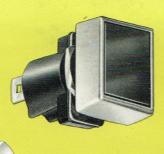
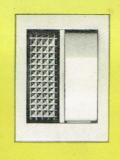
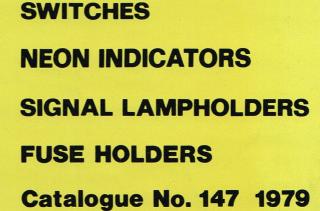
# COLECTRIC SWITCHES LTD · CENTRAL AVENUE · EAST MOLESEY · SURREY · ENGLAND · KT8 ORF · Telephone: 01-979 3232 · Telex: 24959





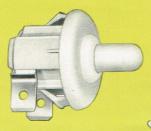














Sole agent for these products in:

### **NEW ZEALAND**

Pye Limited, Electronic Engineering Sector, G.P.O. Box 2839, Auckland

Telephone: 689 979 Telex: 2395











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<del>46</del> А 46А/С		T92		SL186		C290	BC620/C
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49G		SL99		SL195/WL		C290/K2 12	SL692
50		SL100		SL196		C290/KR2 12	SL693
1		SL102		SL196/WL		C290/L2 12	C800 to C889
52		SL103		CS200 to CS20		C290/P2 12	T916to T919
53		MT106D	20	MT206N	20	SL295/WL 23	C930 to T930/DI
4		MT106E	20	MT206P	20	\$306 13	C936 to T938L/DI
5F	11	MT106F	20	MT206R	20	M323 16	T953 to T957/6
5R	11	MT106G	20	MT206S	20	M327 16	C960/DI to C962/DI
6	11	MT106H		MT206T	20	FH330 43	C1400 to C1490 2
57		SL106		CS207 to CS215		FH331 43	C1960
.57/S		L111		T216			
<i>:::::::::::::::::::::::::::::::::::::</i>	32		41	1210	13	M331 16	C3400

### **CONDITIONS OF SALE**

### NEW ACCOUNTS

Cash should be sent with order to avoid delay. To open a monthly credit account we need the names of two of your suppliers to whom we can write for trade references and a bank reference.

### SETTLEWERE MERKA

Monthly accounts are due for payment by the end of the month following that in which the goods are despatched. All accounts are strictly nett.

### GUAHANTE

All products are tested and inspected before despatch. We will replace or repair free of charge under guarantee any products, returned within a year of the date of sale, in which under proper use, defects have arisen due solely to faulty workmanship or material; provided always that the goods are returned carriage paid and that our permission is first obtained in writing. We will not replace any goods that are more than twelve months old, that have been overloaded, or have otherwise been maltreated. Our guarantee covers free repair or replacement only, and under no circumstances will we refund payment. In every case where goods are returned it is essential to quote our invoice number against which they were supplied. The company will not accept responsibility for the loss of time sustained, cost of repairs executed, or any other consequential damage arising from, or said to arise from, the use of our products. Every effort is made to maintain delivery promises, but we cannot accept any liability in respect of delay or failure in delivery. We reserve the right to withdraw old products and to alter the design of products without prior notice.

### TERL MEALTH AND SALERY A

Abbreviated information on British and Overseas approvals is given in this catalogue, please note that approvals do not always cover every version of a component. Switches with metal levers (or metal fixing systems) do not comply with the latest standards on safety unless the fixing plate is reliably earthed. Product descriptions are, of necessity, abridged and users should always give full details of electrical load and environmental conditions so that a check can be made that the component is suitable for the application. Switch ratings are, unless otherwise stated, resistive at 250 volts AC, T55.

Transparent lenses on signal lamps, neon indicators and illuminated switches are moulded in polycarbonate, a material which is attacked by hydro carbons.

### DAMAGE OF LOSS IN CYCLO

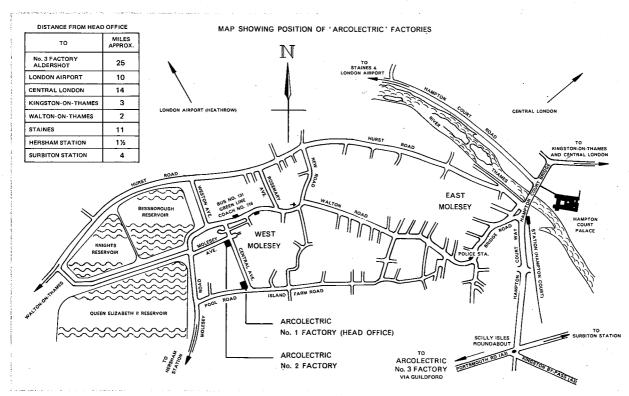
If you wish us to make a claim on the carriers for a parcel damaged in transit you must notify the carriers and ourselves within three days of receipt. If a consignment fails to arrive within ten days of you receiving an advice note and invoice from us you should immediately notify the carriers and ourselves. Claims can only be considered if made within this period. Shortage claims on consignments not damaged in transit should be made within seven days.

### CARR ARE

For all deliveries within the United Kingdom a nominal charge of £1 is made to cover handling, packing and carriage.

### PRICES

Notwithstanding any clauses attached to the order, any tenders and any contracts based on them are made on the understanding that we reserve the right to alter prices according to the prices ruling at the date of despatch. Customers will be notified of this alteration and will be at liberty to cancel the contract if desired, but we shall not be liable for any loss thus sustained.







### ARCOLECTRIC SWITCHES LTD

CENTRAL AVENUE, EAST MOLESEY, SURREY KT8 ORF, ENGLAND TELEX: 24959

TELEPHONE: 01-979 3232



### ARCOLECTRIC SWITCHES LTD

Head Office and Registered Offices:

Central Avenue, East Molesey, Surrey, England, KT8 0RF.

Telephone: 01-979 3232 (Ten lines)
Cables: Arcolectric, Molesey, England

Telex: 24959

Company No. 357431. Registered in London, England.

V.A.T. Reg. No. 211 3314 30

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Canada





South Africa



Sweden Denmark

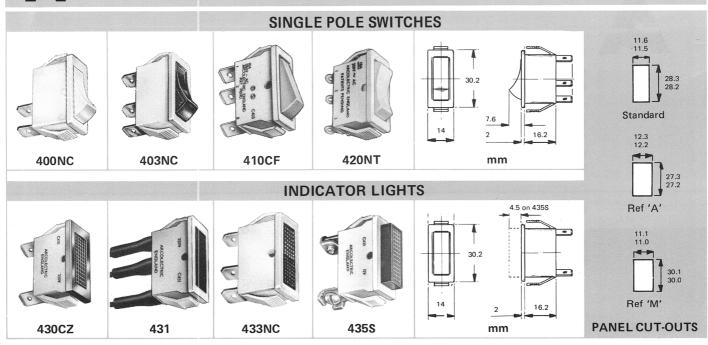
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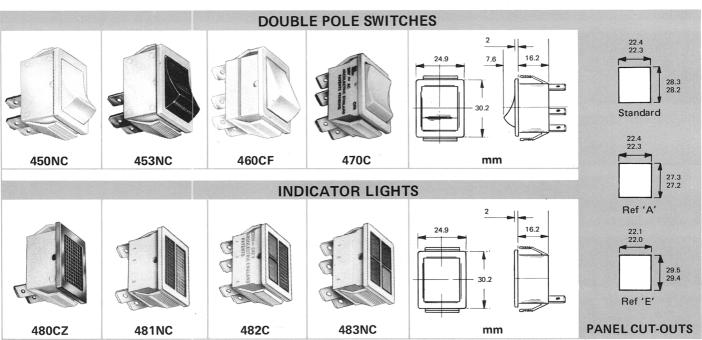
Australia

