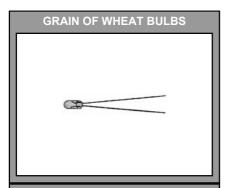
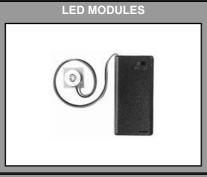
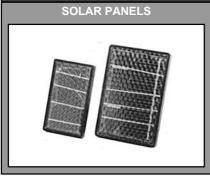
OPTO - BULBS & HOLDERS - SOLAR PANELS











5MM FILAMENT BULBS ALARM MIMIC BI-PIN FILAMENT BULBS E12 SCREW BASE LED LAMPS FLANGE BASE LED LAMPS FLANGE LAMPS FLASHING LED MODULES FLASHING MES BULBS GRAIN OF RICE BULBS GRAIN OF WHEAT BULBS KRYPTON BULBS LES BULBS & HOLDER LED BADGES LED FLANGE LAMPS LED PANEL INDICATORS MCC BULBS & HOLDERS MES BULBS MES HOLDERS	2194 2199 2195 2197 2197 2196 2199 - 2200 2195 2194 2194 2197 2195 2199 2196 2199 2197 2195 2199
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SOLAR PANELS	2200



GRAIN OF RICE BULBS

12 VOLT GRAIN OF RICE BULBS a range of sub-miniature

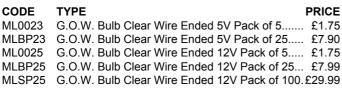
coloured bulbs with 120mm insulated wire leads. 1.8mm dia x 5mm length. 12 volt 30mA.



GRAIN OF WHEAT BULBS

CLEAR GRAIN OF WHEAT BULB WIRE ENDED a miniature T1 lamp with 35mm wire leads in 5V and 12V. 3.18mm dia x 5.35mm.

Voltage	Current	Life(hrs)	
5V	45mA	10,000	
12V	60mA	16,000	



CLEAR GRAIN OF WHEAT BULBS miniature clear bulbs. 3.2mm dia x 10mm length, with 120mm insulated wire leads.

Available in 3 voltages:- 3V 120mA, 6V 65mA, 12V 65mA.



CODE	TYPE PRICE
ML0005	Grain of Wheat Bulb Clear 3V Pack of 5 £1.75
MLBP05	Grain of Wheat Bulb Clear 3V Pack of 25 £7.90
MLSP05	Grain of Wheat Bulb Clear 3V Pack of 100 £29.99
ML0010	Grain of Wheat Bulb Clear 6V Pack of 5 £1.45
MLBP10	Grain of Wheat Bulb Clear 6V Pack of 25 £6.50
MLSP10	Grain of Wheat Bulb Clear 6V Pack of 100 £24.99
ML0020	Grain of Wheat Bulb Clear 12V Pack of 5£1.45
MLBP20	Grain of Wheat Bulb Clear 12V Pack of 25 £6.50
MLSP20	Grain of Wheat Bulb Clear 12V Pack of 100 £24.99

COLOURED GRAIN OF WHEAT BULBS

COLOURED GRAIN OF WHEAT BULBS miniature coloured bulbs with 25mm wire leads, 3.2mm diameter x 8.2mm length. 12V 65mA.



CODE	TYPE	PRICE
ML0030	Grain of Wheat Bulb Red 12V Pack of 5	£1.65
ML0040	Grain of Wheat Bulb Green 12V Pack of 5	£1.65
ML0050	Grain of Wheat Bulb Yellow 12V Pack of 5	£1.65
ML0060	Grain of Wheat Bulb Blue 12V Pack of 5	£1.65

3 VOLT COLOURED GRAIN OF WHEAT BULBS a range of miniature coloured bulbs with 120mm insulated wire leads. 3.2mm dia x 7mm length. 3 volt 120mA.

