High energy density
- Long storage and operating time in excess of 10 years
- High current drain (coiled types)
- UL Recognition
- Low self-discharge (less than 1% per year at room temperature 20°C)
- Environment-compatible system (Li-MnO₂)
- Precision laser welded seal (CR... AA Types)

PCB drilling pattern (polarised)
See below for additional dimensions
Axial Lead Length: 45mm

Lithium Batteries - continued

Primary 3 Volt Lithium Manganese - continued

- Applications include memory back-up (RAM), real time clocks, alarm systems, sensors and water, gas and electricity meters, road tolling systems

Can Style	Capacity	Dimensions (mm)		Weight (g) Approx.	Mfrs. List No.	Order Code
		L	Dia.			
Standard						
1/2AA	950mAh	25.1	14.75	11.5	6127101301	863-6206
AA	2000mAh	50.5	14.75	21.5	6117101301	863-6192
2/3AA	1350mAh	33.5	14.75	15	6237101301	863-6214
2/3AH	1350mAh	33.9	17	16	6215101301	508-8276
Axial Leaded						
1/2AA	950mAh	25.1	14.75	11.5	6127501301	463-292
AA	2000mAh	50.5	14.75	21.5	6117501301	463-309
2/3AA	1350mAh	33.5	14.8	14.8	6237501301	304-4853
Radial Leaded						
1/2AA	950mAh	25.1	14.75	11.5	6127601301	187-7571
Polarised (1 pin, 1 pin) PCBS						
1/2AA	950mAh	25.1	14.75	11.5	6127901301	187-7575
1/2AA	950mAh	25.1	14.75	11.5	6127701301	187-7573
2/3AA	1350mAh	33.5	14.75	15	6237701301	187-7577
AA	2000mAh	50.5	14.75	21.5	6117701301	187-7582
Polarised (2 pin, 1 pin) PCB D						
1/2AA	950mAh	25.1	14.75	11.5	6127201301	463-310
1/2AA	950mAh	25.1	14.75	11.5	6127101358	187-7568
2/3AA	1350mAh	33.5	14.8	14.8	6237201301	304-4841
AA	2000mAh	50.7	14.75	21.5	6117201301	463-322
2/3AH	1500mAh	33.9	17	16	6215201013	187-7578
Wire Leads						
1/2AA	950mAh	25.1	14.75	11.5	6127201390	187-7569
AA	2000mAh	50.5	14.75	21.5	6117201390	187-7580
Solder Tags						
1/2AA	950mAh	25.1	14.75	11.5	6127301301	187-7570
2/3AA	1350mAh	33.5	14.75	15	6237301301	187-7576
2/3AH	1500mAh	33.9	17	16	6215301301	187-7579
AA	2000mAh	50.5	14.75	21.5	6117301301	187-7581
Radial Tabs						
1/2AA	950mAh	25.1	14.75	11.5	6127601381	187-7572

Price Each 230466

Can Style	Mfrs. List No.	Order Code	1+	20+	100+
Standard					
1/2AA	6127101301	863-6206			
AA	6117101301	863-6192			
2/3AA	6237101301	863-6214			
2/3AH	6215101301	508-8276			
Axial Leaded					
1/2AA	6127501301	463-292			
AA	6117501301	463-309			
2/3AA	6237501301	304-4853			
Radial Leaded					
1/2AA	6127601301	NEW 187-7571			
Polarised (1 pin, 1 pin) PCBS					
1/2AA	6127901301	NEW 187-7575			
1/2AA	6127701301	NEW 187-7573			
2/3AA	6237701301	NEW 187-7577			
AA	6117701301	NEW 187-7582			
Polarised (2 pin, 1 pin) PCB D					
1/2AA	6127201301	463-310			
1/2AA	6127101358	NEW 187-7568			
2/3AA	6237201301	304-4841			
AA	6117201301	463-322			
2/3AH	6215201013	NEW 187-7578			
Wire Leads					
1/2AA	6127201390	NEW 187-7569			
AA	6117201390	NEW 187-7580			
Solder Tags					
1/2AA	6127301301	NEW 187-7570			
2/3AA	6237301301	NEW 187-7576			
2/3AH	6215301301	NEW 187-7579			
AA	6117301301	NEW 187-7581			
Radial Tabs					
1/2AA	6127601381	NEW 187-7572			

3.6V Lithium Thionyl Chloride

Memory Back-Up



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

Operating temperature		Capacity		Dimensions		Weight (g)	Order Code
-55°C to +85°C		Ah	H	Di.	Di.	Approx.	
Voltage	Can Style	0.42	7 *	22.8			
3.6	BEL					6	113-5792
3.6	1/10D	1	6.2 *	33		16	113-5794

* Height excluding pins

432370

Mfrs. List No.	Order Code	1+	25+	100+
SL 840/P	113-5792			
SL 889/P	113-5794			

Price Each

3.6V Lithium Thionyl Chloride

Tagged/Untagged Standard Size Cells



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

Note: Due to the high terminal voltage these cells must not be used to replace standard cells of similar can styles. Operating temperatures -55°C to +85°C

Note: UL Certified, file number MH12827. Do not recharge. Incorporate a blocking diode and current limiting resistor in circuits to prevent charging.

- Very high capacity
- Non-rechargeable cells in standard can sizes
- Very high energy density
- High terminal voltage
- Level discharge characteristics
- Wide operating temperature
- Up to 10 year shelf life
- Hermetically sealed

Voltage	Can Style	Capacity Ah	Max. Current Drain mA	Dimensions (mm)		Weight (g) Approx.	List No.	Code
				H	Di.			
V3.6	1/2AA	1.2	6	25.2	14.7	9	SL350S	118-7252
V3.6	AA	2.4	20	50.5	14.7	18	SL360S	118-7253
V3.6	C	8.5	100	49.8	26.2	50	SL2770/S	118-7254
V3.6	C	8.5	100	50	26.2	50	SL2770/T	118-7255
V3.6	D	19	200	61.3	32.9	92	SL2780/S	118-7256
V3.6	D	19	200	61.5	32.9	93	SL2780/T	118-7257

432784

Can Style	Mfrs. List No.	Order Code	1+	10+	20+	100+
1/2AA	SL350S	118-7252				
AA	SL360S	118-7253				
C	SL2770/S	118-7254				
C	SL2770/T Tagged	118-7255				
D	SL2780/S	118-7256				
D	SL2780/T Tagged	118-7257				

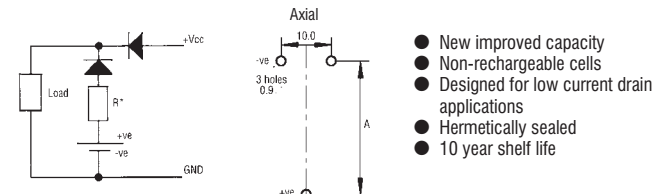
3.6V Lithium Thionyl Chloride



Polarised



Axial



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

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

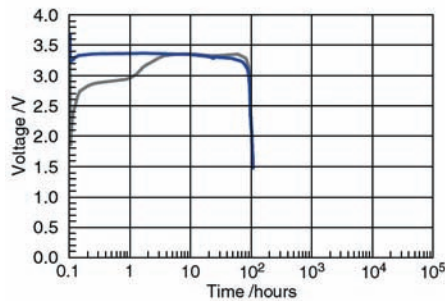
Operating temperature		Capacity		Dimensions		Weight (g)	Mfrs. List No.	Order Code
-55°C to +85°C		Ah	Max. Current Drain mA	A/L	Di.	Approx.		
Capacity loss typically								
Axial lead length								
Voltage	Can Style							
3.6	1/2AA	1.2	6	25.2	14.7	9	SL350P	118-7258
3.6	AA	2.4	20	50.5	14.7	18	SL360P	118-7261
Polarised								
V3.6	1/2AA	1.2	6	25.2	14.7	9	SL350PT	118-7262
V3.6	AA	2.4	20	50.5	14.7	18	SL360PT	118-7263

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

432850

	Can Style	Order Code	Price Each		
			1+	25+	100+
Axial	1/2AA	118-7258			
	AA	118-7261			
Polarised	1/2AA	118-7262			
	AA	118-7263			

3.6V Lithium Thionyl Chloride Enhanced Start Performance



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

Note: UL certified, file number MH12827.

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

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

432861

Mfrs. List No.	Order Code	Price Each		
		1+	25+	100+
SL750/S	118-7264			
SL750/PT	118-7265			
SL760/S	118-7266			
SL760/PT	118-7267			
SL-2790/T	160-3872			

High Power Lithium Thionyl Chloride



4.1V Polarised PCB



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

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

Voltage	Can Style	Capacity (mAh)	Max. Current Drain (mA)	Dimensions		Weight (g) Approx.	Mfrs. List No.		Order Code
				H	Dia.		1	2	
4.1V	1/3AA	125	1250	20	15	8	TLM-1520HP/TP	129-6497	
4.1V	-	500	5000	50.2	15	20	TLM-1550HP/TP	129-6499	

450331

Mfrs. List No.	Order Code	Price Each			
		1+	10+	25+	100+
TLM-1520HP/TP	129-6497				
TLM-1550HP/TP	129-6499				

Lithium Batteries



Pulses Plus Range



Lithium Thionyl Chloride cells in AA, C and D sizes complete with a hermetically sealed Hybrid Layer Capacitor (HLC). Designed for applications requiring low background currents with high current pulses.

NEW

- High energy
- Up to 1A Pulse Capability
- Instant voltage response
- No passivation effect (C and D cells only)

Mfrs. List No.	Battery Size	Capacity	Price Each	
			Order Code	1+
TLP-91311/A/ST	AA	2.4Ah	209-6074	
TLP-92311/A/SM	C	8.5Ah	209-6075	
TLP-93311/A/SM	D	19Ah	209-6076	

654774

Primary 3.6V Lithium Thionyl Chloride (Li-SOCl₂) Cylindrical Batteries



ER Series

NEW



Features:

- High operation voltage
- Broad capacity range from 1200mAh up to 19000mAh
- Wide temperature range (-55°C up to +85°C)

Typical Applications:

- Metering (gas and electricity meters)
- Medical
- Home and office security systems
- Memory backup in elevated temperature environment
- Smoke detectors

Can Style	Capacity (mAh)	Dimensions		Weight (g)	Mfrs. List No.	Order Code
		Dia. (mm)	H (mm)			
Standard						
1/2AA	1200	14.6	25.1	8.8	7126101511	197-2503
AA	2500	14.6	50.5	16	7106101511	197-2514
C	8500	25.9	50.5	50	7114101511	197-2524
D	19000	33.8	59.7	100	7120101511	197-2527
PCB Pin						
1/2AA	1200	14.6	25.1	8.8	7126201301	197-2504
1/2AA	1200	14.6	25.1	8.8	7126201302	197-2505
1/2AA	1200	14.6	25.1	8.8	7126201381	197-2506
1/2AA	1200	14.6	25.1	8.8	7126201382	197-2507
1/2AA	1200	14.6	25.1	8.8	7126701301	197-2513
AA	2500	14.6	50.5	16	7106201301	197-2515
AA	2500	14.6	50.5	16	7106201302	197-2516
AA	2500	14.6	50.5	16	7106201381	197-2517
AA	2500	14.6	50.5	16	7106201382	197-2518
AA	2500	14.6	50.5	16	7106701301	197-2523
Wire Leads						
1/2AA	1200	14.6	25.1	8.8	7126201390	197-2508
AA	2500	14.6	50.5	16	7106201390	197-2519
Solder Tags						
1/2AA	1200	14.6	25.1	8.8	7126301301	197-2511
AA	2500	14.6	50.5	16	7106301301	197-2520
C	8500	25.9	50.5	50	7114301301	197-2525
D	19000	33.8	59.7	100	7120301301	197-2528
Axial Leaded						
1/2AA	1200	14.6	25.1	8.8	7126501301	197-2512
AA	2500	14.6	50.5	16	7106501301	197-2521
C	8500	25.9	50.5	50	7114501301	197-2526
D	19000	33.8	59.7	100	7120501301	197-2529

639073

Can Style	Mfrs. List No.	Order Code	Price Each		
			1+	10+	25+
Standard					
1/2AA	7126101511	197-2503			
AA	7106101511	197-2514			
C	7114101511	197-2524			
D	7120101511	197-2527			
PCB Pin					
1/2AA	7126201301	197-2504			
1/2AA	7126201302	197-2505			
1/2AA	7126201381	197-2506			
1/2AA	7126201382	197-2507			
1/2AA	7126701301	197-2513			

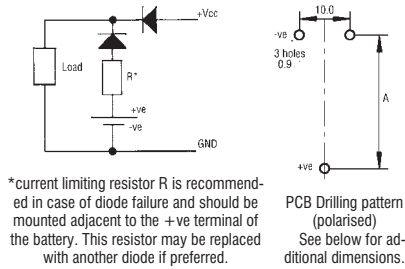
Lithium Batteries - continued

Primary 3.6V Lithium Thionyl Chloride (Li-SOCl₂) Cylindrical Batteries - continued

ER Series - continued

Can Style	Mfrs. List No.	Order Code	Price Each		
			1+	10+	25+
PCB Pin					
AA	7106201301	197-2515			
AA	7106201302	197-2516			
AA	7106201381	197-2517			
AA	7106201382	197-2518			
AA	7106701301	197-2523			
Wire Leads					
1/2AA	7126201390	197-2508			
AA	7106201390	197-2519			
Solder Tags					
1/2AA	7126301301	197-2511			
AA	7106301301	197-2520			
C	7114301301	197-2525			
D	7120301301	197-2528			
Axial Leaded					
1/2AA	7126501301	197-2512			
AA	7106501301	197-2521			
C	7114501301	197-2526			
D	7120501301	197-2529			

3.6 Volt Lithium Thionyl Chloride



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

The cells are designed to be safe under normal operating and short circuit conditions. Charging and forced discharge must be avoided. Supplied individually boxed with instructions for safe use and disposal. Details on series or parallel connections of more than one cell are available upon request.