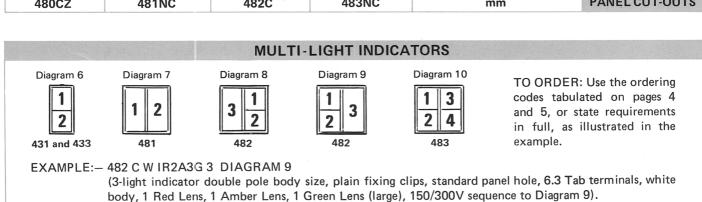
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### ROCKER SWITCHES 10A. and 16A. 125/250V ~ AC.







Snap-in-fixing in panels, thickness between .75mm and 3.3mm. Fixing clips may be plain or serrated form.

BEZELS: Chrome bezels for all switches and indicator lights (except Cat. No. 435) See ORDERING CODE on pages 4 and 5. CONNECTING LINK, for common connection of terminals of two single pole adjacent switches or indicator lights. Part No. P437 ROCKERS. Curved or flat but curved only on illuminated double pole.

NEON INDICATORS WITH FLASHING SIGNAL. See ORDERING CODE on pages 4 and 5.

### TWIN UNITS (DOUBLE POLE BODY SIZE)



400C/400C



400C/430C



430C/420C



410C/420C



410C/433C



403C/403C

Selection of units which can be supplied

TWIN UNITS. Double pole body size units, fitted with independent single pole switches or indicator lights. These can consist of 2-single pole switches, or 1-single pole and 1-indicator light or 2-indicator lights. Any combination of the switches and lights tabulated on page 4 may be fitted, in any sequence to suit requirements. Flat top rockers only. TO ORDER. Use the ordering code found on page 4, and include the applicable diagram number, which can be selected from the following:-

Diagram 1



Switch Switch

Diagram 2



Switch Single Indicator Light

Diagram 3



Single Switch Indicator Light

Diagram 4



Switch 2-light Indicator

Diagram 5



2-light Switch Indicator

**GROUPED ASSEMBLIES** 

### EXAMPLE: - 410 C W W/433 C.IR2G 3. DIAGRAM 4 (Will be marked C410F C433)

(Single pole change-over switch, plain fixing clips, standard panel hole, 6.3 Tab Terminal, white body and rocker with 2-light indicator having 6.3 Tab Terminals, red upper, green lower lenses, 150/300V).

### **LOW VOLTAGE**

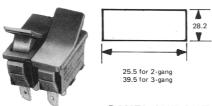
LV 403C

Low Voltage single pole switch with light. Voltage range 6V, 12V or 24V. Standard panel hole only, as page 2.

TO ORDER. Use the ordering code on page 4.

Dimensions in mm

### **LATCHING SWITCHES**



Single pole switches with special

rockers for interlatching, and sequence

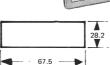
TO ORDER. Use the ordering code on

page 4 and place letter 'L' in front of

the completed catalogue numbers.

L400C/400C

PANEL CUT-OUT



GRP5





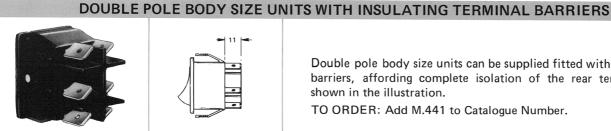
**CUT-OUT** 

**PANEL** 

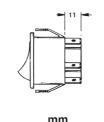
Chrome finish brass escutcheon for grouping five single pole switches or indicator lights into one assembly.

TO ORDER. Use letters 'GRP', followed by details of the units required, using the ordering code on page 4.

switching.

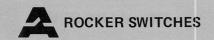


460AC/M441



Double pole body size units can be supplied fitted with insulating barriers, affording complete isolation of the rear terminals as shown in the illustration.

TO ORDER: Add M.441 to Catalogue Number.



			SINGLE POLE BO	DDY SIZE				
1 10 3	Terminal Numbers	Type No. Standard cut-out plain fixing clips	ANEL CUT-OUTS	Terminations	Body Colours	Rocker and Lens Colours	Voltage	
	ON/OFF  ON/OFF  with light  ON/OFF  with light  2-Pos C/O  centre off  Single  indicator  light	400 1400 403 1403 LV 403 410 1410 420 1420	For switches with serrated fixing clips to fit standard cut-out, place letter 'N' at rear of type No. Example: 400N  For switches to fit panel cut-out Ref 'A' (serrated fixing clips only) place letter 'A' at rear of type No. Example: 400A  For switches to fit panel cut-out Ref 'M' (plain fixing clips only) place letter 'M' at rear of type No. Example: 400M	See column headed 'Terminations' on page 5	Standard colours  B = Black  W = White  Special Colours on request To quantity order	Standard colours  Curved Rockers B = Black W = White RE = Red  Flat Rockers FB = Black FW = White FRE = Red  Transparent Lenses and Curved Rockers R = Red CL = Clear G = Green A = Amber BL = Blue  Transparent Flat Rockers FR = Red FC = Clear FG = Green FA = Amber FBL = Blue	0 = No resistor required 1 = Below 100V specify 2 = 100/130V 3 = 200/250V 4 = 380/440V Filament Lamps 6 = 6V 7 = 12V 8 = 24V	
(O)	2-Light indicator (flex leads only)	431				Amber only with neon, Green with fluorescent	Use this column	
	2-Light indicator	433				Special colours on request to Quantity order	ordering indicator lights or switches with lights	

### \*EXAMPLE:--

(Single Pole Switch with light, plain fixing clips, Standard panel hole, 6.3 Tab Terminals, White Body, Red Transparent Curved Rocker, 200/250V).

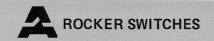
-403 C W R 3

To order chrome bezels, place letter 'Z' at rear of completed Cat. No. Example:- 403 CWR3/Z



435 neon indicators are available with flashing signal. Red, Amber and Clear.

<sup>\*</sup>The use of this ordering code should help to prevent mistakes but note that only the Cat. No. and rating are printed on switches e.g. C.403 10A 250V~. Approvals and Temperature rating can be printed on switches if requested.