TYPE	PRICE
G.O.W. Bulb 3V 120mm Lead Red	£0.50
G.O.W. Bulb 3V 120mm Lead Green	£0.50
G.O.W. Bulb 3V 120mm Lead Amber	£0.50
G.O.W. Bulb 3V 120mm Lead Blue	£0.50
G.O.W. Bulb 3V 120mm Lead Red Pack of 5	£2.35
G.O.W. Bulb 3V 120mm Lead Green Pack of 5	£2.35
G.O.W. Bulb 3V 120mm Lead Amber Pack of 5	£2.35
G.O.W. Bulb 3V 120mm Lead Blue Pack of 5	£2.35
	TYPE G.O.W. Bulb 3V 120mm Lead Red

6 VOLT COLOURED GRAIN OF WHEAT BULBS a range of

miniature coloured bulbs with 120mm insulated wire leads. 3.2mm dia x 7mm length. 6 volt 50mA.

dia x 10mm length. 12 volt 80mA.

622-922

622-934



G.O.W. Bulb 6V 120mm Lead Amber Pack of 5.. £2.35

G.O.W. Bulb 6V 120mm Lead Yellow Pack of 5.. £2.35

622-930 G.O.W. Bulb 6V 120mm Lead Blue Pack of 5...... £2.35

12 VOLT COLOURED GRAIN OF WHEAT BULBS a range of miniature coloured bulbs with 120mm insulated wire leads. 3.2mm

CODE	TYPE	PRICE
ML0035	G.O.W. Bulb 12V 120mm Lead Red	£0.40
ML0045	G.O.W. Bulb 12V 120mm Lead Green	£0.40
ML0055	G.O.W. Bulb 12V 120mm Lead Yellow	£0.40
ML0065	G.O.W. Bulb 12V 120mm Lead Blue	£0.40
ML0036	G.O.W. Bulb 12V 120mm Lead Red Pack of 5	£1.80
ML0046	G.O.W. Bulb 12V 120mm Lead Green Pack of 5.	£1.80
ML0056	G.O.W. Bulb 12V 120mm Lead Yellow Pack of 5	£1.80
ML0066	G.O.W. Bulb 12V 120mm Lead Blue Pack of 5	£1.80

5MM FILAMENT BULB

5MM WIRE ENDED FILAMENT LAMP a wire ended 12v bulb rated at 0.08A, 0.96W. Ideal for applications such as backlighting, scale illumination, etc. Dimensions 3mm dia x 14mm. Lead length 15mm.

CODE	TYPE	PRICE
622-685	5mm Wire Ended Filament Lamp 12V Pack of 5	£1.50
622-686	5mm Wire Ended Filament Lamp 12V Pk of 25	£6.75

IF THERE ARE OTHER PRODUCTS
THAT YOU WOULD LIKE US TO
STOCK, PLEASE FEEL
FREE TO LET US KNOW.

BI-PIN FILAMENT LAMPS

T11/4 BI-PIN FILAMENT LAMP a range of sub-miniature filament lamps with formed pins on a 2.54mm pitch. Suitable for use on printed circuit boards or in a wide range of illuminated switches. Due to its small size it could be used in various ways. Dimensions 14.8mm long x 4.3mm diameter with pin length of 7mm. Sold Individually.

Technical Specification

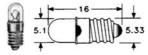
Voltage Current Watts Lumens Nominal Life 60mA 0.36 1.6 3,000 hrs

CODE	TYPE	PRICE
622-270	T11/4 Bi-Pin Filament Lamp 5V	£0.69

LES BULBS AND HOLDERS

LES BULBS miniature tubular filament bulbs, 5mm diameter x 16mm including screw fitting.

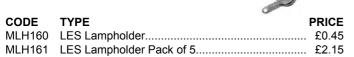
6V 60mA 12V 80mA 24V 40mA.



CODE	TYPE	PRICE
18-0026	LES Bulb Clear 1.5V Pack of 5	£1.65
18-0028	LES Bulb Clear 4.5V Pack of 5	£1.65
ML0100	LES Bulb Clear 6V Pack of 5	£2.25
ML0110	LES Bulb Clear 12V EACH	£0.45
ML0111	LES Bulb Clear 12V Pack of 5	£2.15
ML0112	LES Bulb Clear 24V EACH	£0.50

LES HOLDER a miniature LES holder with solder tag connections. Dimensions:- 15mm across tags.

9mm high, x 6mm dia.



LES HOLDER WITH PCB PRONGS a miniature LES holder with pins which are suitable for PCB mounting.

CODE	TYPE	PRICE
MLH165	LES Holder With PCB Prongs	£0.45
MLH166	LES Holder With PCB Prongs Pack of 5	£2.15

LES REFLECTOR a metal reflector for use with LES bulb holders.