LS14500 AA Wide Temperature:

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

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

	Voltage	Can Style	Capacity mAh	Max. Current Drain mA	Dimensions A/L Dia.	Weight (g) Approx.
1/2AA	3.6	1/2AA	1100	40	25.2 14.5	9
2/3A	3.6	2/3A	2100	25	33 16.6	13
A	3.6	A	3600	130	50.9 17	21.9
AA	3.6	AA	2450	45	50.8 14.5	16
C	3.6	C	7.7		50.4 26	48
D	3.6	D	17		61.6 33.4	90

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

Can Style	Order Code	Price Each		
		1+	25+	100+
Axial				
1/2AA	773-992			
2/3A	774-017			
A	128-2754			
AA	774-005			
Polarised				
1/2AA	575-860			
2/3A	575-872			
A	128-2755			
AA	575-884			
Tagged				
1/2AA	128-2756			
2/3A	128-2757			
A	128-2758			
AA	128-2759			

Can Style	Order Code	Price Each		
		1+	25+	100+
Standard				
1/2AA	128-2760			
1/2AA	177-2154			
A	128-2763			
AA	128-2764			
AA	128-2765			
C	177-2152			
D	177-2153			

Lithium Thionyl Chloride C Battery - High Drain/Pulse Capability



- Stable high voltage response
- High drain/pulse capability
- Wide operating temperature range (-60°C to 85°C)
- Easy integration into compact systems
- Low self-discharge rate (less than 3% after 1 year in storage at 20°C)
- Non-restricted for transport
- Stainless steel container with hermetic sealing
- Ideal for radio communication, alarms and security systems, beacons and location transmitters, GPS and sonobuoys

Nominal Voltage (V)	Nominal Capacity (Ah)	Pulse Capability (mA)	Max Continuous Current (mA)	Dimensions (HxDia) mm	Weight (g)
3.6	3.6	2000	1300	50x26	51

600702

Mfrs List No.	Order Code	Price Each	
		1+	25+
LSH14 LIGHT	177-2157		

Lithium Thionyl Chloride Non-Rechargeable 6V and 3.6V



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

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

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Mfrs. List No.	Order Code	Price Each		
		1+	25+	100+
T223A/J	774-054			
T2AA/J	774-030			
T1AA/C	774-029			

Lithium Thionyl Chloride Metering Battery



- 1/2AA lithium-thionyl chloride component cell
- Easy integration into utility meters in demanding environments
- Stable and long-lasting, high voltage supply
- Wide operating temperature range (-60°C to 85°C)
- Low self-discharge rate (less than 1% per year in storage at 20°C)
- Battery non-restricted for transport
- Ideal for utility meters, alarms and security devices, memory back-up and professional electronics

Nominal Voltage (V)	Nominal Capacity (Ah)	Pulse Capability (mA)	Max Continuous Current (mA)	Dimensions (HxDia) mm	Weight (g)
3.6	1.10	100	40	29x17	15

600695

Mfrs List No.	Order Code	Price Each	
		1+	25+
LS14250 MLB	177-2155		

Lithium Thionyl Chloride Memory Back-up Battery



- Stable high voltage response
- Wide operating temperature range (-60°C to 85°C)
- Easy integration into compact systems
- Low self-discharge rate (less than 1% per year in storage at 20°C)
- Non-restricted for transport
- Stainless steel container with hermetic sealing
- Non-flammable electrolyte
- Ideal for memory back-up, smoke detectors, alarms and medical equipment
- Dimensions (H x W x D): 48.6 x 26.3 x 15.95mm

Nominal Voltage (V)	Nominal Capacity (Ah)	Pulse Capability (mA)	Max Continuous Current (mA)	Weight (g)
10.8	1.2	100	40	29

600703

Mfrs List No.	Order Code	1+	25+
LS 9V	177-2158		

Lithium-ion Battery Packs



Battery Packs

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

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

Chargers

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

Batteries

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

Chargers

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

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

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

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Mfrs. List No.	Voltage/Capacity	Order Code	1+	5+	10+	+
700001	3.75V / 2.2Ah	129-0995				
800042	3.75V / 2.6Ah	880-9020				
800041	3.75V / 5.3Ah	880-9038				
800040	3.75V / 6.8Ah	880-9046				
800050	15V / 6.8Ah	880-9151				
800052	7.5V / 2.2Ah	129-0996				
800055	15V / 2.2Ah	129-0997				

Chargers

2240-1S	4.2V / 1.3A	880-9054
9940-4	16.8V / 2.0A	880-9062

Lithium Polymer Batteries



A range of standard Lithium Polymer batteries ideally suited for mobile and portable applications. The product meets all relevant legislation for transportation and is available in a range of sizes and capacities.

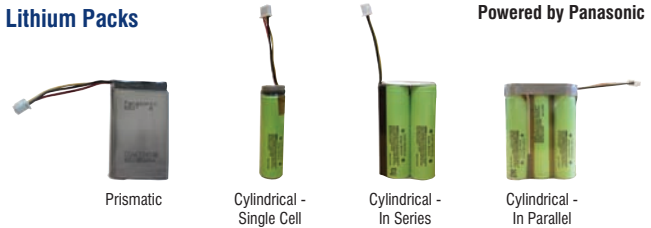
- Capacities from 165 to 1300 mah
- Protection circuit board against overcharge/over discharge/short circuit/over current
- NTC for thermal and charge management
- 3 connection wires - positive/negative/NTC
- 3 way Molex Type connector
- Fully UNIATA 38.3 approved for air transportation

Mfrs List No.	Capacity	Weight	Dimensions	Connector style	Order code
LP-402025-IS-3	165mAh	4g	26 x 20 x 3.8mm	Molex 51021-3	207-7885
LP-402933-IS-3	300mAh	7g	34 x 29 x 3.8mm	Molex 51021-3	207-7884
LP-443440-IS-3	600mAh	13g	41 x 34 x 4.2mm	Molex 5264-3	207-7883
LP-523450P-IS-3	950mAh	20g	51 x 33.5 x 5.2mm	Molex 5264-3	207-7888
LP-503562-IS-3	1100mAh	23g	63 x 35 x 4.8mm	Molex 5264-3	207-7886
LP-503759-IS-3	1350mAh	25g	60 x 37 x 5mm	Molex 5264-3	207-7882

651771

Mfrs. List No.	Order Code	1+	10+
LP-402025-IS-3	207-7885		
LP-402933-IS-3	207-7884		
LP-443440-IS-3	207-7883		
LP-523450P-IS-3	207-7888		
LP-503562-IS-3	207-7886		
LP-503759-IS-3	207-7882		

Lithium Packs



Powered by Panasonic, constructed by approved Panasonic Pack assembler.

Lithium Ion is the technology of choice for mobile equipment. It solves the demands for high energy density, long life and rapid charging. Lithium Ion is ideally suited for portable applications such as handheld POS terminals, measuring instruments, medical equipment, navigation, tracking etc. These Lithium Ion packs, based on high quality Panasonic cells include safety electronics designed to prevent over current, over charging, over discharging and short circuiting. They are available as single cell units, and also multi cell series or parallel packs to increase voltage or capacity. Fully approved to UN38.3 for air transportation the packs are available in prismatic and cylindrical styles.

Important - Please see MSDS & Handling Instructions available on our website.

Powered By Panasonic	Battery Capacity	Battery Voltage (V)	Dimensions (mm)	Weight (g)	Order Code
			Height Width Depth Diameter		
Prismatic					
CGA-523450	1030mAh	3.6	56 5.8 34.2	25	190-0166
CGA-633450	1.2Ah	3.7	56 7 35	28	190-0167
CGA-103450	1.95Ah	3.7	56 11 34.5	43	190-0165
Cylindrical - Single Cell - High Capacity					
CGR-18650	2.25Ah	3.6	71 - - 18.5	47	190-0161
NCR-18650	2.9Ah	3.6	67 18.5 22	49	190-0168
Cylindrical - In Series					
CGR-18650	4.5Ah	3.6	67 19.5 42	92	190-0162
CGR-18650	6.75Ah	3.6	65.5 19.3 58.5	135	190-0163
CGR-18650	9Ah	3.6	67 19.5 76	175	190-0164
Cylindrical - In Parallel					
CGR-18650	2.25Ah	7.2	72.5 20.5 38.8	94	190-0159
CGR-18650	2.25Ah	10.8	73 22 58	145	190-0157
CGR-18650	2.25Ah	14.4	72.5 20.6 74	190	190-0156

638062

Mfrs. List No.	Order Code	1+	5+	10+	25+
Prismatic					
PA-L60	190-0166				
PA-L36	190-0167				
PA-L2	190-0165				
Cylindrical - Single Cell - High Capacity					
PA-L154	190-0161				
PA-LN19	190-0168				
Cylindrical - In Series					
PA-L46	190-0162				
PA-L33	190-0163				
PA-L55	190-0164				
Cylindrical - In Parallel					
PA-L28	190-0159				
PA-L27	190-0157				
PA-L26	190-0156				

Cylindrical Cells - Bobbin Type

3.6V



Lithium Batteries - continued

Cylindrical Cells - Bobbin Type - continued

3.6V - continued

Raised Positive and Flat Negative

PCB Pins

Wire Leads



Solder Tags



Axial Leaded

Bobbin style Lithium Thionyl Chloride cells are maximised for long life. They offer very high energy density, low self discharge and a long storage life and are particularly suited to low current applications. Featuring a stainless steel container, hermetic glass to metal sealing and non flammable electrolyte the bobbin style product is ideal for applications such as utility metering, alarms and security, tracking systems, remote monitoring etc.

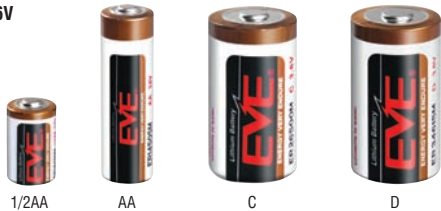
Battery Terminals	Battery Capacity (Ah)	Dimensions (mm)		Weight (g)	Order Code
		Height	Diameter		
1/2AA					
Raised Positive and Flat Negative	1.2	25.4	14.5	10	136-5935
Axial Leaded	1.2	25.4	14.5	10	136-5936
Solder Tab	1.2	25.4	14.5	10	136-5941
Wire Leads	1.2	25.4	14.5	10	136-5942
PCB Pins	1.2	25.4	14.5	10	197-3576
AA					
Raised Positive and Flat Negative	2.6	50.5	14.5	19	136-5937
Axial Leaded	2.6	50.5	14.5	19	136-5938
Solder Tag	2.6	50.5	14.5	19	197-3577
Wire Leads	2.6	50.5	14.5	19	197-3578
PCB Pins	2.6	50.5	14.5	19	197-3579
A					
Raised Positive and Flat Negative	3.6	50.5	17.5	26	197-3580
Solder Tag	3.6	50.5	17.5	26	197-3581
C					
Raised Positive and Flat Negative	8.5	50	26.2	52	197-3582
Solder Tag	8.5	50	26.2	52	197-3583
D					
Raised Positive and Flat Negative	19	61.5	33.1	100	197-3584
Solder Tag	19	61.5	33.1	100	197-3585

639866

Mfrs. List. No.	Order Code	Price Each		
		1+	25+	50+
1/2AA				
ER14250	136-5935			
ER14250P	136-5936			
ER14250T EVE	136-5941			
ER14250W	136-5942			
ER142503FP	197-3576			
AA				
ER1450S	136-5937			
ER14505P	136-5938			
ER14505T	197-3577			
ER14505W	197-3578			
ER145053FP	197-3579			
A				
ER1750S	197-3580			
ER17505T	197-3581			
C				
ER26500	197-3582			
ER26500T	197-3583			
D				
ER34615	197-3584			
ER34615T	197-3585			

Spiral Cells

3.6V



Spiral wound Lithium Thionyl Chloride is maximised for high pulse applications. The spiral construction allows pulses of up to 2A. The product includes additional safety features such as an internal fuse and a built in safety vent. The spiral product is ideal for applications such as beacons and emergency location transmitters, GSM communication, GPRS location systems, smart utility metering etc.

Battery Terminals	Battery Size	Battery Capacity (Ah)	Dimensions (mm)		Weight (g)	Order Code
			Height	Diameter		
Raised Positive and Flat Negative	1/2AA	750	25.4	14.5	10	197-3590
Raised Positive and Flat Negative	AA	2.2	50.7	14.5	19	197-3591
Raised Positive and Flat Negative	C	6.5	50	26.2	52	197-3592
Raised Positive and Flat Negative	D	13	61.5	33.1	100	197-3593

639875

Mfrs. List. No.	Order Code	Price Each		
		1+	25+	50+
ER14250M	197-3590			
ER14505M	197-3591			
ER26500M	197-3592			
ER34615M	197-3593			

Prismatic Cells

3.6V



LTC-3PN



LTC-5PN



LTC-7PN

The unique prismatic style is ideal for designs where space is critical. The flat, square design allows the product to be used in applications where the standard cylindrical product is too large. The product incorporates integral pins for mounting the cell directly to the printed circuit board.



Battery Terminals	Battery Size	Battery Capacity (Ah)	Dimensions (mm)			Weight (g)	Order Code
			Height	Width	Depth		
Pins	LTC-3PN	400	6.8	16.8	15.8	5	197-3586
Pins	LTC-5PN	550	6.8	16.8	20.1	6	197-3589
Pins	LTC-7PN	750	6.8	16.8	25.8	8	197-3588

639873

Mfrs. List. No.	Order Code	Price Each		
		1+	25+	50+
EF651615	197-3586			
EF651620	197-3589			
EF651625	197-3588			

Re-chargable Lithium Ion Batteries

RRC Series



Re-chargable Li-ion batteries with battery charger and system management bus reader. Suitable for a variety of applications including tablet PCs, notebooks, industrial, medical devices etc.