		•	DOUBLE POLE	BODY SIZE			
Ν ω		Р	ANEL CUT-OUTS	Terminations	Body Colours	Rocker & Lens Colours	Voltage
	Terminal Numbers	Type No. Standard cut-out plain fixing clips		9.1	Standard colours B = Black	Standard colours Curved Rockers	0 = No resistor required 1 = Below 100 specify
1	ON/OFF	450 1450	For switches with serrated fixing clips to fit standard	6.3 Tab Terminal	W = White	B = Black W = White RE = Red	2 = 100/130V 3 = 200/250V
•	Single Pole ON/OFF	450 SP 1450 SP	cut-out, place letter	0.8mm thick = <b>C</b>		Flat Rockers	4 = 380/440V
	ON/OFF with light	453 1453	at rear of type No. Example: 450N	All series		FB = Black FW = White	
•	S.P. Switch Isol. Light	456 1456	For switches to fit panel	9.1		FRE = Red  Transparent	
	D.P. Switch Isol. Light	457 1457	cut-out Ref 'A' (serrated fixing clips only)	4.8 Tab	Special	Lenses and Curved Rockers	
	S.P. Switch with Light	458 1458	place letter <b>'A'</b> at rear of type No.	0.8mm thick = <b>H</b>	Colours on request	R = Red CL = Clear G = Green	
	S.P. Switch Momen. on Isol. Light	459 1459	Example: 450A	1400 series only	to quantity order	A = Amber BL = Blue	
II	2-pos C/O	460 1460	For switches to fit panel cut-out Ref 'E'	9.1			
• • •	Single Pole 2-pos C/O	460 SP 1460 SP	(plain fixing clips only) place letter <b>'E'</b>	2·8 Tab Terminal 0·8mm thick			Filament lamp
~	Single Pole 2-pos C/O	462 1462	at rear of type No. Example: 450E	= <b>K</b> 1400 series only			7 = 12V 8 = 24V
	2-pos C/O with Light	465 1465		<u> </u>			
	S.P. C/O Switch Isol. Light	466 1466		10.6		Note: Red, Clear, Amber only with neon, Green with	
II	3-pos C/O centre off	470 1470		Screw and Clamp Terminal		fluorescent	Use this column only when orderin
• • •	Single Pole 3-pos centre off	470 SP 1470 SP		= <b>S</b> 400, 430, 435, 480 only		Special colours on request to Quantity order	switches with lights or indicator light
	Single Indicator Light	480		7.0			
•	2-Light Indicator	481		Solder Tag			
	3-Light Indicator	482		= <b>T</b> 1400 series only			
	4 - Light Indicator	483		3.2			
	D.P. Switch Light in one Line	490 1490		Solder Tag			
				= U 1400 series only			
					53 C W R :		

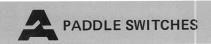
\*EXAMPLE:-

(Double Pole Switch with light, plain fixing clips, Standard panel hole, 6.3 Tab Terminals, White Body, Red Transparent Rocker, 200/250V).

\*Switch will be printed: C.453 10A 250V~.

NEW

480 neon indicators are available with flashing signal. Red, Amber or Clear. To order prefix Cat. No. with 'LP'.

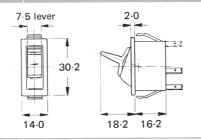


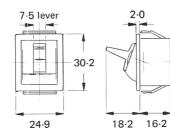
### 10A. and 16A. 125/250V. ~ AC



3400NC

3450NC





A range of paddle lever operated switches, developed from the series 400 Rocker type. All switches shown on pages 2, 4 and 5 excepting those with lights can be supplied with this lever.

Lever is moulded black nylon, but white can be supplied if requested.

To order convert existing rocker switch Cat. No. as the following example: 400/NC becomes 3400NC.

### SPECIFICATION (400 and 1400 series)

10A. 250V. AC Resistive Contact Rating

3A. 250V. AC Inductive 20A. 6, 12 or 24V. DC

16A. 250V. AC Resistive 4A. 250V. AC Inductive .

6A. 250V. AC Resistive

On/Off Switches Cat. Nos. 1400 and 1450 with

'C' or 'T' terminals only. 1400 Series with 'K' terminals.

400 Series with 'C' or 'S' terminals.

1400 Series with 'C', 'H', 'T' or 'U' terminals.

10 m $\Omega$  max. in new condition

Insulation Resistance > 20 M  $\Omega$ 

**Proof Voltage** 

1,000V. R.M.S. across contacts in open circuit.

> 3KV between live poles, and between live poles and exposed metal. Dielectric Strength

Force required to operate rocker

Contact Resistance

 $-25^{\circ}$  C to  $85^{\circ}$  C at rated current. Temperature Range

Humidity Resistance 48 hours at 91% - 95% relative humidity.

 $> 0.5 N_{\rm m}$ Impact Resistance

> 10,000 operations on rated loading at a rate of 15 operations per minute. Life

### **GENERAL CHARACTERISTICS**

Nylon 66 Body Rocker (Opaque) Nylon 66 Polycarbonate Rocker (Transparent)

Lens (Transparent) Polycarbonate **Terminals** Brass, Silver plated Moving Contact Brass, Silver plated

Fine Silver **Contact Points** 

Single Pole - 8gr Weight (approx) Double Pole - 12gr

### **EXAMPLES OF MARKED ROCKERS**











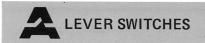




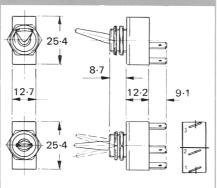




Characters may be ink printed or hot stamped.



### 10A. and 16A. 250V ~ SINGLE POLE Switch Type Cat. No. 800 ON/OFF ON/OFF 801 Momen. on 2-pos C/O 810 C 800N 3-pos C/O 820 centre off Single Pole 862 2-pos C/O Double Pole Size Body C 810M



Dimensions in mm

### 15A. 250V ~ **DOUBLE POLE** Switch Type Cat. No. ON/OFF 850 32.5 860 2-pos C/O 11.2 C 850G 25.4 18.0 2-pos C/O 863 Reversing 3-pos C/O 870 centre off 3-pos C/O 873 centre off Reversing C860H Dimensions in mm

SELECTIVE

11.2

18.0

25.4

Switching diagrams viewed from rear of switch

Fixing necks screwed:

11·79 11·68 mm dia. x 32 TPI Whit. and will fit a 12.7mm dia. panel hole, or cut-out as page 8.

Max. Panel thickness: 5.6mm. This may be increased by omitting back nut.

Chrome finish slotted fixing rings are supplied, but details of alternative rings may be found on page 16.

Standard colour is black. White supplied on request.

To order with 6.3 Tab terminals prefix Cat. No. with letter 'C'.

4.8 Tab terminals = H (single pole only).

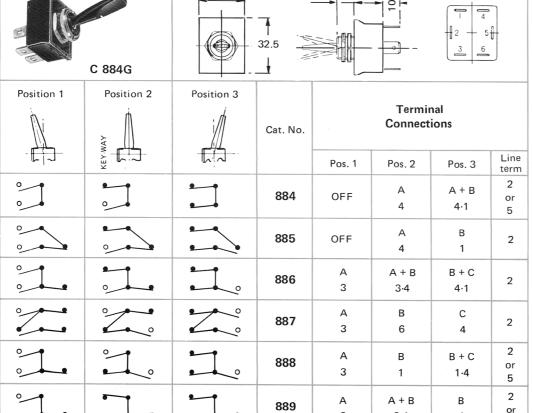
2.8 Tab terminals = K (single pole only).