Diameter 14mm. Sold individually.



LES LAMPHOLDERS WITH COLOURED LENS attractive LES holders with a flat top polycarbonate lens. Solder tag termination and chrome bezel. Overall length 27mm, panel cutout required 11mm.



CODE	TYPE	PRICE
MLH170	LES Holder with Red Lens	£0.99
MLH180	LES Holder with Green Lens	£0.99
MLH190	LES Holder with Orange Lens	£0.99

MES BULBS

MES BULBS a range of miniature MES lamps available in a range of voltages. 11mm diameter x 23mm length overall.

1.5V 300mA - nominal life 50 hrs. 2.5V 200mA - nominal life 100 hrs. 3.5V 300mA - nominal life 1000 hrs. 6V 40mA - nominal life 100 hrs. 6V 60mA - nominal life 10000 hrs. 12V 200mA - nominal life 3000 hrs. 50mA - nominal life 50 hrs.



24V 125mA	- nominal life 50 hrs.	
CODE	TYPE	PRICE
ML0212	MES Bulb 1.5V 300mA	£0.30
ML0213	MES Bulb 1.5V 300mA 5 pack	£1.45
ML0214	MES Bulb 2.5V 200mA	£0.30
ML0215	MES Bulb 2.5V 200mA 5 Pack	£1.45
ML0216	MES Bulb 3.5V 300mA	£0.30
ML0217	MES Bulb 3.5V 300mA 5 Pack	£1.45
622-736	MES Bulb 6V 40mA	£0.30
ML0220	MES Bulb 6V 60mA	£0.25
ML0221	MES Bulb 6V 60mA 5 Pack	£1.20
ML0230	MES Bulb 12V 200mA	£0.25
ML0231	MES Bulb 12V 200mA 5 Pack	£1.20
ML0146	MES Bulb 24V 125mA	£0.30

MES TUBULAR R10 BULBS tubular bulbs with MES bases, available in a range of popular voltages and wattages. Max diameter 10mm, overall length 28mm.

Technical Specification

Voltage	Current	Wattage	
3.5V	300mA	1.95W	
12V	100mA	1.2W	
12V	183mA	2.2W	
24V	50mA	1.2W	
24V	125mA	3.0W	



CODE	TYPE	PRICE
622-690	Tubular MES Bulb 6.5V 300mA	£0.40
622-695	Tubular MES Bulb 12V 100mA	£0.40
622-700	Tubular MES Bulb 12V 183mA	£0.40
622-705	Tubular MES Bulb 24V 50mA	£0.49
622-710	Tubular MES Bulb 24V 125mA	£0.49

LENS ENDED MES BULB a lens ended bulb with MES base producing a focused beam of light. Commonly used in torches and applications where a directed beam is required. Max diameter 9.5mm, overall length 24mm.

Technical Specification

voitage	Current	vvatt	
2.2V	250	Α	0.55

je	Current 250	Watt A 0.55)

CODE	TYPE	PRICE
18-0034	Lens ended MES bulb 1.2V 220mA	£0.30
622-715	Lens ended MES bulb 2.2V 250mA	£0.30
18-0036	Lens ended MES bulb 3.5V 300mA	£0.30
18-0038	Lens ended MES bulb 6.0V 300mA	£0.30

FLASHING MES BULBS

FLASHING MES BULB a standard MES screw bulb incorporating a bi-metal strip which causes the bulb to flash on and off. 15mm dia.

CODE	TYPE	PRICE
ML0233	Flashing MES Bulb 1.5V 200mA	£0.45
ML0240	Flashing MES Bulb 6V 200mA	£0.45

LED MES LAMPS

LED MES LAMPS a range of high brightness LED lamps in various colours that come with an MES base. These solid state lamps have a lifespan of up to eight times that of conventional filament lamps, as well as being more robust, making them an extremely cost effective alternative. These lamps can be used in a wide range of applications as a direct replacement for filament lamps and are suitable for both illumination and indication for torches, indicator panels, automotive and backlighting. With a water clear lens, AC/DC operation, 240mW power consumption, long lifespan, low power consumption and shockproof. Available in a choice of colours and a 30° or 100° Viewing angle. Note: LED lamps are polarity sensitive, please ensure correct wiring polarity is observed.