Rechargeable Batteries

- Highest available energy density
- SMBus V1.1 compliant
- Fulfills JEITA standards ensuring an advanced temperature-dependant charging profile for fast charge and maximised cycle life
- Impedance tracking and cell balancing meaning manual calibration not necessary and the longest lifetime possible
- Comprehensive charging/discharging and passive safety systems

Mfrs. List Number	Nominal Voltage	Capacity	Operating Temperature	Dimensions (H x W x D)	Order Code
RRC2040	11.25V	2.95Ah	-20 to 60°C	22 x 59 x 85mm	211-5126
RRC2020	11.25V	8.85Ah	-20 to 60°C	19.7 x 88.9 x 148.8mm	211-5127
RRC2024	14.4V	6.6Ah	-20 to 60°C	21.5 x 107.3 x 167.6mm	211-5129

Battery Charger

- Battery charger uses optimised charging processes for higher charge cycles and faster charging
- Plug and play operation
- Automatic recognition and calibration of smart battery learned capacity
- External power supply for worldwide use

SMBus Reader

- SMBus reader with easy to read and use operation
- Controlled by only 2 buttons displaying direct information from battery
- No external PSU required
- Compatible with all SMBus batteries with a 5 way blade connector
- Information transferable via standard RS232 interface to connected host

659065

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
RRC2040	211-5126			
RRC2020	211-5127			
RRC2024	211-5129			

Accessories

RRC SMBUC	Charger for RRC Series	211-5131		
RRC SMBUSREADER	SMBus Reader	211-5132		

Lithium Ion Chargers

Li-Ion Plug-In Charger 2241 Series - Medical Approved



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

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

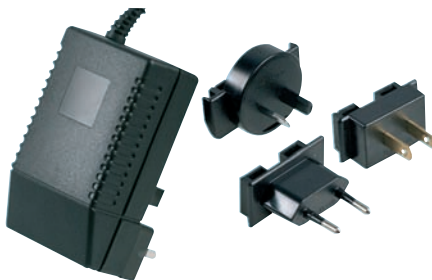
- Suitable for charging 1-4 cells
- Interchangeable mains heads
- Can be used as desktop chargers
- Medically approved to EN60601-1
- 3 step charge control with current detection as charge termination
- Reverse polarity and short circuit protection
- Supplied with loose 2.1mm and 2.5mm output plugs

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

434481.434382

Description	Order Code	Price Each		
		1+	5+	10+
1 Cell	119-6523			
2 Cell	119-6524			
3 Cell	119-6525			
4 Cell	119-6526			
Exchangeable Input Plug Adaptors				
UK	119-6527			
Euro	119-6528			
USA	119-6529			

Li-Ion Switchmode Plug-in Chargers



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

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

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

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

450430

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
2 Cells	1826003	129-3339			
3 Cells	1826004	129-3340			
4 Cells	1826006	129-3341			
Exchangeable Input Plug Adaptors					
UK		117-6583			
Euro		117-6582			
USA		117-6585			
AUS		117-6586			

Mfrs. List No. Order Code 1+ 5+ 10+ Price Each

Exchangeable Output Plug Adaptors

1.3 x 3.5 x 9.5 Coax	117-6588			
1.7 x 4 x 11 Coax	117-6589			
2.1 x 5.5 x 9.5 Coax	117-6590			
2.1 x 5.5 x 11.5 Coax	117-6592			
2.1 x 5.5 x 14 Coax	117-6593			
2.5 x 5.5 x 9.5 Coax	117-6594			
2.5 x 5.5 x 11 Coax	117-6595			
DIN 45323	117-6597			
2.5 Jack	117-6598			
3.5 Jack	117-6599			

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	SB67	V315	D315	315	SR716SW	315	315
304-7908	SB62	V317	D317	317	SR516SW	317	317
174-531	SB64	V319	D319	319	SR527SW	319	319
174-520	SB65	V321	D321	321	SR616SW	321	321
304-7910	SR731SW	V329	D329	329	SR731SW	329	329
300-860	SR44	V357	D357/10I 14	357	SR44W	303/357	357
300-780	SB58	V362	D362/10I 180	362	SR721SW	361/362	362
300-779	SB60	V364	D364	364	SR621SW	364	364
304-7921	SB69	V370	D370	370	SR920SW	370/371	370
174-555	SB69	V371	D371	371	SR916SW	370/371	371
304-7933	SB68	V373	D373	373	SR626SW	373	373
174-543	SB66	V377	D377	377	SR521SW	376/377	377
249-907	SB63	V379	D379	379	SR1120SW	379	379
304-7945	SB55	V381	D381/10R130	381	SR41SW	381/391	381
304-7957	SB41	V384	D384/10I15	384	SR43W	384/392	384
300-858	SR43	V386	D386/10I 124	386	SR1130W	301/386	386
300-834	SB54	V389	D389/10I 122	389	SR1130SW	389/390	389
304-7969	SB54	V390	D390	390	SR1120W	389/390	390
300-822	SB55	V391	D391/10I 130	391	SR41W	381/391	391
300-792	SB41	V392	D392/10I 125	392	SR754W	384/392	392
300-809	SB48	V393	D393/10I 123	393	SR936SW	309/393	393
300-810	SR45	V394	D394/10I 126	394	SR927SW	394	394
174-567	SB57	V395	D395	395	SR726W	395/399	395
304-7970	SB59	V396	D396/10R102	396	SR726W	396/397	396
249-919	SB59	V397	D397	397	SR726SW	396/397	397
304-7982	SB57	V399	D399	399	SR927W	395/399	399

Mercury Free Silver Oxide Button Cells



Renata offers a suitable power source for many electronic device requiring an ultra-compact, long lasting, low voltage power source.

NEW

- An optimised volume/capacity ratio
- Dimensional precision and stability
- High capacity retention on storage (low self-discharge)
- Excellent reliability thanks to a uniformly high quality level
- State of the art leakproofness thanks to a sophisticated sealing process

Capacity (mAh)	IEC Code	Voltage (V)	Dimensions (mm)		Weight (kg)	Mfrs. List No.	Order Code
			Diameter	Height			
6	SR512SW	1.55	5.8	1.25	0.13	335	206-6056
8	SR416SW	1.55	4.8	1.65	0.12	337	206-6057
9.5	SR712SW	1.55	7.9	1.25	0.25	346	206-6060
10.5	SR62	1.55	5.8	1.65	0.18	317	206-6052
11	SR614SW	1.55	6.8	1.45	0.21	339	206-6058
14.5	SR65	1.55	6.8	1.65	0.25	321	206-6054
19	SR67	1.55	7.9	1.65	0.33	315	206-6050
20	SR60	1.55	6.8	2.15	0.32	364	206-6065
21	SR64	1.55	5.8	2.7	0.29	319	206-6053
24	SR58	1.55	7.9	2.1	0.4	362	206-6064
28	SR66	1.55	6.8	2.66	0.4	377	206-6070
29	SR68	1.55	9.5	1.65	0.5	373	206-6069
37	SR731SW	1.55	7.9	3.1	0.58	329	206-6055
40	SR1116SW	1.55	11.6	1.65	0.75	366	206-6066
40	SR69	1.55	9.5	2.05	0.61	370	206-6067
40	SR69	1.55	9.5	2.05	0.61	371	206-6068
45	SR41	1.55	7.9	3.6	0.65	384	206-6072
45	SR41	1.55	7.9	3.6	0.65	392	206-6077
50	SR55	1.55	11.6	2.05	0.9	381	206-6079
50	SR55	1.55	11.6	2.1	0.87	391	206-6076
60	SR54	1.55	11.6	3.1	1.14	390	206-6074
80	SR48	1.55	7.9	5.4	1.06	309	206-6049
80	SR48	1.55	7.9	5.4	1.06	393	206-6078
80	SR54	1.55	11.6	3.1	1.26	389	206-6073
82	SR936W	1.55	9.5	3.6	1.02	380	206-6071
105	SR42	1.55	11.6	3.6	1.45	344	206-6059
105	SR42	1.55	11.6	3.6	1.45	350	206-6061
120	SR43	1.55	11.6	4.2	1.6	301	206-6047
175	SR44	1.55	11.6	5.4	2.27	303	206-6048
190	SR44	1.55	11.6	5.4	2.3	357	206-6062

Silver Oxide Button Cells - continued

Mercury Free Silver Oxide Button Cells - continued

646568

IEC Code	Order Code	Price Each				
		1+	10+	100+	+	+
SR512SW	206-6056					
SR416SW	206-6057					
SR712SW	206-6060					
SR62	206-6052					
SR614SW	206-6058					
SR65	206-6054					
SR67	206-6050					
SR60	206-6065					
SR64	206-6053					
SR58	206-6064					
SR66	206-6070					
SR68	206-6069					
SR731SW	206-6055					
SR1116SW	206-6066					
SR69	206-6067					
SR69	206-6068					
SR41	206-6072					
SR41	206-6077					
SR55	206-6079					
SR55	206-6076					
SR54	206-6074					
SR48	206-6049					
SR48	206-6078					
SR54	206-6073					
SR936W	206-6071					
SR42	206-6059					
SR42	206-6061					
SR43	206-6047					
SR44	206-6048					
SR44	206-6062					

Silver Oxide button Cell

DURACELL



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

Order code: 444-6525 Price Per Pack

377033

Zinc Air Batteries

Zinc Air - EasyTab™

DURACELL

Hearing Aid



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

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

248845

Pack		Price per Pack				
Type	Qty	Order Code	1+	10+	20+	100+
DA13	6	432-7287				
DA10	6	432-7299				
DA312	6	432-7305				
DA675	6	432-7317				

Emergency Lighting Batteries

High Temperature Emergency Lighting Batteries

SAFT

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 life-time 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 & 61951-2
- 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		
		1+	5+	10+
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

DMS technologies



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

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

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

338672

Mfrs.		Price Each				
List No.	Order Code	1+	10+	25+	100+	500+
7140-0050	508-7934					
7140-0053	508-7960					
7140-0056	508-7995					
7140-0057	508-8008					

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

Note: Supplied and priced in blister packs

239875

Can Style	Pack Qty	Order Code	Price Per Pack			
			1+	5+	10+	25+
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		L	Dia		
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	2000	50.5	14.5	28	129-6442
1.2V	AA	2450	50.5	14.5	30	171-7099
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			
			1+	5+	10+	25+
AAA-700	2	167-8337				
AAA-850	2	880-4168				
AAA-850	4	119-1555				
AAA-850	10	178-5687				
AAA-1000	4	119-1556				
AA-2000	4	167-8338				
AA-2000	4	129-6442				

Can Style	Qty	Order Code	Price Each/Per Pack			
			1+	5+	10+	25+
AA-2000	10	178-5688				
AA-2450	2	171-7099				
C	2	880-4192				
D	2	880-4206				
PP3	1	880-4214				

Precision Nickel Metal Hydride Batteries

Energizer



NEW
Energizer Precision Rechargeable AA & AAA Batteries are high performing NiMH cells with great capacity (2300mAh AA and 800mAh AAA). Perfect for digital cameras or anything that possesses a high drain. High power as well many charging cycles and the added benefit of minimal self-discharge. Available in packs of 2 and 4.

	AA	AAA
Chemical System	NiMH (Nickel Metal Hydride)	NiMH (Nickel Metal Hydride)
Nominal Voltage	1.2V	1.2V
Battery Capacity	2300mAh	800mAh
Weight	28g	12g
Dimensions (L x D)	50.5mm x 14.5mm	44.5mm x 10.5mm

Mfrs. List No.	Battery Capacity	Battery Size	Pack Size	Order Code	Price Per Pack		
					1+	5+	10+
634998	2300mAh	AA	2	207-5716			
635730	2300mAh	AA	4	207-5717			
635000	800mAh	AAA	2	207-5718			
635751	800mAh	AAA	4	207-5719			

Precision Nickel Metal Hydride Batteries

Energizer



NEW
Energizer Precision Rechargeable AA Batteries are the highest performing NiMH cells and have a capacity of 2450mAh. Perfect for digital cameras or anything that possesses a high drain. High power as well many charging cycles and the added benefit of minimal self-discharge. Available in packs of 2 and 4.

	NiMH (Nickel Metal Hydride)
Nominal Voltage	1.2V
Battery Capacity	2300mAh
Weight	28g
Dimensions (L x D)	50.5mm x 14.5mm

Mfrs. List No.	Pack Size	Order Code	Price Per Pack		
			1+	5+	10+
635428	2	207-5713			
635429	4	207-5715			

Ni-MH Rechargeable Batteries

High end line

ANSMANN



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

243193

Mfrs. List No.	Capacity (mAh)	Order Code	Price Each			
			1+	5+	10+	25+
AAA / Micro	1100	145-3782				
C / Baby	4500	117-3788				
D / Mono	10000	117-3791				
9V / PP3	250	417-0076				

ReCyko+ Pre-Charged Ni-MH Batteries

GPB



178-1101



178-1102



178-1098

Rechargeable Nickel Metal Hydride Batteries - continued

ReCyKo+ Pre-Charged Ni-MH Batteries - continued



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)	H	Dimensions (mm) Dia. W D
AA	1.2	2100	50.5	14.5 - -
AAA	1.2	850	44.5	10.5 - -
C	1.2	2600	50	26.2 - -
D	1.2	2600	61.5	34.2 - -
PP3	8.4	150	48.5	- 26.5 15.7

601149

Description	Pack Qty	Order Code	Price / Pack			
			1+	5+	10+	25+
AA	4	178-1101				
AAA	4	178-1102				
C	2	178-1098				
D	2	178-1099				
PP3	1	178-1100				

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					
AA	1300mAh - 5hrs	AAA	600mAh - 5hrs	C	2200mAh - 5hrs
	160mAh - 8hrs		650mAh - 7hrs		3500mAh - 10hrs
	1800mAh - 9hrs		700mAh - 7.5hrs		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					
AA	260mA		120mA		440mA
	260mA		120mA		560mA
			440mA		14mA
Output Voltage					
AA	2 x 2.8V DC				
					9V
					2 x 9V DC
Dimensions	178 x 97 x 57mm				

601168

Mfrs. List No.	Order Code	1+	5+	10+	25+
PB19BSR-C1	178-1103				
UK to Euro Travel Adaptor	136-7058				

Cylindrical NiMH



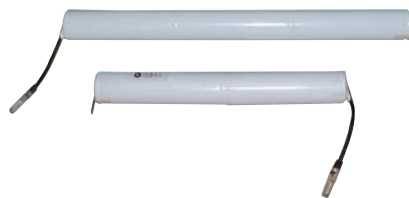
- High capacity cylindrical NiMH cells
- Over 500 cycles
- Proven technology
- Tagged for combining into larger battery packs
- Applications include hand held equipment, POS terminals and cordless telephones

Voltage	Nominal Capacity (mAh)	Standard Charge Rate (14 hrs)	Dimensions (mm) 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

Mfrs. List No.	Order Code	1+	10+	25+	100+
1/VH210055118201012	868-3042				
1/VH400055140201060	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 Ø18mm 3 cell: 215 x Ø18mm
Cycles	>350		

416081.406963

Type	Order Code	Price Each			
		1+	10+	25+	100+
2 Cell	101-1458				
3 Cell	101-1459				

Rechargeable Nickel Metal Hydride



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

Nominal Voltage (V)	3.6V	Dimensions Dia (mm)	18 7.3 x 12 x 12mm	Weight (g)	0.9	List No.	55802303013	Order Code	167-4497
									526294
Mfrs.		Order Code		Price Each					
List No.	55802303013	167-4497	1+	10+	25+				

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

Voltage (V)	3.6	Typical Capacity (mAh)	40	Dimensions (H x W x D) (mm)	12 x 16.8 x 12	Weight (g)	1.7	List No.	55604303059	Order Code	167-4498
	3.6	70		16 x 19 x 16		4		55707303059		167-4499	
											526295
Mfrs.		Order Code		Price Each							
List No.	55604303059	167-4498	1+	10+	100+						
	55707303059	167-4499									

NiMH Powerful 85°C



Rechargeable for Tracking and eCall



Typical Applications:

- Automotive Electronics
- Server, Computer
- Emergency Light, Solar Light

Operating Temperature -20°C to +85°C

High rate and high temperature button cell with superior load capability for discharge currents up to 5 CA at high temperature. Based on foam electrode technology.