Solder tags = T (single pole only).

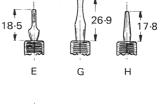
5 BA screws =  $\mathbf{S}$ Not available on 810 and 820.

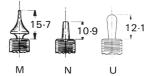
Further dimensions for terminals shown on page 5.

Details of approved switches are listed on page 18.



**ALTERNATIVE LEVERS** 





When ordering, please indicate style of lever required, by placing appropriate letter at rear of Cat. No. e.g. 800 N.

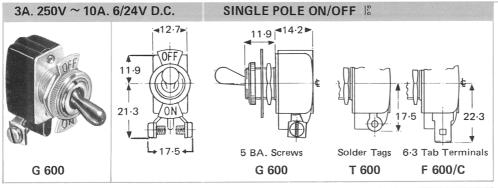
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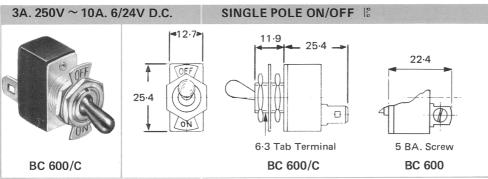
3.4

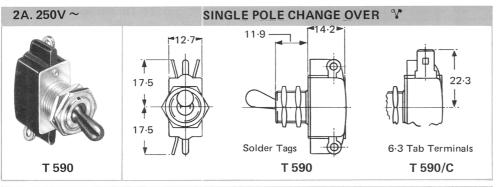
Numbers are terminal positions, as shown

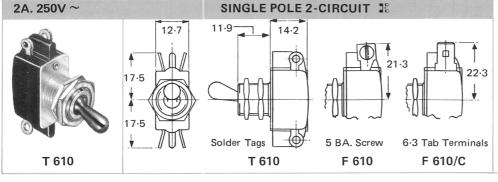
in drawing

4



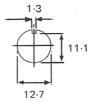






Dimensions in mm

All fixing necks are screwed 11.79 11.68 mm dia. x 32 TPI. Whit. and will fit a 12.7 mm panel hole or cut-out of following size:



Max. Panel thickness: 5-6mm but this may be increased by omitting the back nut on nylon necks only. The back nut must be used on switches with brass necks.

Alternative fixing nuts on page 16.

Metal levers are nickel plated, but chrome finish can be supplied at extra cost.

Insulated levers are moulded in black or white nylon.

Alternatively, levers can be moulded in a more pliable material, which will flex under impact. To order switches fitted with these levers place /S, at rear of basic catalogue number.

Example: BC 605S/C

D.C. ratings where not stated, supplied on request.

Details of approved switches on page 18.



Full range of levers shown on page 9.

Dimensions in mm

Alternative fixing nuts on page 16.

Details of metal and insulated levers

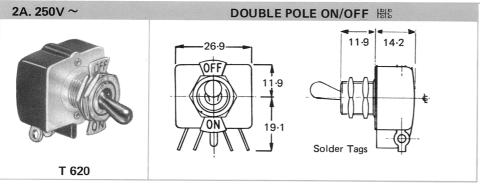
D.C. and low voltage ratings on

Fixing neck details as page 8. Panel cut-out details as page 8.

Panel thickness as page 8.

shown below.

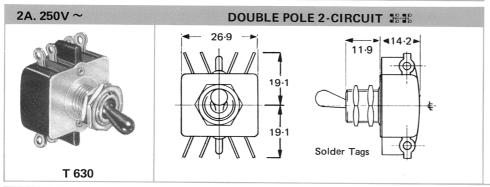
request.



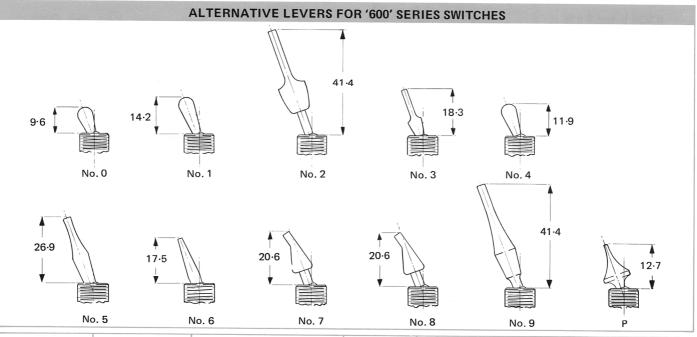
### 2A. 250V ~ DOUBLE POLE ON/OFF 問認 - 25.4 OFF € 25.4 6.3 Tab Terminals BC 620/C

A version of Cat. No. T 620 fitted with silver plated tags to fit printed circuit boards is Cat. No. T 620/PC.

Details of approved switches on page 18. Cat. No. 1620 etc.



NOTE: Switches on this page, should have the incoming cables connected to outer terminals, and outgoing cables to the inner terminals.



Lever No.	0 and 1	2	3, 4, 5, 6	7	8, 9 and P
Lever Material	Nickel Plated Brass	Nylon lever moulded on chrome brass shaft	Nylon	Nylon lever moulded on chrome brass shaft	Nylon
Fixing neck Material	Nickel Plated Brass	Chrome Plated Brass	Nylon	Chrome Plated Brass	Nylon







T 919

### 916 - 9195.0 19.3 6.3 5.0 10.3 6.1 dia. T 916 T 917 T 918 T 919 T 916 dil Push for on n/o Max. Plunger Movement 9 T 918 Push for off n/c 2.5

Fixing necks:  $\frac{7.04}{6.95}$  dia. x 40 TPI Whit.

Panel hole: 7.1 dia.

Operating pressure: 600 gr. approx.

Solder Tags only.

Press Buttons: Black, Red, White or

Green.

Fixing nuts: Ring or domed hexagon

chrome finish.

Self-cleaning silver plated contacts.

Slow make and break action.

Max. panel

Both nuts L

Less back nut

### 0.5A. 250V ~

### 0.25A. 250V DC

936 DI

938 DI

T 919

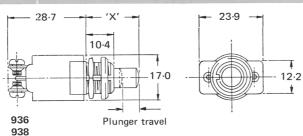
2-Circuit

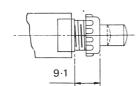
### 936 and 938

**3** %



S 936/D1 and S 938/D1





'X' Dimension 936 - 19.8mm 938 - 17.5mm

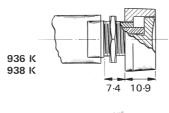
Plunger travel

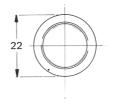
936 & 936L 938 & 938 L 6·3mm4·1mm1·5mm

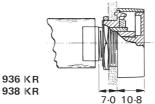
936 K & 938 K -1.5mm 936 KR & 938 KR -3.0mm

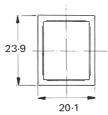


S 936 K and S 938 K









C 936 KR and C 938 KR

Dimensions in mm

Fixing necks screwed:

11.79 11.68 mm dia. x 32 TPI Whit.

Panel hole: 12·7mm dia. except /KR series (rect. push).