Technical:	Technical Specification							
Colour	Voltage	Voltage	Viewing	Luminous intensity	Chromaticity coordinates/			
	AC typ.	DC max.	angle	typ. (mcd)	dominant wavelength			
White	6V	8V	30°	8400	0.29, 0.28			
Red	6V	8V	30°	7000	625			
Yellow	6V	8V	30°	7000	605			
Orange	6V	8V	30°	7000	590			
Green	6V	8V	30°	10000	525			
Blue	6V	8V	30°	4200	470			
Pink	6V	8V	30°	3000	0.44, 0.25			
White	6V	8V	100°	2180	0.29, 0.28			
White	12V	16V	30°	8400	0.29, 0.28			
Red	12V	16V	30°	7000	625			
Yellow	12V	16V	30°	7000	605			
Green	12V	16V	30°	10000	525			
Blue	12V	16V	30°	4200	470			
Pink	12V	16V	30°	3000	0.44, 0.25			
White	12V	16V	100°	2180	0.29, 0.28			
Warm white	12V	16V	100°	1960	0.5, 0.43			

CODE	TYPE	PRICE
18-0810	6V LED Miniature Lamp MES White	£0.89
18-0814	6V LED Miniature Lamp MES Red	£0.89
18-0818	6V LED Miniature Lamp MES Yellow	£0.89
18-0822	6V LED Miniature Lamp MES Orange	£0.89
18-0826	6V LED Miniature Lamp MES Green	£0.89
18-0830	6V LED Miniature Lamp MES Blue	£0.89
18-0834	6V LED Miniature Lamp MES Pink	£0.89
18-0838	6V LED Miniature Lamp MES White	£0.89
18-0812	12V LED Miniature Lamp MES White	£0.89
18-0816	12V LED Miniature Lamp MES Red	£0.89
18-0824	12V LED Miniature Lamp MES Yellow	£0.89
18-0828	12V LED Miniature Lamp MES Green	£0.89
18-0832	12V LED Miniature Lamp MES Blue	£0.89
18-0836	12V LED Miniature Lamp MES Pink	£0.89
18-0840	12V LED Miniature Lamp MES Warm White	£0.89

PRODUCT CODES

PLEASE NOTE - IT IS VERY IMPORTANT TO USE THE CORRECT PRODUCT CODE FOR THE ITEMS YOU WISH TO ORDER

IT IS VITAL TO INCLUDE THE PUNCTUATION
IN THE CODE AND TO FORMAT THE CODE
AS SHOWN IN THE CATALOGUE

10mm SCREW BASED LEDS A range of 10mm screw based LEDs, ideal as replacements for conventional filament bulbs in applications where long life or ease of replacement is a consideration. Available in red, green and yellow, fitted with internal current limiting resistors suitable for 6, 12, or 24V DC operation. Please note that wiring polarity must be observed when replacing filament lamps.

9.15 ANOE 13.6 2.0 CATHODE 30.2

Technical specification

			wave	lum.In	t (mod)	
			length	@ wor	king voltage	Viewing
Colour	lens	mat	(nm)	Min.	Max.	angle
Red	water clear	GaAl/A	As 660	1500	3000	20°
Green	water clear	GaP	565	200	700	20°
Yellow	water clear	InGaA	IP 595	700	2500	20°

CODE	TYPE		PRICE
622-661	10mm	Screw Based LED Red 24V	£1.25
622-666	10mm	Screw Based LED Green 12V	£1.25
622-673	10mm	Screw Based LED Yellow 12V	£1.50

MES BULB HOLDERS

MES LAMPHOLDER a miniature MES bulb holder with two solder tag connections.

19mm across tags. 13mm high. 10mm dia.

CODE	TYPE	PRICE
MLH250	MES Lampholder	£0.25
MLH260	MES Lampholder Pack of 5	£1.25

MES HOLDER WITH U BRACKET a MES holder mounted to a "U" bracket which allows the bulb to be mounted behind a panel. Fitted with 1 solder tag, the bracket is also used for connection.



CODE	TYPE	PRICE
MLH266	MES Holder With U Bracket	£0.50
MLH267	MES Holder With U Bracket Pack of 5	£2.25

MES HOLDER WITH PCB PRONGS a miniature MES holder with pins which are suitable for PCB mounting.