Nominal Voltage (V)	Typical Capacity (mAh)	Dimensions (mm)			Weight (g)	Order Code
		H	D	W		
1.2	510	6.5	24.2	34.1	14	190-3282
2.4	510	14	24.2	34.1	30	190-3283
3.6	510	20	24.2	34.1	45	190-3284
3.6	510	6.5	72.5	34.1	46	183-7219
3.6	18	7.3	-	-	0.9	167-4497
4.8	510	6.5	97	34.1	59	190-3286
4.8	510	8.5	49	70	56	167-4503
7.2	510	39.5	24.2	34.1	89	190-3285
7.2	510	15.5	26.5	104	90	167-4504
1.2	510	40	68	26	152	207-1030

526296

Mfrs. List No.	Order Code	1+	10+	100+
55750201501	190-3282			
55750302012	190-3283			
55750303013	190-3284			
55750403015	183-7219			
55802303013	167-4497			
55750404014	190-3286			
55750504012	167-4503			
55750306012	190-3285			
55750406013	167-4504			
55750310012	NEW 207-1030			

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	1+	10+	100+
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
- Suitable for cordless microphones, security detectors, medical instruments, smoke alarms

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	1+	10+	100+
5122101501	167-4507			

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-tage (V)	Can Style	Nom Cap (Ah)	Charge Rate (14-16 hrs)	Max. Dis-charge Rate mA	Dimensions L Dia.	Weight (g)	Solder Tags	Mfrs List No.	Order Code
1.2	2/3AF	1.1	100	3300	28.5 17	21	Yes	GP110AFHHB	908-551

1.2	4/5AF	2.16	210	6300	43	17	32	Yes	GP211AFH	184-2867
1.2	4/5AA	1.2	120	3600	43	14.4	22	Yes	GP121AAM	604-537
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	GP180AAHHB	536-970
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

Can Style	Order Code	1+	10+	25+	100+	500+
2/3AF	908-551					
4/5AF	NEW 184-2867					
4/5AA	604-537					
AAA	505-6810					
AA	604-549					
AA	206-490					
AA	536-970					
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 foot-prints & 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

551004

Mfrs. List No.	Order Code	1+	10+	100+
55997101501	177-3468			

NiMH Powerful



Rechargeable Button Cells - High Discharge Rate



Typical Applications:

- Consumer Electronics
- Health Care Devices
- Wireless Headsets, Headphones

Vol-tage (V)	Nominal Capacity (mAh)	Standard Charge (14-16 Hrs) mA	Trickle Charge mA	Max Discharge Rate mA	Dimensions H D W Dia.	Approx. Weight (g)	Order Code
1.2	450	45	14	2250	5.4 24.1 34.1	14.5	351-9545
1.2	580	58	17.5	3000	6.5 24.1 34.1	14.5	390-7247
1.2	6.2	-	-	-	2.15 - - 6.8	0.28	167-4505
3.6	580	58	5.8	3000	26 22 35	45	108-3710
3.6	580	58	5.8	3000	8.5 74 36.5	45	108-3711

230483.258256

Mfrs. List No.	Order Code	1+	5+	100+	500+
55945201053	351-9545				
55960201012	390-7247				
55960303059	108-3710				
55996101501	167-4505				
75mm Wire					
55960403013	108-3711				

TROUBLESHOOTING TIPS

Chat online to one of our technical engineers at farnell.com

Rechargeable Nickel Metal Hydride Batteries - continued



Rechargeable Nickel Metal Hydride Memory Backup



Applications:

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

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 Backup with higher currents and feeding of DC/DC converters to generate 3V from 1.2V Battery.

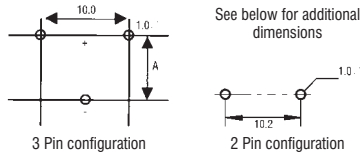
Mfrs. List No.	Nominal Voltage (V)	Typical Capacity mAh	Dimensions H x Dia (mm)	Weight (g)	Order Code
55803101501	1.2V	18mAh	2.3 x 11.5mm	0.9	177-7566

553270

Mfrs. List No.	Order Code	1+	10+	100+
55803101501	177-7566			

NiMH Robust

PCB Mounting Memory Protection Range



High performance button cell with superior overcharge stability and discharge currents ≤ 2 CA. Based on mass electrode technology, temperature range -20°C to $+65^{\circ}\text{C}$.

Typical Applications

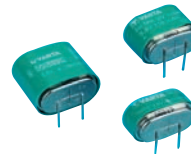
- Memory Backup
 - Real Time Clock
 - Mobile Light
- Operating Temperature -20°C to $+65^{\circ}\text{C}$

Battery Capacity	H	W	D	Dia.	A	Weight (g) Approx.	Mfrs. List No.	Order Code
1.2V								
15mAh	3.1	-	-	11.5	-	1.3	55602101501	190-2509
150mAh	5.7	25.5	14	-	-	6	55615201501	187-9362
150mAh	7	14.1	26	-	6.35	6.2	55615201940	863-968
150mAh	25	29	13	-	-	6	55615305060	187-9369
150mAh	5.85	42	26	-	-	6	55615403059	187-9366
150mAh	14.1	25.6	11.7	-	12.8	12.7	55615602940	279-330
150mAh	26	17	15	-	-	6	55615603060	187-9368
240mAh	6.7	-	-	25.1	-	10	55625201068	863-6290
280mAh	7.5	-	-	25.1	-	11	55630201043	863-6303
2.4V								
15mAh	6.2	12	-	11.5	7.4	2.2	55602302012	863-956
80mAh	12.2	16.5	-	16	-	8.3	55608602059	854-657
150mAh	16	17	42	-	-	16	55615702012	434-3712
200mAh	26	15	15.5	-	15.5	17	55620302059	351-9569
250mAh	13.4	26	-	25.1	14	22	55625602059	351-9582
3.6V								
15mAh	9.6	12	-	11.5	10.1	3.3	55602303013	524-864
15mAh	10.6	10.35	-	12.4	-	4	55602303015	190-2510
15mAh	10	-	-	12	-	3.8	55602303052	190-2511
15mAh	10.6	10.25	-	12.4	-	4.1	55602303059	190-2512
15mAh	3	14	-	33	-	5	55602403114	190-2513
15mAh	10.6	10.25	-	13.2	-	4.2	55602603059	190-2514
15mAh	10.6	10.25	-	13.2	-	4.2	55602603060	190-2515
40mAh	12	16.8	12	-	-	1.7	55604303059	167-4498
80mAh	18	16.5	-	15.5	19.1	12.5	55608303059	279-341
80mAh	16	40	22	-	-	15	55608703012	305-5930
150mAh	16	25	13	-	-	18	55615303052	187-9363
150mAh	13	25	17	-	-	18	55615303059	187-9365
150mAh	16	26	16	-	-	18.4	55615603059	187-9367
150mAh	17.7	26.8	14.1	-	18.8	19	55615603940	279-353
150mAh	22.2	40.3	16	-	-	21	55615703012	305-5942
200mAh	26	15	23	-	23	24	55620303059	351-9570
250mAh	20.1	26	-	25.1	20.5	33	55625603059	351-9594
4.8V								
150mAh	23.4	15.3	14.1	-	24.8	25.6	55615604940	863-970
6V								
150mAh	35.1	15.3	14.1	-	30.8	32.2	55615605940	863-981
300mAh	36	-	-	25.1	42.4	61.5	55630605800	863-993
7.2V								
150mAh	13	39	25	-	-	37	55615306059	187-9370
150mAh	25	35	14	-	-	37	55615306060	187-9371

230487

Capacity	Order Code	Price Each			
		1+	10+	100+	500+
1.2V					
15mAh	NEW 190-2509				
150mAh	187-9362				
150mAh	863-968				
150mAh	187-9369				
150mAh	187-9366				
150mAh	279-330				
150mAh	187-9368				
240mAh	863-6290				
280mAh	863-6303				
2.4V					
15mAh	863-956				
80mAh	854-657				
150mAh	434-3712				
200mAh	351-9569				
250mAh	351-9582				
3.6V					
15mAh	524-864				
15mAh	NEW 190-2510				
15mAh	NEW 190-2511				
15mAh	NEW 190-2512				
15mAh	NEW 190-2513				
15mAh	NEW 190-2514				
15mAh	NEW 190-2515				
40mAh	167-4498				
80mAh	279-341				
80mAh	305-5930				
150mAh	187-9363				
150mAh	187-9365				
150mAh	187-9367				
150mAh	279-353				
150mAh	305-5942				
200mAh	351-9570				
250mAh	351-9594				
4.8V					
150mAh	863-970				
6V					
150mAh	863-981				
300mAh	863-993				
7.2V					
150mAh	187-9370				
150mAh	187-9371				

NiMH Robust 85°C Rechargeable



High performance button cell with superior overcharge stability and discharge currents ≤ 2 CA at high temperature. Based on mass electrode technology.

Typical Applications:

- Industrial Electronics
- Automotive Applications

Operating Temperature -20°C to $+85^{\circ}\text{C}$

Voltage (V)	Nominal Capacity (mAh)	Dimensions (mm) H W D	Approx. Weight (g)	Mfrs. List No.	Order Code
1.2	70	6 15.5 - 15.5	4	55707201013	508-8264
2.4	110	11.7 25.6 14.1	12	55711602059	390-7211
3.6	70	16 19 16	4	55707303059	167-4499
3.6	110	15.5 27 18.8	18	55711603800	390-7223
4.8	110	15.5 27 23.7	24	55711604800	390-7235

233552

Voltage (V)	Order Code	Price Each		
		1+	10+	100+
1.2	508-8264			
2.4	390-7211			
3.6	167-4499			
3.6	390-7223			
4.8	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 controlled atmospheres
- Ideally suited for direct mounting on PCBs

Voltage	Capacity mAh	Dimensions H L W	Weight (g) Approx.	Mfrs. List No.	Order Code
2.4V	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

Mfrs. List No.	Order Code	Price Each				
		1+	10+	25+	50+	100+
55615702012	434-3712					
55608703012	305-5930					
55615703012	305-5942					

NiMH Battery Packs

Various Capacities



Nickel-Metal Hydride (NiMH) rechargeable cylindrical cells in various capacities and voltages. Suitable for a variety of applications including medical equipment power supply, payment terminals, emergency power units, DECT telephones, UPS systems etc.

NEW

- Safe and powerful mobile energy supply
- No need for expensive safety electronics
- Various capacities and voltages

Mfrs. List No.	Battery Size	Battery Capacity	Battery Voltage	Order Code	Price Each		
					1+	10+	25+
55171403014		700mAh	3.6V	208-2836			
55115403012		1300mAh	3.6V	208-2837			
55123505012		1800mAh	6V	208-2838			
55140405013	(VH4000)	4000mAh	3.6V	208-2839			

Rechargeable Nickel Metal Hydride

Panasonic
Ideas for life

Tagged



- Standard Ni-MH battery technology for nearly every application
- High quality and reliability
- Good balanced batteries in terms of capacity and cycle life
- Excellent discharge characteristics
- Applications include medical, telecoms, home appliances, electric vehicle and handheld equipment

NEW

These pre-tagged versions of the standard Panasonic NiMH cells are specifically designed to make it easy to assemble complete battery packs.