For details of special panel drilling on /KR series, see drawing of 290/KR on page 12.

### MAX. PANEL THICKNESS

Button colours: Black, Red, Green or White. Splashproof covers on page 16.

Metal fixing necks nickel finish.

'K' shrouds, anodized aluminium.

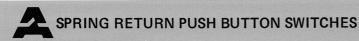
'KR' shrouds, moulded natural colour or finished matt or bright chrome.

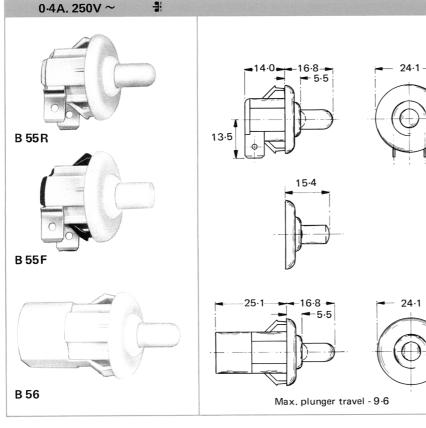
Slow make or break action.

Current carrying parts silver plated.

NOTE: Back nut must always be used on switches with metal necks.

	Terminals		indard Button	Round Shrouded Push	Rectangular Shrouded Push	As /K, but less Push and Shroud	
	reminais	Metal Neck	Nylon Neck	Metal Neck	Metal Neck	Metal Neck	Nylon Neck
936	6⋅3 Tab.	C 936	C 936/D1	C 936 K	C 936 KR	C 936 L	C 936L/D1
Push for on	5 BA Screw	S 936	S 936/D1			S 936 L	S 936L/D1
= s	Solder Tags	T 936	T 936/D1			T 936 L	T 936L/D1
938	6⋅3 Tab.	C 938	C 938/D1	C 938 K	C 938 KR	C 938 L	C 938L/D1
Push for off	5 BA Screw	S 938	S 938/D1	S 938 K	S 938 KR	S 938 L	S 938L/D1
	Solder Tags	Т 938	T 938/D1	T 938 K	T 938 KR	T 938 L	T 938L/D1





### 55 and 56

All insulated moulded body, with integral nylon clips for snap-in panel mounting.

Slow make and break, normally closed single pole switch action.

Nylon plunger with overtravel.

6.3 Tab terminals.

Operating pressure: 280gr. approx.

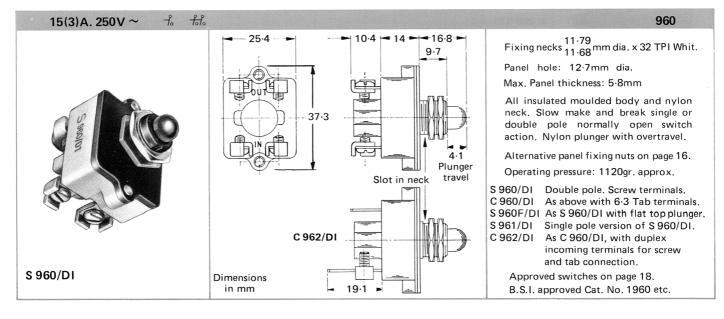
Panel cut-out: 19.2 19.05 dia. hole.

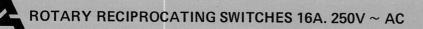
		Min.	Max.
01	B 55R	1.0	1.6
Panel	B 55F	1.0	1.6
Thickness	B 56	1.0	2.6

Details of approvals on page 18.

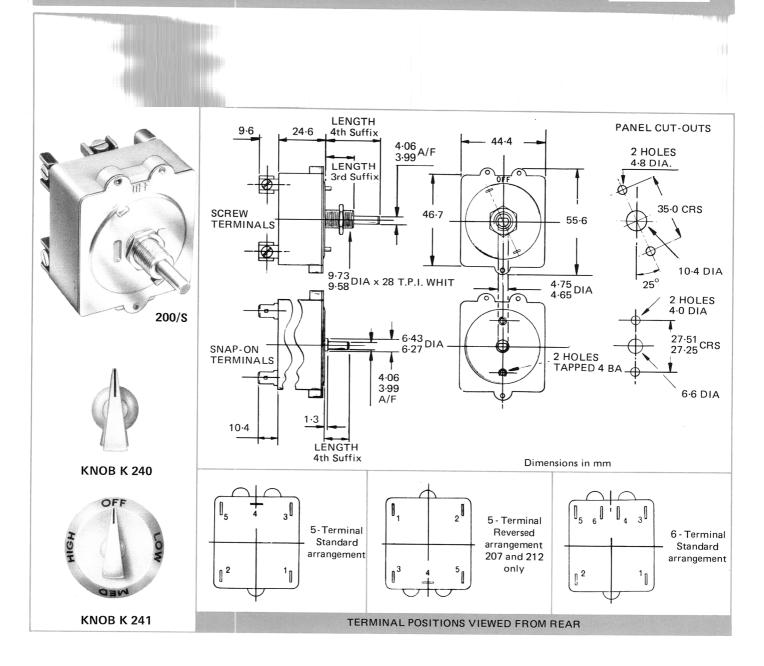
Please state whether refrigerator or oven light application.

### 930 0.2A. 250V ~ 9 Fixing necks $^{11.79}_{11.68}$ mm dia. x 32 TPI Whit. 28.7 -18.3 23.9 10.4 Panel hole: 12.7mm dia. or cut-out Slow make and break, normally closed SP switch action. Metal or moulded nylon fixing necks. Alternative panel fixing nuts on page 16. 7.9 Plunger travel S 930 5 BA. Screw Terminals C 930 6.3 Tab Terminals T 930 Solder Tags For moulded necks, add /DI to Cat. No. eg. C 930/DI. S 930 Max. panel thickness $-\frac{4\cdot \delta}{4\cdot 1}$ on nylon necks 4.8 on metal necks Splashproof covers on page 16.





### 200 SERIES



Switches with 5 - Terminals in 3, 4 and 5 position types Switches with 6 - Terminals also available

See drawing above for terminal positions.

All switches have a spring loaded snap action.

Two mounting arrangements available: -

- (1) Threaded bush and nut fixing which is standard
- (2) Plain bush with 2-4 BA. tapped fixing holes. Drawing above gives details.

Switches have D - Section spindles for push-on knobs.

Illustrated are 2-knobs which can be supplied at extra cost.

K 241 suitable for 200 only.

Chart below gives details of all variations available. When ordering place the appropriate suffixes in correct order at rear of the switch basic number. Details of basic numbers in the chart on opposite page. As an example: -200/C/R/X/5.