CODE	TYPE	PRICE
MLH264	MES Holder With PCB Prongs	£0.35
MLH265	MES Holder With PCB Prongs Pack of 5	£1.55

MES BATTEN HOLDER a MES bulb holder with black plastic body and crosshead screw terminals. Fixing centres 22mm. 29mm diameter x 19m high.

CODE	TYPE	PRICE
MLH270	MES Batten Holder	£0.50
MLH280	MES Batten Holder Pack of 5	£2.25

CLIP-ON MES LAMPHOLDER a moulded nylon clip-on MES lampholder designed for push fitting onto a suitable tab or tongue. Maximum rated voltage 50V.

CODE	TYPE	PRICE
622-720	Clip-on MES Lampholder	£0.50

MES REFLECTOR METAL a metal reflector for use with MES bulb holders. Diameter 24mm. Sold individually.



CODE	TYPE	PRICE
MLR047	MES Reflector Metal	£0.50

MES PAROBOL REFLECTOR a parabol reflector for use with MES bulb holders. Diameter 40mm. Sold individually.

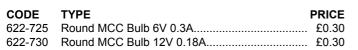


CODE	TYPE	PRICE
MLR058	MES Parobol Reflector 40mm	£1.99

MCC BULBS & HOLDERS

ROUND MCC BULBS round bulbs with MCC (BA9s) 9mm bayonet bases, available in two popular voltages and wattages. Max diameter 11mm, overall length 23mm. Sold individually.

Technical specification Current Wattage Voltage 300mA 1.8W 12V 180mA 2.2W



TUBULAR MCC BULB Tubular bulbs with MCC (BA9s) 9mm diameter bayonet bases, available in a range of popular voltages and wattages. Maximum diameter 10mm, overall length 27.5mm. Sold individually.

Technical	Specification	

Voltage	Current	Wattage
12V	340mA	4.0W
24V	50mA	1.2W
24V	83mA	2.0W



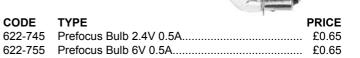
Tubular MCC Bulb 24V 50mA......£0.40 622-737 622-739 Tubular MCC Bulb 24V 83mA...... £0.40 MCC LAMP BASE a miniature MCC lampholder terminated by

solder tags at the base of the holder. Will accept all MCC (R10) lamps. 10mm diameter, 17mm high. Sold individually.

CODE	TYPE	PRICE
622-740	MCC Lamp Base	£0.30

PRE-FOCUS FLANGE LAMPS

PRE-FOCUS BULBS a range of flanged, pre-focus bulbs commonly found in torches and lanterns. Cap diameter 11mm. Overall length approximately 30mm. Sold individually.



KRYPTON PRE-FOCUS BULBS a range of krypton filled, flanged, pre-focus bulbs commonly found in torches and lanterns. The brightness of these bulbs is greatly increased when compared to standard types. Cap diameter 11mm. Overall length approximately 30mm. Sold individually.

CODE	TYPE	PRICE
622-759	Krypton Bulb 2.4V 0.7A	£0.99
622-760	Krypton Bulb 2.4V 0.95A	£0.99
622-775	Krypton Bulb 6V 0.65A	£0.99
622-780	Krypton Bulb 7.2V 0.7A	£0.99

FLANGE BASE LEDS

5mm FLANGE BASED LEDS A range of 5mm flanged based LEDs, ideal as replacements for conventional filament bulbs in applications where long life or ease of replacement is a consideration. Available in red, green and yellow, fitted with internal current limiting resistors suitable for 12 or 24V DC operation. Please note that wiring polarity must be observed when replacing filament lamps. L-8503SRC CATHODE 1.6



Technical specification

			wave	lum.ln	t (mod)	
			length	@ wor	king voltage	Viewing
Colour	lens	mat	(nm)	Min.	Max.	angle
Green	water clear	GaP	660	100	300	30°
Yellow	water clear	InGaA	IP 595	400	2000	30°

CODE	TYPE		PRICE
622-646	12V 5mm	Flange Based LED Green	£1.15
622-651	12V 5mm	Flange Based LED Yellow	£1.45
622-653	24V 5mm	Flange Based LED Yellow	£1.45

EXHIBITION SALES STAND

WE AIM TO EXHIBIT AS WIDE A RANGE AS POSSIBLE AT SHOWS, BUT DUE TO SPACE RESTRICTIONS WE ARE NOT ABLE TO FEATURE EVERY PRODUCT. IF YOU CONTACT US A FEW DAYS PRIOR TO AN EVENT WE WILL TRY TO ENSURE A PRODUCTS AVAILABILITY AT THAT SHOW.