Battery Capacity (mAh)	Battery Voltage (V)	Dimensions (mm) Height	Dimensions (mm) Diameter	Weight (g)	Order Code
730	1.2	44.5	10.5	12	192-2912
780	1.2	48.8	14.5	21	192-2913
1180	1.2	50	14.5	24	192-2914
1220	1.2	43	14.5	23	192-2915
1580	1.2	50	14.5	26	192-2916
2040	1.2	43	17	32	192-2917
2050	1.2	50	17	36	192-2925
2100	1.2	34	23	42	192-2922
2600	1.2	43	23	55	192-2923
2650	1.2	43	23	55	192-2927
3050	1.2	43	23	57	192-2924
3700	1.2	67	18.2	60	192-2926
3800	1.2	67	17	53	192-2918
4500	1.2	67	18.2	60	192-2921

638192

Mfrs. List No.	Order Code	Price Each			
		1+	10+	25+	50+
HHR-70AAA-1Z	192-2912				
HHR-70AA-1Z	192-2913				
HHR-110AAO-1Z	192-2914				
HHR-120AA-1Z	192-2915				
HHR-150AA-1Z	192-2916				
HHR-200A-1Z	192-2917				
HHR-210AH-1Z	192-2925				
HHR-200SCP-1Z	192-2922				
HHR-260SCP-1Z	192-2923				
HHR-250SCH-1Z	192-2927				
HHR-300SCP-1Z	192-2924				
HHR-370AH-1Z	192-2926				
HHR-380A-1Z	192-2918				
HHR-450A-1Z	192-2921				

Rechargeable Nickel Metal Hydride

Panasonic
Ideas for life

Non-Tagged



- Standard Ni-MH battery technology for nearly every application
- High quality and reliability
- Good balanced batteries in terms of capacity and cycle life
- Excellent discharge characteristics
- Applications include medical, telecoms, home appliances, electric vehicle and handheld equipment

NEW

More and more electronic products with sophisticated functions require extremely compact and light battery solutions delivering a high level of energy density. To meet these needs Panasonic Ni-MH batteries have been developed and manufactured with nickel hydroxide for the positive electrode and hydrogen absorbing alloys, capable of absorbing and releasing hydrogen at high-density levels, for the negative electrode. The Ni-MH battery technology is nowadays the Ni-Cd successor technology for rechargeable and portable devices. All of our Ni-MH batteries are cadmium-free, in order not to be harmful to human beings and our environment.

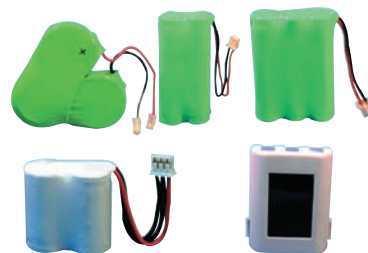
Battery Capacity (mAh)	Battery Voltage (V)	Dimensions (mm)		Weight (g)	Order Code
		Height	Diameter		
730	1.2	44.5	10.5	12	192-4168
730	1.2	44.5	10.5	12	192-4169
780	1.2	44.5	10.5	13	192-4170
780	1.2	48.8	14.5	21	192-4167
1180	1.2	50	14.5	24	192-4158
1220	1.2	43	14.5	23	192-4159
1580	1.2	50	14.5	26	192-4160
2040	1.2	43	17	32	192-4161
2080	1.2	50.5	14.5	29	192-4164
2200	1.2	50	17	38	192-4162
3800	1.2	67	17	53	192-4165
4500	1.2	67	18.2	60	192-4166

638193

Mfrs. List No.	Order Code	Price Each			
		1+	10+	25+	50+
HHR70AAAB8	192-4168				
HHR75AAAB4B	192-4169				
HHR80AAAB3B	192-4170				
HHR70AAB26	192-4167				
HHR110AAC5	192-4158				
HHR120AAB33	192-4159				
HHR150AAF7	192-4160				
HHR200AB27	192-4161				
HHR210AAB3B	192-4164				
HHR210AB21	192-4162				
HHR380AB33	192-4165				
HHR450AB25	192-4166				

Cordless Telephone Batteries

Cordless Telephone Batteries



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

Voltage	Nominal Capacity Ah	H	Dimensions W/Dia.	D	Mfrs. List No.	Order Code
V3.6	320	9	51	51	CP03UNM	506-2767
V2.4	600	11	21	45	CP13NM	506-2792
V3.6	600	11	31	46	CP15NM	506-2809
V3.6	600	11	31	46	CP18	506-2810

Cordless Telephone Compatibility

Manufacturer	Models	Order Code
Alcatel	Daytona	506-2767
Citizen	TF 50N/TF 51N/TF 52N	
Dialatron	Denver/Madison/Palma	
GEC	Esprit 1042/1043	
Geomarc	Capital/Europa PT/400B/400NB	
Panasonic	KX-T4200	
Uniden	AE 155/156/200/300/400/500/700	
Audioline	CDL150/CDL4/FF788/FF888	
Betacom	Discovery/Libereo/Ventura/Roma/Quest/XT/XT2/Airlink 8/800/600	
British Telecom	Diverse 5000 Solo Freestyle 50/60/65/70/75/80/90/100/130/300+/320/520/530/600/ 1000/1050/1000+/1100/1100+/1200/1500/1500+/ Quartet 2010/2012/2015 Verve 100	
Bush	201	
Cable&Wireless	CWD250/2500/650/700/800/900 CWR100/200/300/400/600/700/800/900	
Dialatron	Caracas 1000/2000/3000/ Miami/Phoenix	
Emerson	TEC 3000	
Geomarc	Atlanta 100/150/200/ Clearsound 1000/3000/800	
JVC	TNE 77/88	

Cordless Telephone Batteries - continued

Cordless Telephone Compatibility

Panasonic	KX-A36/T3610/T3611/T3620/T3621/ KX-T3640/T3705/T3710/T3720/T3725/ KX-T3730/T3820/T3822/T3823/T3824/ KX-T3832/T3848/T3850/T3855/T3870/ KX-T3875/T3910/T4035/T4050/T4065/ KX-T3920/T3930/T3932/T3935/T3940/ KX-T3950/T3960/T3965/T3980/T4026/ KX-T4060/T4200/T4300/T4046/T4330/ KX-T4340/T4350/T4370/T4066/T4400/ KX-T4600/TC1005	
Philips	Aleor/Aleoris/Evalia/Icana Xalia 6100/6200/6400/6600/6800/6820/6850	
Sanyo	CAS 120/130/CLA Series CLT3200/340/3600/440/520/6100/6300	
Siemens	Gigaset 100	
Sony	SPP A20/22/A40/55/A57/A60/ SPP 65/90/D15/D57	
Southwestern Bell	FF 700/750/760/770/777/780/790/800/880 /884/888/889/890/894/895/896/900/901	
Toshiba	FT 6002/6003/6203/6303/6400W/6503/6603	
Uniden	EX 600/XC 310/315/320/340/CT 301	
British Telecom	Freelance 1/2/100/200/300/500 Freestyle 2/300/500	
Doro	Walk & Talk 970/980	
Geemarc	2000	
Northwestern Bell	Excursion 255/32011/6000	
Panasonic	KX-T3846/T3856/T3865/T3806/T3515/ KX-T3816/T3825/T3835/T3842/T3845/ KX-T3880/T3900	
Philips	Golf/Memo 6411/6810	
Samsung	915/918/CLA985/CLT980/CLT982E/ CLT985/Cocoon/SP-R915	
Sanyo	CLT880/80/980/981/982E/985/ CLT990/CLA400E/500E/CLS200	
Southwestern Bell	FF 650/675/680/1150/1175/1735/1750/1755	
Uniden	EX 255/2100/3101/3102/3800/3810/4100/4101/4102/4800	
British Telecom	Synergy 2000/2010/2020/2100/2110/2120/2150/2200/2210/2220	506-2792
Cable&Wireless	CWD250/2500/650/4100/4101	
Sagem	DPC300/Pack Trio 21300	
Alcatel	Dect/Easy/Comfort/Vocal/Altiset MS/Altiset S Gap BT Dect Fax, Cobra CP205, Ericsson DT200	506-2809
Audioline	5015	506-2810
Binatone	Icarus 8/800/8000 Pegasus 8/800/Ranger 100	
Cable&Wireless	CWR2200	
Casio	2500/2600/T-2600	
Doro Matra	Dunea 160C/260C/350C/360C/362C/60C Solea 160C/250/350C/352C	
Ericsson	Dect 230	
Geemarc	CC50	

Capacity mAh	Price Each			
	Order Code	1+	10+	50+ 100+
320	506-2767			
600	506-2792			
600	506-2809			
600	506-2810			

Digital Camera Batteries

Digital Camera Batteries



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



Batteries Voltage	Capacity (mAh)	Dimensions			Type	Model	Order Code
		H	W	D			
3.7	700	6	35	40	Li-Ion	NB-4L	107-8175
3.7	1120	8	32	45	NiMH	NB-5L	150-3696
7.4	1500	21	38	55	Li-Ion	BP511	506-2561
3.7	710	6	35	40	Li-Ion	NP40	506-2901
3.7	600	6	27	37	Li-Ion	KLIC7002	127-7552
7.4	700		32		Li-Ion	EN-EL	506-3012
3.7	1100	7	35	53	Li-Ion	EN-EL5	879-1864
3.7	740	6	31	40	Li-Ion	OL40B	127-7556
3.7	1150	9	35	40	Li-Ion	CGA-S005	127-7559
3.7	1000	12	30	37	Li-Ion	CGA-S007	150-3701
7.2	1500	21	38	56	Li-Ion	NPFM50	506-2743
3.6	450	5	35	36	Li-Ion	NPFE1	127-7562

Digital Camera Compatibility

Manufacturer	Models	Order Code
Canon	Digital Ixus 30/40/50/55/60/65 PowerShot SD30/SD200/SD300/SD400/SD430/SD450/SD600/SD630	107-8175
Canon	Digital Ixus 800IS, 900 PowerShot SD700, SD900	150-3696
Canon	PowerShot G1/G2/G3/G5/G6/P90/Pro 90IS/ EOS 10DS/5D/20D/300D/30D/D10/D30/D60S	506-2561

Digital Camera Compatibility

Fuji	Finepix 402/F455/F470/F610/F650/F700/F710/F810/F811/V10/Z1/Z2	506-2901
Pentax	Optio S/S4/S4i/S5i/SV/SV1/WP/WP1/XA10	
Kodak	V530/V603	127-7552
Fuji	DS-260/MX-500/MX-600/MX-700	506-2937
JVC	GC-S5	
Leica	Diglux	
Ricoh	RDC-I700	
Toshiba	PDR-M3	
Pentax	Optio 450/550/555/750Z/MX Dimage A1/A2 Dynax 5D/7D	
Yashica/Kyocera	Finecam S3/S3L/S3U/S3R/S3X/S4/S5/S5R/S30/S40 PDR-M3310	
Pentax	EL 2000	506-3000
Nikon	Coolpix 775/880/885/995/4300/4500/4800/5000/5400/5700/8700	506-3012
Nikon	Coolpix 3700/4200/5200/5900/7900/P3/P4	879-1864
Olympus	D-630/FE-150/FE-160/FE-5500/IR-300/SP-700 mju 700/720SW/Sylus 710	127-7556
Sanyo	VPC-AZ3EX/EXJ2EX/J1/J11/J28KEX/MZ3/X350/XACTI JI	
Panasonic	DMC-LX1/LX01 FX8/FX9/LX1	
Panasonic	DMC-TZ1, TZ2, TZ3	150-3701
Sony	DSC-F707/F717/F828/P120/R1/S30/S50/ S70/S75/S85	506-2743
Sony	MVC-CD250/CD300/CD350/CD400/CD500 DSC-T7	127-7562

Manufacturer	Original Battery Ref.	Order Code	Price Each		
			1+	10+	25+
Canon	NB-4L	107-8175			
Canon	NB-5L	150-3696			
Canon	BP511	506-2561			
Fuji	NP40	506-2901			
Kodak	KLIC7002	127-7552			
Nikon	EN-EL1	506-3012			
Nikon	EN-EL5	879-1864			
Olympus	OL40B	127-7556			
Panasonic	CGA-S005	127-7559			
Panasonic	CGA-S007	150-3701			
Sony	NPFM50	506-2743			
Sony	NPFR1	127-7562			

Digicharger VARIO pro
Universal Charger for Li-Ion / NiMH



- Universal charger with LCD Display for Li-Ion battery packs, NiMH AAA/AA round cells and USB power source with emergency power supply
- High charging currents provide short charging times
- Long lifetime of the rechargeable batteries due to an optimum charging control circuit
- USB output for the maintenance of USB
- USB emergency power supply for mobile

charging of USB applications using an inserted battery pack without connection of the power supply

- Faulty cell detection and over charge protection
- Worldwide use due to the wide range input mains power supply (100-240V) and car adaptor
- Warranty: 3 years

Mfrs.list no.	order code	Price Each		
		1+	5+	10+
5025132	173-0537			

Digicharger Vario
Intelligent Charger for Li-Ion / LiPo Battery Packs



- Intelligent Charger for most Digital Camera, Camcorder and Mobile Phone Battery Packs
- Also charges 2 AA or AAA NiMH rechargeable round cells
- 100-240VAC UK Plugtop Power Supply for worldwide use
- Adjustable battery contacts for easy connection to Li-Ion/LiPo packs
- 700mA Charge Current for Li-Ion/LiPo battery packs

- Microprocessor controlled charging, utilising delta peak charge termination for NiMH cells
- Protection against short circuit, defective battery and over voltage
- Reverse connect protection for NiMH round cells
- Supplied with 12VDC car adaptor for mobile use
- Safety Timer
- LED power and charge status indicators

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
5025113/UK	176-5324			

CRV3 Li-Ion Charger



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

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

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

387240

Mfrs. List No.	Order Code	Price Per Pack			
		1+	5+	10+	25+
CRV3KUK	879-1988				

Laptop Computer Batteries

Laptop Computer



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

Manufacturer	Model	Capacity	Dimensions	Original Battery	Ref.	Order Code
Various	DR35	4000	H 18 W 51 D 208	NiMH	DR35	113-5506
	DR35S	3800	H 17 W 86 D 146	NiMH	DR35S	113-5520
	DR36S	4000	H 20 W 89 D 148	NiMH	DR36S	113-5507
	DR202	6600	H 20 W 89 D 148	Li-Ion	DR202	113-5509

338176

Order Code	1+	3+	+	Price Each
113-5506				
113-5520				
113-5507				
113-5509				

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
EMI/EMC	CISPR22 'B', FCC Part 15 'B', EN55022 'B'

553269

Mfrs. List No.	Order Code	Price Each
PSCH30	177-5040	1+

NiMH/NiCd Smart Charger

PSCH15



- 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

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.