1st 2nd 3rd 4th

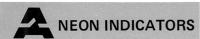
	SWITCHING SEQUENCE						
3-POSITION	Cat. No.	0°	120°	240°			
(5-Terminals)	208	1.2.3	1.2.4	1.2.5			

APPLICATION					
Switching	0°	120°	240°		
SINGLE POLE	A only	B only	C only		

		SWITC	HING SEQ	UENCE			А	PPLICATIO	NS	
	Cat. No.	0°	90°	180°	270°	Switching	0°	90°	180°	270°
						DOUBLE POLE	OFF	A & B parallel	A only	A & B in series
			1.0	4.0		SINGLE POLE	OFF	A, B & C parallel	A & C parallel	A only
	200	OFF	1.3 and 2.4.5	1.3 and 2.5	1.4 and 2.5	SINGLE POLE	OFF	A only	OFF	B only
			2.1.0	2.0	2.0	SINGLE POLE	OFF	A & B parallel	B only	A only
						SINGLE POLE	OFF	A & B parallel	OFF	A only
	201	1.4 and	OFF	1.3 and	1.3 and 2.5	DOUBLE POLE	A & B in series	OFF	A & B parallel	A only
	201	2.5		2.4.5		SINGLE POLE	A only	OFF	A, B & C parallel	A & C parallel
4 DOOLTION	205	OFF	1.3 and	1.3.4 and		SINGLE POLE	OFF	A & B parallel	A, B & C parallel	B & C parallel
4-POSITION (5-Terminals)	203		2.5	2.5	2.5	DOUBLE POLE	OFF	A only	A & B parallel	B only
	206	1.3	1.2.4.5	1.2.4	1.4	SINGLE POLE	A only	B, C & D parallel	B & C parallel	B only
						DOUBLE POLE	OFF	A & B in series	A only	A & B parallel
Reversed Switch box	207	OFF	1.4 and	1.3 and	1.3 and	SINGLE	OFF	A only	A & C parallel	A, B & C parallel
Switch box	207		2.5	2.5	2.4.5	SINGLE	OFF	B only	OFF	A only
						SINGLE	OFF	A only	B only	A & B parallel
	209	OFF	1.2.3	1.2.4	1.2.5	SINGLE POLE	OFF	A only	B only	C only
	211	OFF	1.4 and 2.5	1.3 and 2.5	1.3 and 2.4	DOUBLE POLE	OFF	A & B in series	A only	B only
Reversed Switch box	212	1.3 and 2.4.5	OFF	1.4 and 2.5	1.3 and 2.5	DOUBLE POLE	A & B parallel	OFF	A & B in series	A only
	213	OFF	1.3 and 2.5	OFF	1.3 and 2.5	DOUBLE	OFF	A only	OFF	A only
	214	OFF	1.3 and 2.4.5	1.3 and 2.4	1.3	SINGLE POLE	OFF	A, B & C parallel	A & B parallel	A only
	215	OFF	1.4 2.5	1.3 2.5	2.5	SINGLE POLE	OFF	A & B	A & C	A only
	227	OFF	1.4 and 2.5	1.3 and 2.5	1.3 and 2.4.5		Арр	olications as	207	

		S	SWITCHINGS	SEQUENCE		
5-POSITION	Cat. No.	0°	72°	144°	216°	288°
(5-Terminals)	210	OFF	1.2.3.4.5	1.2.3.4	1.3.4	1.3

		APPLIC	CATION		
Switching	0°	72°	144°	216°	288°
SINGLE POLE	OFF	A,B,C&D parallel	A,B&C parallel	A & B parallel	A only



### 5.8, 6.3 and 7.1 SERIES

# SL 145

## 5.8 mm dia. panel hole 1.5 LENS 32.5 14 8.4 dia. lens

6.3

White nylon body.
Polycarbonate coloured lens.
Max. panel thickness 0.9.
For thicker panels up to 3.0 max. a longer lens can be supplied.

SL 145 has 6.3 tab terminals. SL 145/WL has 200mm long flexible leads.

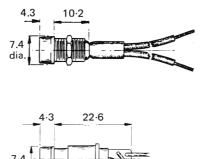
Indicators are assembled into panel by inserting lens into front of panel and fixing body to the lens at rear of panel by a push and turn movement.

### 6.3 mm dia. panel hole

Dimensions in mm



**SL 45** 



Dimensions in mm

SL 41. Metal body, screwed nut fixing. SL 41/C. As above with extra front bezel. Metal body screwed 6.2/6.1 dia. x 40 TPI Whit. Body and bezel chromium finish. Max. panel thickness 6.3mm.

 ${\rm SL}$  45. Moulded body push-on collar or push-on nut fixing.

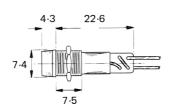
SL 45/C. As above with chrome front bezel. Max. panel thickness 10.0mm.

Resistors are assembled in body moulding.

Both fitted with 200mm long PVC flexible leads. Coloured non-removable lenses.

### 7·1mm dia. panel hole





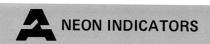
Nylon body, screwed 7·04/6·95 dia. x 40 TPI Whit. for screwed nut fixing.

Coloured non-removable lens.

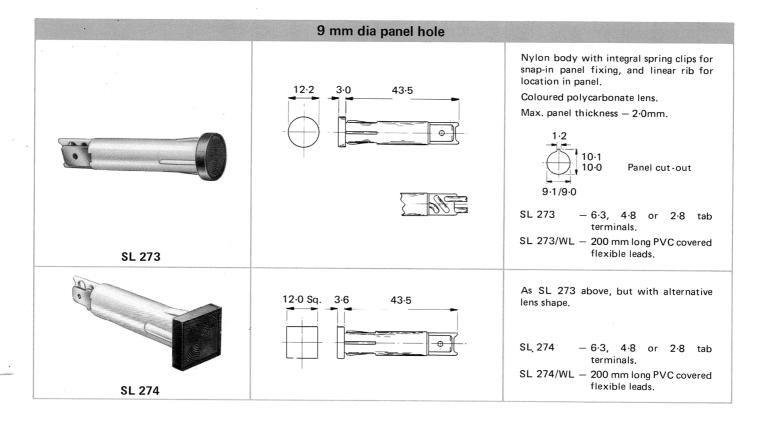
Max. panel thickness 6.3mm.

SL 245 — 200mm long PVC flexible leads.

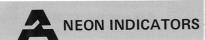
SL 245/C - As above with chrome front bezel.