PRICE

SCREW BASED LEDS

SIXCESS LED LAMP 12V WHITE E12 this E12 based lamp contains eight state of the art LEDs and packaging technology to produce a device that has the appearance of an incandescent bulb with the performance and economy of a solid state device. Intended as a replacement for the traditional six Watt 6S6 candelabra bulb whilst only using twenty per cent of the energy and lasting twenty times longer. It has a rugged solid state construction for shock and vibration resistance and low power consumption means reduced running costs. Excellent reliability means reduced down time and maintenance costs.

- * 12V input
- * Warm white colour similar to a traditional 6S6 lamp
- * Sealed socket for use indoors or outdoors
- * A compatible lamp holder is also available see below



Note: LED lamps are polarity sensitive, please ensure correct wiring polarity is observed.

Technical Specification

Input voltage: 12V Power consumption: <1W

Colour temperature: 3100 Kelvin (average) Lumen output: 8 lux (over 1m)

Lumen degradation: 15,000 hours with 70% lumen maintenance

Size and socket: 6S6 Candelabra form factor
Lens: Polycarbonate with UV inhibitors

Operational temperature range: -10°C to +43°C

CODE	TYPE	PRICE
18-0774	Sixcess LED Lamp 12V white E12	£21.99
18-0776	6S6 (E12) Lampholder	£0.25

PANEL INDICATORS

12V SQUARE INDICATORS a range of 12V indicator lamps with 9mm x 9mm square heads, all plastic. Solder connections. **Available while stocks last**.



CODE	TYPE	PRICE
622-812	12V Square Indicator 9 x 9mm Blue	£1.25

12V ROUND INDICATORS a range of 12V indicator lamps with 9mm and 14mm diameter round heads, all plastic. Solder connections.

CODE	TYPE	PRICE
622-816	12V Round Indicator 9mm Dia Red	£1.25
622-818	12V Round Indicator 9mm Dia Blue	£1.25
622-820	12V Round Indicator 9mm Dia Green	£1.25
623-792	12V Round Indicator 14mm Dia Red	£1.45

12V Round Indicator 14mm Dia Blue......£1.45

WIRE ENDED NEON

WIRE ENDED NEON a long life high brightness miniature neon for wiring directly into equipment. Strike voltage 95V AC. Suitable external series resistor for 110V 38K, for 240V 100K 1/4 watt. Lead length 30mm minimum. Dimensions 16 x 6mm.

CODE	TYPE	PRICE
622-320	Miniature Neon Wire Ended Pack of 5	£0.99

PANEL NEON INDICATORS

PANEL NEON INDICATORS miniature panel mounting neons incorporating series resistor for operation direct from mains voltage. Polycarbonate body. Length 40mm. 12mm diameter. Panel cutout 10mm.

CODE	TYPE	PRICE
PN15OR	Miniature Panel Neon Red	£0.85
PN155A	Miniature Panel Neon Amber	£0.85

NEON INDICATORS a range of neon indicators, available with 9mm and 12.5mm diameter round heads or 12.5mm square heads, all plastic. Integral resistor for direct 230Vac operation. Solder connections.

CODE	TYPE	PRICE
622-804	Round Neon Indicator 9mm Dia Red 230V	£0.95
622-806	Round Neon Indicator 9mm Dia Blue 230V	£0.95
623-621	Round Neon Indicator 12.5mm Dia Red 230V	£1.25
623-622	Round Neon Indicator 12.5mm Dia Blue 230V	£1.25
623-623	Round Neon Indicator 12.5mm Dia Green 230V	£1.25
624-435	Square Neon Indicator 12.5mm Dia Red 230V	£1.25
624-436	Square Neon Indicator 12.5mm Dia Blue 230V	£1.25
624-637	Square Neon Indicator 12.5mm Dia Green 230V.	£1.25

SUBMINIATURE PANEL INDICATORS

SUBMINIATURE PANEL INDICATORS a range of subminiature panel mounting indicators and neons, available in various voltages including 6, 14 and mains voltages where the mains operated neons incorporate a series resistor. A moulded polycarbonate body has an attractive nickel plated bezel and is supplied with the appropriate fixing nut and washer. Overall Length 30mm x 7.5mm diameter. Panel cutout 6.4mm.