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
EMI/EMC	CISPR22 'B', FCC Part 15 'B', EN55022 'B'

553246

Mfrs. List No.	Order Code	Price Each
PSCH15	177-5039	1+

NiCd/NiMH Plug-in Charger

Basic 4 Plus



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

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

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

450490

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
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	Capacity (mAh)	Charge Current (mA)	Charge Time (Hrs)
NiCd / NiMH			
AAA	170-1000	50	4hrs 50mins - 28hrs
AA	700-2700	150	6hrs 30mins - 25hrs 15mins
C	1500-5000	200	10hrs 30mins - 35hrs
D	1500-10000	200	10hrs 30 mins - 70hrs
9V	120-250	15	11hrs 15mins - 23hrs 20mins

450493

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
Basic 5 Plus	5207303/UK	129-4241		

Nickel Cadmium / Nickel Metal Hydride Chargers - continued

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 pre-charged Ni-MH cells (UK version)
- 3 year manufacturer's guarantee

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

386194.408076

Description	Mfrs. List No.	Order Code	Price Each		
			1+	3+	5+
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)
AAA	250-1000	500	50	35mins - 2hrs 25mins
AA	700-2700	500	50	1hr 40mins - 6hrs 30mins
9V	120-250	15	N/A	11hrs 10mins - 23hrs 20mins

450168

Description	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
Powerline 4 Mobile	5707063/UK	129-4238 ●			

NiCd/NiMH Desktop Charger Powerline 5 LCD Mobile



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

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

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

415373

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

Digispeed 4 Ultra + NiCd / NiMH Ultra Fast Desktop Charger



NEW

- 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

548228

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
5707153/UK	176-5323 ●			

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		
		1+	5+	10+
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 ΔV disconnection and pulse maintenance charging, fully automatic control of the charging process

- Individual monitoring of each inserted cell
- Faulty cell detection
- Switch mode power supply for worldwide use
- 3 year manufacturers guarantee

386199.408078

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
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		
				1+	3+	5+
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 8314 Series



L = 75, W = 47, H = 49

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

Input Charge Voltage	230V ac V max.	Charge current Typical Battery Capacity	60mA 600mAh
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242755

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
UK Plug	8314 CC UK	120-4133			
Euro Plug	8314 CC EURO	120-4134			

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

242749

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
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

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

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
3-6 Cells	2115000040	128-3207			
5-10 Cells	2115000041	128-3208			
10-20 Cells	2115000042	128-3209			

386440.406550

	Mfrs. List No.	Order Code	Price Each		
			1+	25+	50+
Output Power					
UK Mains Lead, 2m		152-2217			
Euro Mains Leads, 1m		120-4150			

18W NiCd/NiMH DC/DC Fast Charger

2515 Series



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

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

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

Input Voltage	10-30Vdc
Fast Charge Current	3-6 cell - 2.5A 6-12 cell - 1.5A 10-20 cell - 0.9A

434372.434367

Description	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
3-6 Cells	2515000041	119-6519			
6-12 Cells	2515000042	119-6520			

35W NiCd/NiMH Fast Chargers

2215 Series - Medical Approved



L = 107, W = 67, H = 36.5

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

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

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

386475.406546

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
3-6 Cells	2215000084	128-3210			
5-10 Cells	2215000085	128-3211			
10-20 Cells	2215000086	128-3213			

Nickel Cadmium / Nickel Metal Hydride Chargers - continued

35W NiCd/NiMH Fast Chargers - continued

2215 Series - Medical Approved - continued

Output Power	Order Code	Price Each		
		1+	25+	50+
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		

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

434377.434373

Output Power	Order Code	Price Each		
		1+	25+	50+
UK Mains Lead, 2m	152-2217 ●			
Euro Mains Lead, 1m	120-4150 ●			

Nickel Metal Hydride Chargers

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			
	1+	5+	10+	25+
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 4x AA/AAA NiMH batteries
- Recyko+ batteries retain 85% capacity after 12 months
- LED charging indicators
- Up to 1,000 cycles

600987

Order Code	Price Each			
	1+	5+	10+	25+
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
 AA - 800mAh - 1hr 30mins
 AAA - 1000mAh - 2hrs

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

553276

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
PB540WP210B-C4	177-9013			

Ni-MH Battery Charger



- Supplied complete with 4x AA Ni-MH batteries (1800mAh)
- Charges 1 to 4x AA 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
 Charge time AA 1800mAh - 6hrs
 AA 2050mAh - 7hrs
 AA 2300mAh - 8hrs
 AAA 750mAh - 5.5hrs
 Output 5.6Vdc 0.36A per slot (2 or 4 AA NiMH)
 2.8Vdc 0.16A per slot (2 AAA Ni-MH)
 Operating temperature 0°C to 55°C
 Weight 280g (including batteries)

419263

Order Code	Price Each			
	1+	5+	10+	25+
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
 Charging Current AA 200mA
 AAA 100mA
 Output Voltage 1.4V dc
 Dimensions (HxWxD) 105x44x36mm

- Supplied complete with 2x AA 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

Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
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

Price Each

Mfrs. List No.	Order Code	1+	5+	10+
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
 Charging Current AA 130mA
 AAA 70mA
 9V 17mA
 Output Voltage AA/AAA - 2.8V dc
 9V - 9V dc
 Dimensions (HxWxD) 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

Price Each

Mfrs. List No.	Order Code	1+	5+	10+
PB11BS180-C4	177-9009			

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
 Charging Current AA Ni-MH 2000mA, AAA Ni-MH 1000mA
 AA Ni-Cad 1000mA, AAA Ni-Cad 400mA
 Trickle Charge Current AA Ni-MH 80mA, AAA Ni-MH 40mA
 AA Ni-Cad 40mA, AAA Ni-Cad 20mA
 Output Voltage 12V dc
 Dimensions (HxWxD) 119.5 x 85 x 31.5mm

- 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

Price Each

Mfrs. List No.	Order Code	1+	5+	10+
PB14BS250SA-C4	177-9007			

Ni-MH 1 Hour Fast Charger



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

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

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

338405

Mfrs. List No.	Order Code	1+	5+	+
630721	UK Version 167-8341			

Lead Acid Chargers

Managed, Automatic Chargers



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

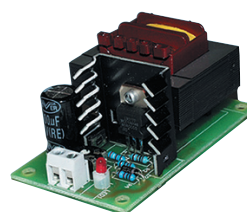
- Automatic current limited constant voltage charging cycle
- Minimum charge time
- Batteries may be left on indefinitely
- Will reform deep discharged batteries
- Charge cycle LED indicators
- Mains fused, short circuit and reverse polarity protected

	SLA500MPCB	SLA500MPCB
Battery voltage	12V	LED Indicators
Output current	500mA	Charge, Ready
Battery capacity (suitability)	2 - 6Ah	Thermal Fuse
Input voltage	230V ac ±10%, 50Hz	Size
		Weight
		115x70x45mm
		0.4kg

Price Each

Mfrs. List No.	Order Code	1+	5+	10+	25+
SLA500MPCB12V	119-7527				

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	SLA250PCB12V
Battery voltage	12V	LED Indicators
Output current	200mA	Power
Battery capacity (suitability)	1 - 3Ah	Thermal Fuse
Input Voltage	230V ac ±10%, 50Hz	Size
		Weight
		75x45x40mm
		0.2kg

Price Each

Mfrs. List No.	Order Code	1+	5+	10+	25+
SLA250PCB12V	119-7522				

6V/12V Constant Voltage



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

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

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

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

Price Each

Plug-In	Order Code	1+	5+	10+	25+
12V, UK	119-7531				
12V, Euro	119-7532				

FREE GLOBAL LEGISLATION SUPPORT



RoHS, REACH, WEEE, ErP, Batteries Directive - latest updates, free white papers and live online Q&A at element14.com/legislation

Lead Acid Chargers - continued

Plug-in Charger for Lead Acid Rechargeable Batteries

ALCS 2-24A



- Automatic charger for lead acid rechargeable batteries from 2-24V and 2-24Ah
- Automatic adjustment to the voltage of battery being charged
- LED indication of cell voltage selected
- LED charging indication
- Over charge protection

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

Charging-time table (for empty rechargeable batteries):

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

450543

Price Each

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

6-24V Desktop Lead Acid Battery Chargers

ALCT 6-24



- 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

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

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

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

450525

Price Each

Mfrs. List No.	Order Code	1+	3+	5+
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 manufacturer's 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	1+	5+	10+
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

Mfrs.

Price Each

List No.	Order Code	1+	5+	10+
ALCT12-4	134-4741			

24V Desktop Lead Acid Battery Chargers

ALCT 24-2



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

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

Battery Type	Capacity (mAh)	Charge Current (mA)	Fast Charge Voltage	Float Charge Voltage	Charge Time
24V Lead Acid	No capacity limit	2000	29.4V	27.6V	1650mAh / hr 450527

Price Each

Mfrs. List No.	Order Code	1+	5+	10+
ALCT24-2 UK	129-4249			
ALCT24-2 Euro	129-4250			

Constant Voltage Chargers for Lead Acid Batteries

8714 CV Series - Medical Approved



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



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

12V Charger

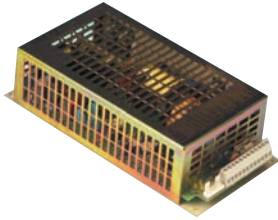
Charge Voltage	14.7V
Charge current	650mA
Battery capacity (suitability)	2.5 to 10Ah
Input voltage	230VAC
Output lead	With battery croc clips
Leakage from Battery - Mains switched off	< 0.1mA
Operating Temperature Range	-10 to 40°C
Weight	450g

242527

Price Each

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

Switch Mode Chargers Battery Back Up



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

Volt free relay signal interface boards

A 24V signal adapter board for use with the 45W and 170W chargers to provide volt free relay signals. Two relay outputs are provided, both with active high or active low TTL compatible inputs.

An optional DIN Rail kit for use with the 75W and 170W chargers is also available.

45W Charger

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

75W Charger

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

170W Charger

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

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

337142

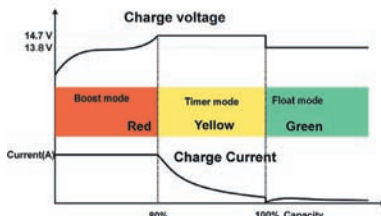
Mfrs. List No.	Order Code	Price Each		
		1+	5+	10+
14852-000	45W Charger (28V)	505-6354		
14853-000	45W Charger (14V)	505-6366		
14854-000	75W Charger (28V)	505-6378		
14559-000	170W Charger (28V)	505-6391		

3 Step Charging System



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

Charging diagram (12V)



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

242756

Plug in Chargers

9641 Series – Medical Approved



L = 100, W = 51, H = 63

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

12V Charger

Battery capacity (suitability)

Input voltage
Output lead

12V Charger

3 to 15Ah (750mA)
10 to 75Ah (2.7A), 5.5 to 30Ah (1.5A)
190 to 264V ac
With exchangeable plug

Weight

LED Indication

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

250g

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

242531

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
12V 2.7A UK	9641000104	120-4120			
12V 2.7A Euro	9641000105	120-4121			
24V 1.5A UK	9641000116	120-4122			
24V 1.5A Euro	9641000117	120-4123			

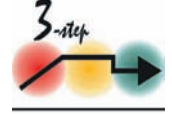
12 or 24V Chargers

2040 Series – Medical Approved



L = 135, W = 80, H = 44

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



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

	12V Charger	24V Charger
Charge current	4A	2A
Battery capacity (suitability)	16 to 100 Ah	8 to 50 Ah
Input voltage		90 – 264VAC
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
LED Indication		
Red: Constant Current boost	4A	2A
Yellow: Constant voltage timer	14.7V	29.4V
Green: Constant Voltage float	13.8V	27.6V

242530

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
12V Charger	2040 12V 4A	120-4124			
24V Charger	2040 24V 2A	120-4125			
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

	Mfrs. List No.	Order Code	Price Each		
			1+	5+	10+
300mA 6V UK	YCP03A6	120-1981			
300mA 12V UK	YCP03A12	120-1983			
300mA 12V Euro	YCP03A12EUR	120-1984			
600mA 12V UK	YCP06A12	120-1987			
600mA 12V Euro	YCP06A12EUR	120-1988			

48W Bench Top Chargers

PSE48 Series



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

48W Bench Top Chargers - continued

PSE48 Series - continued

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

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

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

386234

Price Each

Mftrs. List No.	Order Code	1+	5+	10+	+
PSE48-13V8C8	830-4297				
PSE48-27V6C8	830-4300				

Bench Charger

2047 Series



W = 109, H = 53.5, L = 192

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

12V Charger

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

242529

Price Each

Mftrs. List No.	Order Code	1+	5+	10+
UK Plug	2047 12V UK	120-4128		
Euro Plug	2047 12VEURO	120-4131		

Bench Charger

9740 Series - Medical Approved



L = 184, W = 171, H = 54

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

337954

Price Each

Mftrs. List No.	Order Code	1+	5+	10+
12V 10A UK	9740000067	120-4140		
24V 5A UK	9740000069	120-4141		

Bench Charger

2044 Series



H = 58, W = 210, D = 148

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

12V Charger

- 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



242528

Price Each

Mftrs. List No.	Order Code	1+	5+	10+
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
LED Indication	
Red: Constant Current boost	20A (12V charger), 10A (24V charger)
Yellow: Constant voltage timer	14.7V (12V charger), 29.4V (24V charger)
Green: Constant Voltage float	13.7V (12V charger), 27.4V (24V charger)

337955

Price Each

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

3 Step 12V Lead Acid Battery Charger/Optimiser



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

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

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

471917.525312

Price Each

Charger Type	Order Code	1+	3+
12V 1.0A	166-6327		
12V 1.9A	166-6328		

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	1+	3+
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-

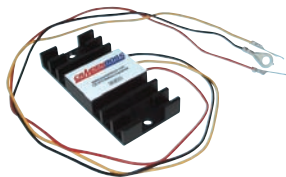
Charging Current	Input Voltage	Battery Capacity	Dimensions (HxWxD)	Weight (Kg)	Order Code
2.0A	100-240Vac (Auto)	6Ah-20Ah	37.4x61.6x120 mm	0.5	166-6338
4.0A	115-230Vac (Auto)	12Ah-40Ah	47.5x88x186 mm	0.8	166-6339
5.0A	115-230Vac (Auto)	15Ah-50Ah	47.5x88x186 mm	0.8	166-6340
7.0A	115-230Vac (Auto)	21Ah-70Ah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

471924.525314

Price Each

Charger Type	Order Code	1+	3+
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		

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 mis-match of one battery being under charged and the other over-charged. This results in the build up of sulphate in the under-charged 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	1+
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 9 V 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	1+	5+	10+
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. List No.	Order Code	1+	3+	5+
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. List No.	Order Code	1+	5+	10+
KFZ - Power Check	416-9876			

Rechargeable Lead Acid Batteries

Valve Regulated Lead Acid Batteries Yucel Series



Maintenance free lead acid batteries suitable for applications including robotic engineering, alarms, medical devices, telecommunications, toys, signalling, I.T Systems etc.