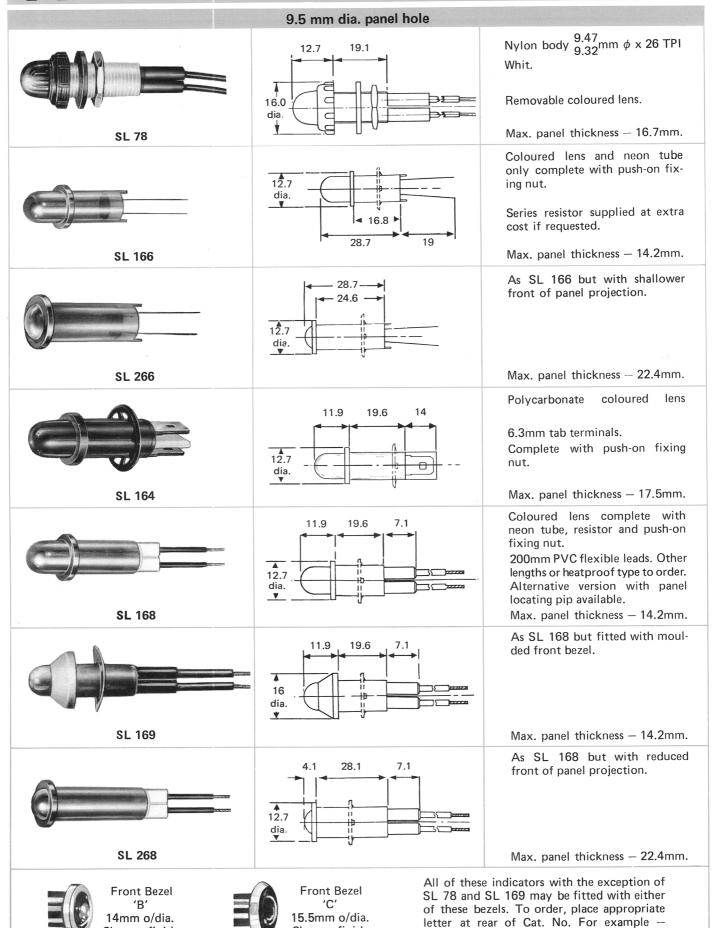


# 8 mm dia panel hole Nylon body with integral spring clips for snap-in panel fixing. Coloured polycarbonate non-removable lens. 200 mm long flexible PVC covered leads. Panel thickness 0-8mm min. 1-6 max.



Voltaç	je to	be be
stated	on	order





Voltage to be stated on order

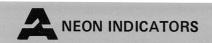
Chrome finish

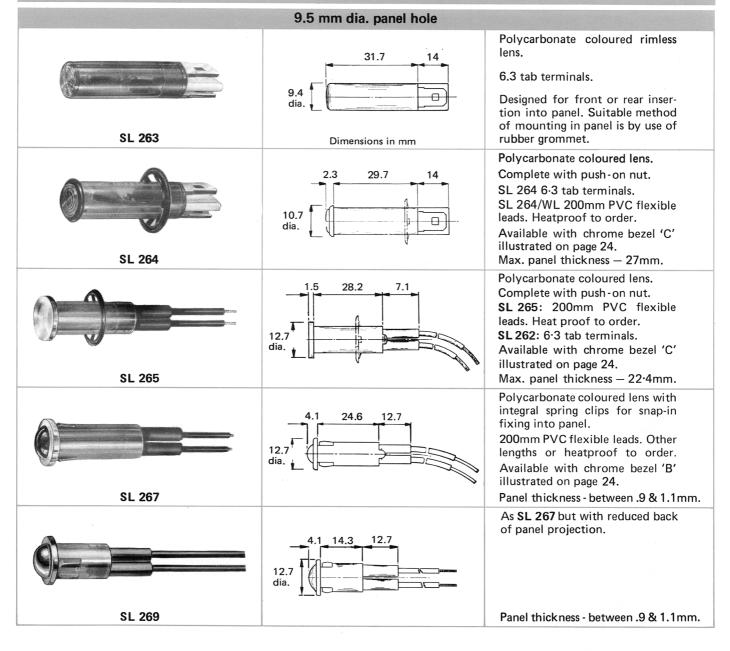
RED, AMBER, CLEAR or GREEN only. Full details of neon tubes on page 21.

Chrome finish

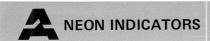
6, 12 or 24V filament lamps available. Add /LV to Cat. No. and state voltage.

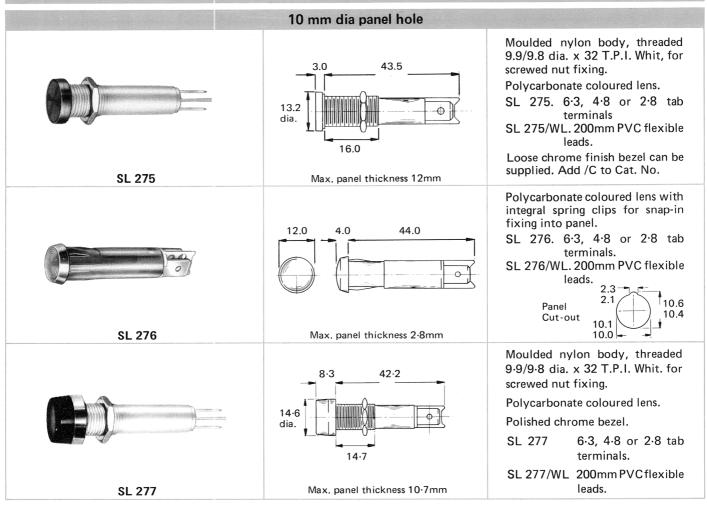
SL 168/B.

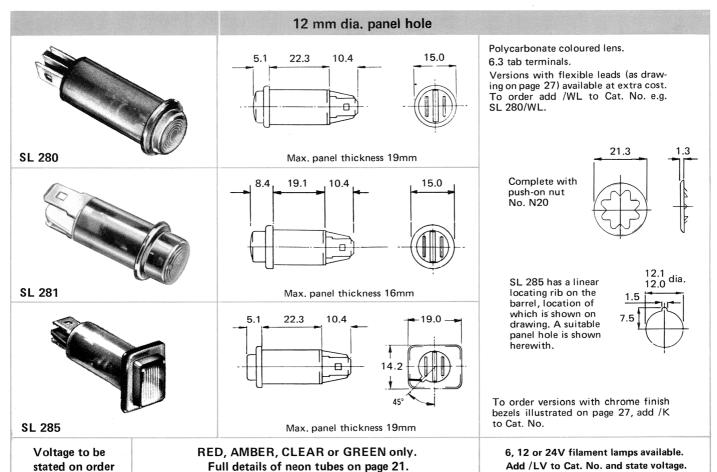


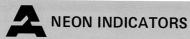


Voltage to be	RED, AMBER, CLEAR or GREEN only.	6, 12 or 24V filament lamps available.
stated on order	Full details of neon tubes on page 21.	Add /LV to Cat. No. and state voltage.