С	ODE	TYPE	PRICE
6	22-355	Subminiature Panel Indicator Red 14v 40mA	£2.45
6	22-360	Subminiature Panel Indicator Amber 14v 40mA	£2.45
6	22-365	Subminiature Panel Indicator Green 14v 40mA	£2.45
6	22-370	Subminiature Panel Indicator Red 240V	£2.45
6	22-375	Subminiature Panel Indicator Amber 240V	£2.45
6	22-380	Subminiature Panel Indicator Green 240V	£2.65

IF THERE ARE OTHER PRODUCTS
THAT YOU WOULD LIKE US TO
STOCK, PLEASE FEEL
FREE TO LET US KNOW.

623-794

623-793

LED PANEL INDICATORS

3mm LED INDICATORS a range of 3mm LEDs housed in high quality bright satin chromium-plated brass to form high quality panel indicators at modest cost. Available in either recessed or prominent styles. The short lead is the cathode and bezel diameter is 7.6mm, thread M6 x 0.75 and the mounting hole is 6.1mm.



VR max.

Technical Specification IF max.

18-0630

VF typ 2.0V

Red	30m/	4	2.0V	2.5V	5V	32 @ 10mA	60°	660
Green	25m/	4	2.2V	2.5V	5V	20 @ 10mA	60°	565
Yellow	30m/	4	2.1V	2.5V	5V	20 @ 10mA	60°	590
CODE		TY	PE					PRICE
18-060	00	3m	m Chro	me Re	cessed	LED Indi	cator Red	£1.50
18-060)5	3m	m Chro	me Re	cessed	LED Indi	cator Greer	n £1.50
18-061	10	3m	m Chro	me Re	cessed	LED Indi	cator Yellov	w £1.50
18-062	20	3m	m Chro	me Pro	ominent	LED Ind	icator Red	£1.50
18-062	25	3m	m Chro	me Pro	minent	LED Ind	icator Greei	n £1.50

Int.at IF mcd.

3mm Chrome Prominent LED Indicator Yellow.... £1.50

View angle

Wavelength

12V 5mm LED INDICATORS a range of 5mm LEDs incorporating a series resistor to operate at 12V DC housed in a high quality bright satin chromium-plated brass plated, brass bezels to form a high quality panel indicator at modest cost. Bezel diameter 9.5mm. Thread M8 x 0.75. Mounting hole 8.2mm. Short lead is cathode.



Technical specification Operating current

Reverse voltage Intensity green/yellow 32mcd red flashing 80mcd

Life expectancy Temperature range

Normal 30mA Flashing 20-35mA 5V max 80mcd

100,000 hours minimum

-25° to +75°

CODE	TYPE	PRICE
622-621	12V 5mm Chrome Recessed LED Indicator Red.	£2.15
622-623	12V 5mm Chrome Recessed LED Indicator Gren	£2.15
622-626	12V 5mm Chrome Recessed LED Indicator Yell	£2.15
622-631	12V 5mm Chrome Prominent LED Indicator Red.	£2.15
622-633	12V 5mm Chrome Prominent LED Indicator Gre	£2.15
622-636	12V 5mm Chrome Prominent LED Indicator Yell.	£2.15

ALARM MIMIC INDICATOR

FLASHING LED ALARM MIMIC a flashing LED in a mounting bezel designed for fitting in the dashboard to indicate an alarm is armed, even if none is installed. Fitted with a 1.5m lead. 12Vdc, 10mA.



LED BADGES

FLASHING BADGE MODULE a 25mm diameter module incorporating a 3mm flashing red LED, ideal for making novelty badges, etc. The module is powered by two L736 button cells (supplied) and is fitted with a safety pin type catch.

The badge is activated by squeezing, which operates the internal on/off switch. Replacement cells are available.

CODE	TYPE	PRICE
622-473	Flashing Badge Module Round 25mm	£2.99

FLASHING LED BROOCH a triangular module incorporating a 3mm flashing red LED, ideal for making into novelty broaches, etc. The module is powered by two L736 button cells (supplied) and is fitted with a safety pin type catch. The brooch is activated by squeezing the top, which operates the internal on/off switch.