NEW

Rechargeable Lead Acid Batteries - continued

Valve Regulated Lead Acid Batteries - continued

Yuasa Series - continued

- Waterproof
- High performance use in permanent charge as well as cyclic charge
- Lifetime in floating : 5 years
- Lifetime in cyclic use : 180 @ 1200 cycles
- 3-5 year design life when used in standby applications

Manufacturers Part No	Voltage	Capacity	Terminals	Weight	Order Code
Y1.2-6	6V	1.2Ah	Faston Tab	280g	208-3813
Y2.8-6	6V	2.8Ah	Faston Tab	670g	208-3815
Y4-6	6V	4Ah	Faston Tab	810g	208-3816
Y10-6	6V	10Ah	Faston Tab	1.7kg	208-3818
Y12-6L	6V	12Ah	Faston Tab	1.95kg	208-3819
Y0.8-12	12V	0.8Ah	Connector	340g	208-3820
Y1.2-12	12V	1.2Ah	Faston Tab	0.58kg	208-3821
Y2.1-12	12V	2.1Ah	Faston Tab	0.82kg	208-3822
Y2.8-12	12V	2.8Ah	Faston Tab	1.12kg	208-3823
Y4-12	12V	4Ah	Faston Tab	1.6kg	208-3824
Y7-12	12V	7Ah	Faston Tab	2.65kg	208-3825
Y12-12	12V	12Ah	Faston Tab	3.8kg	208-3827
Y17-12	12V	17Ah	M5 Bolt	5.7kg	208-3828
Y24-12	12V	24Ah	M5 Bolt	8.1kg	208-3829

653452

Mfrs. List No.	Order Code	1+	5+	10+
Y1.2-6	208-3813			
Y2.8-6	208-3815			
Y4-6	208-3816			
Y10-6	208-3818			
Y12-6L	208-3819			
Y0.8-12	208-3820			
Y1.2-12	208-3821			
Y2.1-12	208-3822			
Y2.8-12	208-3823			
Y4-12	208-3824			
Y7-12	208-3825			
Y12-12	208-3827			
Y17-12	208-3828			
Y24-12	208-3829			

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 V13.8

Capacity 20hr. Rate (Ah)	Max. Initial Charge Current (A)	Dimensions H* W D	Tab Size/ Bolt Hole	Weight (kg) approx.	Mfrs. List No.	Order Code
6 Volts						
1	0.25	57.5 51 42.5	4.8mm x 0.8mm	0.25	NP1-6	146-534
1.2	0.3	57.5 97 25	4.8mm x 0.8mm	0.31	NP1.2-6	143-564
2.8	0.7	67 134 34	4.8mm x 0.8mm	0.57	NP2.8-6	279-377
4	1	109 70 47	4.8mm x 0.8mm	0.85	NP4-6	143-566
7	1.75	101 151 34	-	1.28	NP7-6	152-245
10	2.5	101 151 50	4.8mm x 0.8mm	2.2	NP10-6	147-471
12	3	101 151 50	-	2.05	NP12-6	174-774
12 Volts						
1.2	0.3	54.5 97 48	4.8mm x 0.8mm	0.57	NP1.2-12	147-472
2	0.5	89 150 20	4.8mm x 0.8mm	0.7	NP2-12	150-661
2.1	0.5	67 178 34	4.8mm x 0.8mm	0.83	NP2.1-12	279-389
2.3	0.7	67 178 34	-	0.94	NP2.3-12	174-786
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 -	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
0.8	-	-	25	96	-	0.35	NP0.8-12	214-5726

H* = Height including terminals

♦ = Bolt terminals

224340

Capacity Ah	Order Code	1+	5+	25+	50+	100+
6 Volts						
1	146-534					
1.2	143-564					
2.8	279-377					
4	143-566					
7	152-245					
10	147-471					
12	174-774					
12 Volts						
0.8	214-5726					
1.2	147-472					
2	150-661					
2.1	279-389					
2.3	174-786					
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					

*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 product the optimum design of sealed lead acid batteries.

Maximum Discharge Current (A)	Energy Storage Capacity (Ah)	Output Voltage (V)	Dimensions H (mm) W (mm) 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	1+	5+	10+
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 Charge voltageV to 15.15. V dcV
Charging method 2.5V Cyclic, 2.3V Standby Charge voltageV to . V dc

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

224341

Capacity Ah	Order Code	1+	10+	25+	50+	100+
24	249-683					
38	249-695					

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.	Mftrs. List No.	Order Code
6 Volts						
1.2	40	54.9 97.3 25.5	-	0.3	A506/1.2S	463-360
3.5	60	64.4 134.5 34.5	-	0.75	A506/3.5S	463-371
6.5	80	98.4 151.5 34.5	-	1.33	A506/6.5S	463-383
10	80	98.4 151.7 50.5	-	2.05	A506/10.0S	463-395
12 Volts						
1.2	40	54.9 97.5 49.5	-	0.65	A512/1.2S	463-401
2	40	64.4 178.5 34.1	-	1	A512/2.0S	463-413
3.5	60	64.4 134.5 66.8	-	1.5	A512/3.5S	463-425
6.5	80	98.4 151.7 65.5	-	2.6	A512/6.5S	463-437
10	80	98.4 152 98	-	4.1	A512/10.0S	463-449
16	200	167 181 76	5♦	6	A512/16.0G	463-450
25	200	126 176 167	5♦	9.65	A512/25G	463-462
30	400	181 132	6♦	11.1	A512/30G	463-474
40	400	175 210 175	6♦	14.6	A512/40G	463-486
65	440	190 353 175	6♦	24.4	A512/65G	463-498

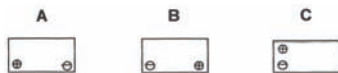
H* = Height including terminals ♦ = Bolt terminals

230510

Capacity Ah	Order Code	Price Each			
		1+	10+	25+	100+
6 Volts					
1.2	463-360				
3.5	463-371				
6.5	463-383				
10	463-395				
12 Volts					
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				

Ⓜ Heavy Item, special delivery, conditions apply.

Sealed Gel Lead Acid - Europa Plus Deep 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

Torque Setting

All types 5-7Nm

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.

List No.	Capacity 20hr. Rate (Ah)	Max. Charge Current (A)	Dimensions H W L	Weight (kg)	Terminals	Order Code
6 Volts						
BEG060075	7.5	1.5	96 34 150	1.3	A 187 Tab	508-5305
BEG060120	12	2.4	98 50 151	2.0	A 250 Tab	508-5317
12 Volts						
BEG120075	7.5	1.5	99 65 151	2.5	C 187 Tab	508-5329
BEG120120	12	2.4	100 97 150	4.0	C 250 Tab	508-5330
BEG120180	18	4.5	167 76 181	5.9	B M5 Bolt	508-5342
BEG120260	26	6.5	126 176 166	8.8	B M5 Bolt	508-5354
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

List No.	Order Code	Price Each			
		1+	10+	25+	50+
BEG060075	508-5305				
BEG060120	508-5317				
BEG120075	508-5329				
BEG120120	508-5330				
BEG120180	508-5342				
BEG120260	508-5354				
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

Mftrs. 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 Ah	Order Code	Price Each			
		1+	10+	25+	50+
14GF12014YF	206-544				
25GF12025YG	206-568				
51GF12051Y1	206-581				

12V Lead Acid batteries - TPPL - (Thin Plate Pure Lead) Odyssey Range



Odyssey Range



Odyssey batteries utilise the unique EnerSys TPPL technology and are ideally suited for extreme conditions.

NEW

- Extended shelf life
- Wide operating temperature range
- Fast Recharging
- Designed for Marine and Specialist Vehicle applications
- 8-12 year float design life
- High rate discharge for superior cranking performance

Mftrs. List No.	Capacity	Weight	Dimensions (HxWxD)	Battery Terminals	Order Code
PC310	8Ah	2.7kg	101 x 86 x 138mm	M4 Bolt	207-7382
PC545	14Ah	5.7kg	131.3 x 85.6 x 177.8mm	M6 Bolt	207-7389
PC535	14.8Ah	5.4kg	155.6 x 99.1 x 170.2mm	M6 Bolt	207-7385
PC680	17Ah	7kg	169.4 x 79 x 184.7mm	M6 Bolt	207-7388
PC625	18Ah	6kg	175 x 99.1 x 170.2mm	M6 Stud	207-7391
PC925	28Ah	11.8kg	128 x 179 x 168.6mm	M6 Bolt	207-7390
PC1500DT	68Ah	24kg	198.6 x 177.5 x 275.6mm	M4 Bolt	207-7384
PC1700T	68Ah	27.6kg	176 x 168.2 x 330.7mm	M6 Bolt	207-7386
PC2150S	104Ah	34.1kg	238.8 x 172.7 x 330.2mm	3/8" Stud	207-7387

Rechargeable Lead Acid Batteries - continued

12V Lead Acid batteries - TPPL - (Thin Plate Pure Lead) - continued

Odyssey Range - continued

Mfrs. List No.	Capacity	Order Code	Price Each		
			1+	5+	10+
PC310	8Ah	207-7382			
PC545	14Ah	207-7389			
PC535	14.8Ah	207-7385			
PC680	17Ah	207-7388			
PC625	18Ah	207-7391			
PC925	28Ah	207-7390			
PC1500DT	68Ah	207-7384			
PC1700T	68Ah	207-7386			
PC2150S	104Ah	207-7387			

651199

Sealed Lead Acid L400 Longlife



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

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

Capacity 10h @ 1.8V/cell		Dimensions			Weight(kg) Approx.	Output Type	Mfrs. List No.	Order Code
32	H	W	D	13.5	M6 Bolt	L412/32	174-841	
Operating temperature 15°C to +35°C		Charge voltage 13.68V @ 20°C						

203225

Dryfit Trafficbatt



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

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

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

489679.489677

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		Weight Kg	Mfrs. List No.
			Height (mm)	Diameter (mm)		
2V 2.5Ah	200	4.8mm x 0.8mm	67.3	35.5	0.2	0810-0004
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	0800-0004
2V 8Ah	330	6.35mm x 0.8mm	109	44	0.6	0850-0004
2V 25Ah	1335	M8 Stud + M6 Stud -	174	65	1.7	0820-0004

Monobloc Technical Information

Capacity	Max. Pulse Discharge (A)	Terminals	Dimensions		Weight kg	Mfrs. List No.
			Width (mm)	Height (mm)		
6V 2.5Ah	200	4.8mm x 0.8mm	45	45	0.52	0819-0012
6V 5Ah	285	6.35mm x 0.8mm	54	54	0.98	0809-0012
6V 8Ah	330	6.35mm x 0.8mm	54	54	1.43	0859-0012
12V 2.5Ah	200	4.8mm x 0.8mm	90	90	1.2	0819-0020
12V 5Ah	285	6.35mm x 0.8mm	108	108	2.2	0809-0020
12V 8Ah	330	6.35mm x 0.8mm	108	108	3.3	0859-0020

244566.274452

Mfrs. List No.	Order Code	Price Each				
		1+	10+	25+	100+	250+
Cyclon Cells						
0810-0004	147-180					
9860-0004	174-828					
0800-0004	147-181					
0850-0004	174-830					
0820-0004	147-183					
Cyclon Monoblocs						
0819-0012	427-3369					
0809-0012	427-3370					
0859-0012	427-3382					
0819-0020	121-8977					
0809-0020	121-8981					
0859-0020	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

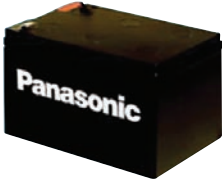
Energy Storage (Ah)	Length	Dimensions (mm)		Height	Mfrs. List No.	Order Code
		Width	Height			
6V						
1.3	97	24	55	55	LC-R061R3P	176-9769
3.4	134	34	66	66	LC-R063R4P	176-9770
4.5	70	48	108	108	LC-R064R5P	176-9771
7.2	151	34	100	100	LC-R067R2P	176-9772
12	151	50	100	100	LC-R0612P	176-9773
15	151	50	100	100	LC-R0615P	176-9774
12V						
1.3	96.5	47	50	50	LC-R121R3PG	176-9775
2.2	177	34	66	66	LC-R122R2PG	176-9776
3.4	134	67	66	66	LC-R123R4PG	176-9778
7.2	151	64.5	100	100	LC-R127R2PG	176-9779
12	151	98	101.5	101.5	LC-RA1212PG	176-9780
15	151	98	100	100	LC-RA1215P	176-9781
33	195.6	130	180	180	LC-R1233P	176-9782

600718

Energy Storage (Ah)	Order Code	Price Each				
		1+	10+	25+	50+	100+
6V						
1.3	176-9769					
3.4	176-9770					
4.5	176-9771					
7.2	176-9772					
12	176-9773					
15	176-9774					

Energy Storage (Ah)	Order Code	Price Each			
		1+	10+	25+	50+ 100+
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)	Dimensions (mm)			Mfrs. List No.	Order Code
	Length	Width	Depth		
12V					
12	151	98	101.5	LC-CA1212P	176-9783
15	151	98	101.5	LC-CA1215P	176-9784
22	167	74.5	179.5	LC-XC1222P	176-9785
28	165	125	179	LC-XC1228P	176-9786
38	197	165	179.5	LC-XC1238P	176-9787

Energy Storage (Ah)	Order Code	Price Each			
		1+	10+	25+	50+ 100+
12V					
12	176-9783				
15	176-9784				
22	176-9785				
28	176-9786				
38	176-9787				

VRLA Batteries - LC-QA Series Trickle Design



The hallmarks of the Panasonic LC-QA battery series are a very long service life of 15 years (at 20C) and excellent product quality. The latest LC-QA models are the result of a re-search programme to prolong the service life of lead-acid batteries, which Panasonic started back in 1984.



NEW

Applications

Mainly telecommunications industry, emergency light for trains, UPS systems, energy distribution, etc.

Features

- Innovative lead-calcium tin alloy minimises harmful corrosion to the positive electrode
- Reliable seal thanks to a rubber washer and epoxy resin
- Flame-retardant housing according to UL 94-V0

Capacity (Ah)	Dimensions (mm)			Weight (kg)	Mfrs. List No.	Order Code
	Height	Width	Depth			
24	175	125	165	10	LC-QA1224P	206-4204
42	175	165	197	16	LC-QA1242P	206-4205
70	175	166	350	23.5	LC-QA1270P	206-4206
110	210	173	407	36	LC-QA12110TP	206-4203
210	210	173	407	36.5	LC-QA06210TP	206-4202

Capacity (Ah)	Order Code	Price Each			
		1+	5+	10+	+ +
24	206-4204				
42	206-4205				
70	206-4206				
110	206-4203				
210	206-4202				

VRLA Batteries - UP-RW Series Trickle Design



The Panasonic UP-RW series offers up to 30% higher energy density compared to conventional VRLA batteries with the same dimensions. Suitable applications are UPS systems which require a short discharge time of about 30 minutes. Long-lasting experience with market leaders in the power supply business field are evidence for the high-performance of this battery series.



NEW

Applications

UPS systems

Features

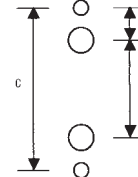
- 30% higher energy density compared to conventional VRLA batteries
- Superior quality
- 100% inspection after final assembly and before shipment
- Distinguished production experience
- Batteries with flame retardant battery container according to UL94 V-0 available

Capacity	Dimensions (mm)			Weight (kg)	Mfrs. List No.	Order Code
	Height	Width	Depth			
20Ah	94	38.5	140	1.3	UP-RW1220P1	206-4208
-	94	51	151	2	UP-RWA1232P2	206-4209
-	94	64.5	151	2.6	UP-VW1245P1	206-4207

Capacity (Ah)	Order Code	Price Each			
		1+	10+	25+	+ +
20	206-4208				
-	206-4209				
-	206-4207				

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

Contact rating

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

Can Style	Order Code	Price Each			
		1+	25+	50+	100+ 250+ 500+
BX0037	301-097				
BX0036	301-085				
BX0035	301-073				
BX0034	301-061				

Battery Retainer Clips



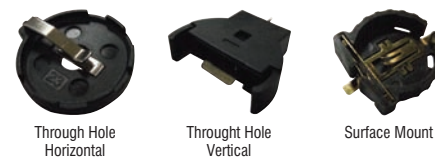
Contact Material
Contact Plating



NEW

Battery Sizes Accepted	Order Code	Price Each		
		10+	25+	100+ 250+
2450	206-4669			
2032	206-4713			

Battery Holders



Through Hole Horizontal Through Hole Vertical Surface Mount



NEW

NOTE: Please see individual datasheets for dimensional detail.

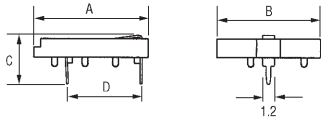
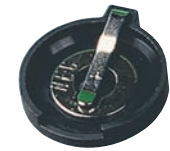
Battery Sizes Accepted	Colour	Order Code	Price Each			
			5+	25+	100+	250+
Through Hole - Horizontal						
23mm Coin Cell	Black	206-4714				
20mm Coin Cell	Black	206-4715				
24mm Coin Cell	Black	206-4717				
20mm Coin Cell	Black	206-4719				
12mm Coin Cell	Black	206-4720				
12mm Coin Cell	Black	206-4721				
20mm Coin Cell	White	206-4726				
Through Hole - Vertical						
20mm Coin Cell	Black	206-4718				

Battery Holders - continued

Battery Holders - continued

Battery Sizes Accepted	Colour	Order Code	5+	25+	100+	250+
Surface Mount						
12mm Coin Cell	Black	206-4722				
20mm Coin Cell	Black	206-4723				
20mm Coin Cell	Black	206-4724				
20mm Coin Cell	White	206-4725				

Coin Cell Holders



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

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

230516

Cell Dia.	Order Code	1+	25+	50+	100+
12mm	302-9839				
12mm	908-630				
16mm	676-482				
20mm	676-469				
20mm	302-9827				
24mm	676-470				
24mm	302-9815				

Coin Cell Retainer Clips



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



230517

Cell Dia.	Order Code	1+	5+	20+
12mm	908-642			
20mm	908-654			
23mm	908-666			

Surface Mount Coin Cell Holders

Single and Dual Cell



- Accepts 20mm batteries
- Low profile for high density packaging
- Ideal for memory back up applications
- Clearly marked polarity (+)
- Viewable solder tail assures reliable joint inspection

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



203231

	Order Code	1+	25+	50+	100+
Single Cell	128-2702				
Dual Cell	128-2703				

EZ Boardware Coin Cell Holders



EZ boardware coin cell holders designed for memory back up and stand-by applications, ensuring quick and easy cell installation and replacement, whilst eliminating the use of solder for cell placement.

- Available in SMT and PCB mount
- Accommodates CR2032 (S8211-46R, S8401-46 or S8421-45R) or BR1220 (S8411-45R) coin cells



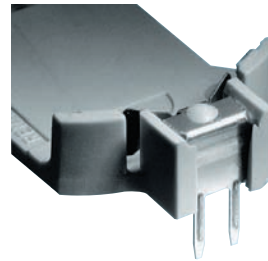
NEW

659123

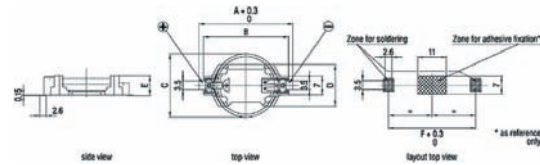
Mfrs.	Order Code	1+	10+	25+	50+	100+
S8211-46R	211-5303					
S8401-46	211-5304					
S8421-45R	211-5305					
S8411-45R	211-5306					

Lithium Coin Battery Holders

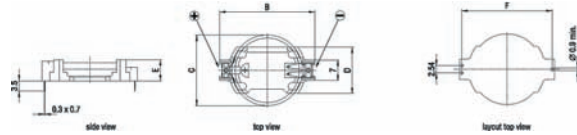
Surface Mount/Through Hole



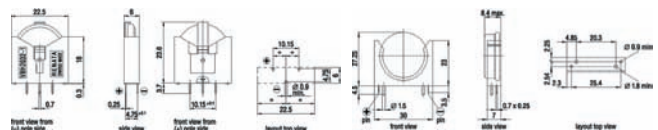
- Surface Mount (SMT) and Through Hole battery holders
- Designed for automatic 'pick and place' mounting
- Simple and fast replacement of battery
- Cell held firmly in position
- Clear separation of connections
- Heat resistant, glass fibre filled LCP/Flammability rating UL 94 V-0
- Short circuit and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



Model	Dimensions						Order Code
	A	B	C	D	E	F	
SMT Battery Holders							
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

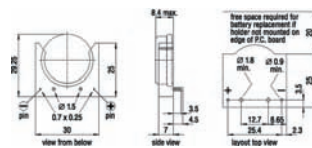


Model	Dimensions						Order Code
	B	C	D	E	F		
Through Hole Battery Holders							
HU 1632-1	24.3	16.0	14.5	5.2	22.7	508-5196	
HU2032-LF	28.5	20	16.1	5.2	26.9	131-9749	
HU 2450N-1-LF	33	24.5	16.1	7.3	31.5	121-6358	



Vertical Battery Holder
121-6359

Vertical Battery Holder
121-6360



Horizontal Battery Holder
121-6361

337057

Type	Order Code	1+	25+	100+	250+
SMT Battery Holders					
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				

Type	Order Code	Price Each			
		1+	25+	100+	250+
Through Hole Battery Holders					
HU 1632-1	508-5196				
HU2032-LF	131-9749				
HU 2450N-1-LF	121-6358				
Vertical Mount Holders					
VBH2032-1-LF	121-6359				
NH5077-LF	121-6360				
NL5077-LF	121-6361				

Aluminium Holders PCB and Chassis Mounting



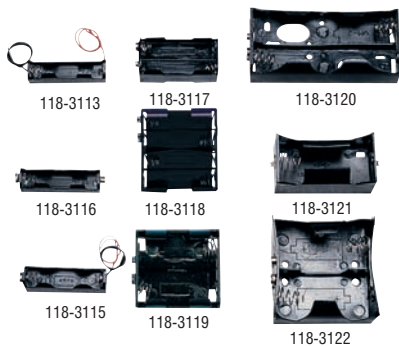
- Sturdy construction
- Low cost and lightweight
- Brass eyelets and lugs, nickel plated
- Moisture proof insulation washer
- Single and multicell configuration
- Both solder lugs and direct pcb mounting types available

KEYSTONE

203230

5 Per Pack	Order Code	Price Per Pack		
		1+	5+	20+
AA (PCB)	128-2693			
2xAA (PCB)	128-2695			
AA (Solder)	128-2696			
2xAA (Solder)	128-2697			
C (Solder)	128-2698			

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	Wire Leads	56	16	13	118-3113
AA	Wire 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	63	118-3118
C	Snap terminals	60	53	21	118-3119
C	Snap terminals	108	53	23	118-3120
D	Solder Tags	69	36	27	118-3121
D	Snap terminals	68	68	30	118-3122

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

224348

5 Per Pack	Can Style	Order Code	Price Per Pack		
			1+	5+	20+
	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



Depth behind panel=57.2
Panel cut-out=72.21.2, Fixing centres=82.6 3.8 dia
Contact rating 20A
Contacts Nickel Silver
Mfrs. List No. BX0027

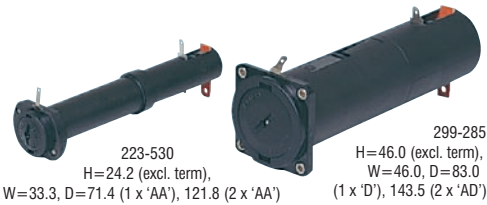


An enclosed panel mounting battery holder which will accept four AA type cells. They may be connected either, all in series or in two pairs of cells. Manufactured in robust glass filled black nylon with removable draw. Connection may be made via solder tags, which will accept snap-on terminals (2.8 0.5)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

224349

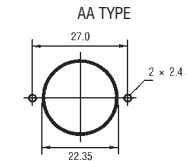
Order Code	Price Each				
	1+	10+	25+	100+	250+
118-4194					

Panel Mounting AA, D

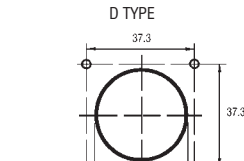


223-530
H=24.2 (excl. term),
W=33.3, D=71.4 (1 x 'AA'), 121.8 (2 x 'AA')

299-285
H=46.0 (excl. term),
W=46.0, D=83.0
(1 x 'D'), 143.5 (2 x 'AD')



Panel cutout
max. panel thickness=3.2



Panel cutout
max. panel thickness=4.0

Panel mounting battery holders suitable for 1 'AA', 2 'AA' or 1 'D', can style batteries. They are simply mounted from the rear of the panel leaving the circular matt face visible. The flush fitting bayonet cap with coin slot is clearly marked 'Battery'. Good battery contact is 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+	25+	100+	250+
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)

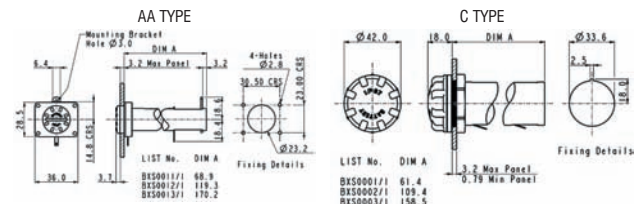
Max panel thickness=3.2, Panel cut-out=33,
Dia. (Bezel)=38.1

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

224351

Can Style	Order Code	Price Each			
		1+	25+	50+	100+
1 C	908-605				
2 C	908-617				

Front Panel Sealed to IP67





Board Mounted Power

- ✓ Low cost
- ✓ High reliability
- ✓ Short lead times
- ✓ Industry standard footprints
- ✓ Highest power density



**5W
AC-DC
in 1"x1"**

AC-DC low power board mounted ranges



ECE series

- 5 to 40 Watts
- Ultra compact from 1" x 1"
- Encapsulated
- Single and dual outputs
- <0.3 Watts no load input power



ECL series

- 5 to 30 Watts
- Ultra compact size
- Single & multi outputs
- Open-frame & encapsulated
- <0.3 Watts no load input power



**20W
DC-DC
in 1"x1"**

Industry standard DC-DC ranges



1 to 3 Watts

- SIP & DIP packages
- Regulated & unregulated versions
- $\pm 10\%$, 2:1 & 4:1 inputs
- 500 V to 6 kV isolation



2 to 60 Watts

- 1 x 1", 1 x 2", 2 x 2" & DIP-24 footprints
- Regulated & unregulated versions
- Wide 2:1 & 4:1 inputs
- Up to 3.5 kV isolation



Medical safety approvals

- 3 to 10 Watts
- Meets IEC60601-1 3rd edition
- 4000 VAC reinforced insulation
- 2 μ A patient leakage current



LED drivers

- 5 to 48 Watts
- Up to 1000 mA output
- Constant current output
- 95% efficiency



Surface mount power

- 1 & 2 Watts
- Regulated & unregulated versions
- $\pm 10\%$, 2:1 & 4:1 inputs
- Single & dual outputs

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GREEN•POWER



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