Replacement cells are available. Dimensions of case excluding LED and catch 30 x 22 x 7.5mm.

CODE	TYPE	PRICE
622-477	Flashing LED Brooch Triangular	£2.99

FLASHING LED MODULES

FLASHING LED MODULE a flashing LED module powered by two AA cells (not included) for long operational life (up to 3 months). Applications include dummy car alarm warning light, light switch locater for dark corridors, warning signs, novelty products and modelling projects. The enclosed battery box with built in slide on/off switch provides a convenient power supply solution. The high brightness red 5mm LED is partly recessed into a circular foam pad which is self adhesive on the top surface for easy mounting behind a panel hole, with the LED projecting through the hole. Battery box dimensions 69 x 34 x

19mm. Lead length approx 180mm. LED PCB approx. 8mm square.

CODE	TYPE	PRICE
622-479	Flashing LED Module	£2.75

10 FLASHING LED MODULE a flashing LED module, with built in timer, producing a multi-coloured running light effect similar to that seen in disco light shows. Ideal for eye-catching displays, notices, etc. The module consists of an assortment of ten red, green and yellow 5mm LEDs which flash in pairs in sequence. By arranging the LEDs around the PCB, a large display can be created with minimal effort. The module is activated by a push button switch mounted on the PCB, and runs for approximately 10 to 15 seconds before automatically switching off. The module is powered by two, replaceable L1131 button cells. PCB dimensions 47x29mm, LED lead length approx 280mm.

CODE	TYPE	PRICE	CODE	TYPE	PRICE
800-001	Flashing LED Alarm Mimic	£2.79	622-475	10 Flashing LED Module	£6.25

6 LED LIGHT STRING an LED light string producing a light effect as seen in disco light shows etc, Also ideal for eye-catching displays, notices etc. The string consists of six 5mm red LEDs which flash at random. The module is activated by an on/off push button switch mounted on the PCB, and is powered by a single, replaceable long life CR 2032 lithium coin cell. Replacement cells are available. Main PCB 37 x 26mm. LED PCB 14mm square. String length approx 300mm.



CODE	TYPE	PRICE
622-481	6 LED Light String	£6.25

SOLAR PANELS

SOLAR MODULES a range of encapsulated solar cell modules mounted in a black polycarbonate case. The faceplate consists of small bubble magnifiers which maximises performance by enhancing the light as it strikes the cell. All the modules have an output of 0.45V and are fitted with threaded stud terminals. The modules can be connected in series to produce the required voltage. Output current ranges from 100mA to 800mA.

Code	Dimensions:-
SOM100	45 x 26 x 7.5mm
SOM200	53 x 36 x 7.5mm
SOM400	74 x 45 x 7.5mm
SOM800	95 x 65 x 7.5mm



CODE	TYPE	PRICE
SOM100	Solar Module 100mA	£1.90
SOM200	Solar Module 200mA	£2.50
SOM400	Solar Module 400mA	£3.80
SOM800	Solar Module 800mA	£7.50

 $3V\ SOLAR\ PANEL\$ a fully encapsulated assembly comprising eight individual cells and producing an output of $3V,\ 100\text{mA}$ maximum. Can be used as a power source for low current equipment or for trickle charging AAA or AA size rechargeable batteries. Fitted with a hinged mounting bracket, output is via a 1.8m cable, terminated with red and black crocodile clips and a 1.3mm walkman type DC power plug. Dimensions: $95\ x\ 65\ x\ 7.5\text{mm}$



IF THERE ARE OTHER PRODUCTS
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SOLAR ENERGY KIT

SOLAR ENERGY KIT a complete kit which is intended for students as an introductory kit to solar energy. The kit comprises 8 500mV 100mA solar cells, a battery holder, a miniature DC motor, a small fan plus all the tools and cables enabling the user to construct a working kit. The solar cells provide an output of 3.2V and can be used to drive other small components. Supplied with a 12 page booklet which explains solar energy.



CODE	TYPE	PRICE
SEK010	Solar Energy Kit	£16.99

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WE WILL TRY TO ENSURE A PRODUCTS
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FOR THE ITEMS YOU WISH TO ORDER

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THE PUNCTUATION IN THE CODE
AND TO FORMAT THE CODE
AS SHOWN IN THE CATALOGUE