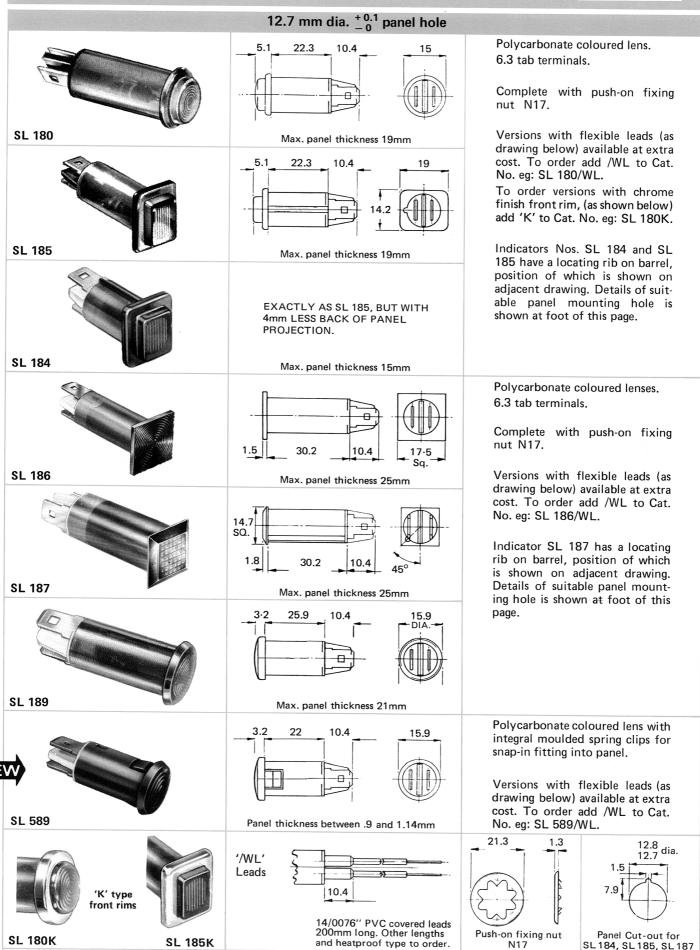






Voltage to be

stated on order

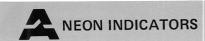


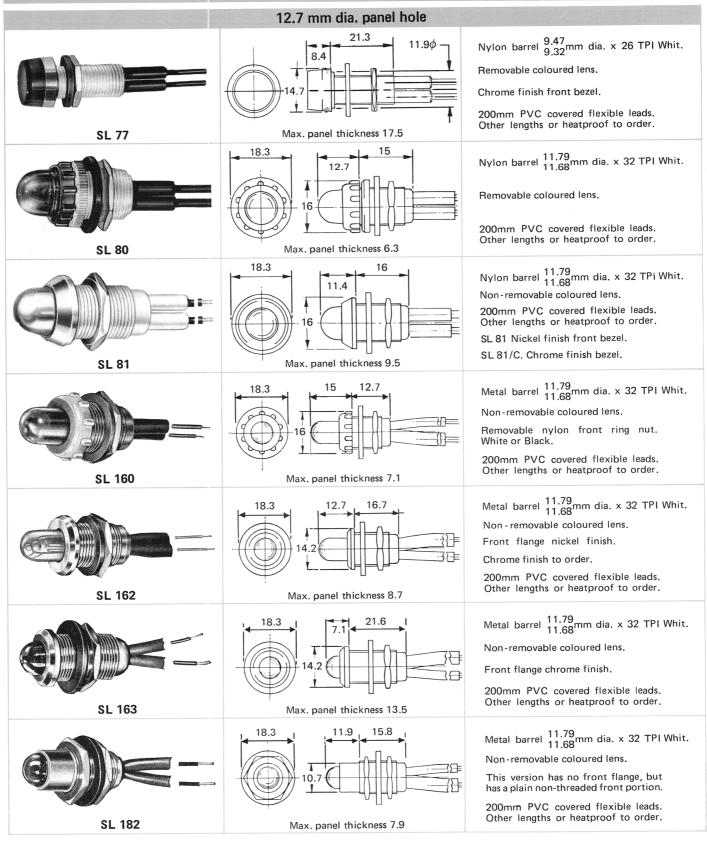
6, 12 or 24V filament lamps available.

Add /LV to Cat. No. and state voltage.

RED, AMBER, CLEAR or GREEN only.

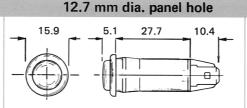
Full details of neon tubes on page 21.







**SL 67/N** 



Max. panel thickness 1.1 for snap-in fit

Flexible moulded body for snap-in fixing. Bright chrome or matt-black finish front

SL 67/N 6.3 tab terminals.

SL 67/N/WL 200mm PVC covered leads.

This version is similar in all respects to SL 67/N above, but has a greater lens area and reduced back of panel projection.

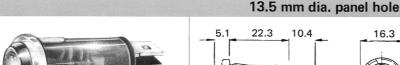
SL 193/N. 6.3 tab terminals. SL 193/N/WL. 200mm PVC covered leads.



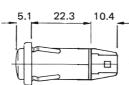
**SL 193/N/WL** 



Max. panel thickness 1.1 for snap-in fit



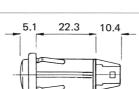
**SL 180B** 







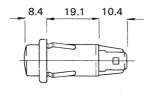
**SL 180BR** 



16.3

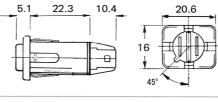


**SL 181B** 











SL 190/L7



Max. panel thickness 2.0 for snap-in fit

Polycarbonate coloured lenses.

6.3 tab terminals.

To order versions with flexible leads, details, as drawing on page 27 add /WL to Cat. No.: eg. SL 180B/WL.

All models have a chrome finish front rim, and spring clips for snap-in fixing into panel. Thickness of panel is between .9 and 1.14mm.

SL 180BR and SL 185B both have a linear locating rib on barrel, location of which is shown on adjacent drawings.

Details of a suitable panel mounting hole is shown herewith:



A push-on nut, Part No. N20 can be supplied if requested at extra cost.

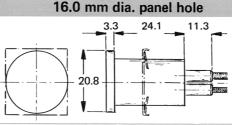
Overall sizes are shown on page 26.

Flexible moulded body for snap-in fixing. Chrome finish front bezel. Coloured lens. 200mm PVC covered leads.

Alternative version with flat top lens available. No. SL 190/L106.

## **SL 236**





Polycarbonate coloured lens. 200mm flexible PVC covered leads. Other lengths or heatproof to order.

Push-on nut fixing.

High brightness signal.

Max. panel thickness - 22.3mm.

Voltage to be stated on order

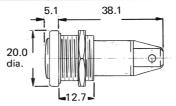
RED, AMBER, CLEAR or GREEN only. Full details of neon tubes on page 21.

6, 12 or 24V filament lamps available. Add /LV to Cat. No. and state voltage.



**SL 69/N** 

### 17.5 mm dia. panel hole



Dimensions in mm

Moulded threaded body for nut fixing. Scrd. 15.75/15.62mm dia. x 26 TPI Whit. Bright chrome or matt-black finish bezel.

SL 69/N 6·3 tab terminals.

SL 69/N/WL 200mm PVC covered leads.

For LV version see page 37.

### 19 mm dia. panel hole



**SL 88N/L41** 



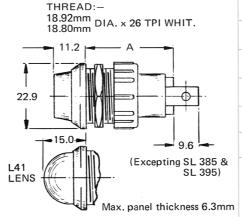
**SL 90N/L41** 

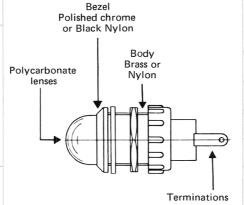


SL 391/C/L90



SL 395/C/L90





Solder Tags are standard

For 6.3mm Tab type add /C to Cat. No. For 6 BA Screw Terms. add /S to Cat. No. For insulated flexible leads add /WL to Cat. No.

### MES (E10) NEON TUBE

Cat.No.	Bezel	Body	'A' dimension
SL 88/N	Nylon	Nylon	30.2mm
SL 90/N	Chrome	Brass	30.2mm
SL 381	Nylon	Nylon	30.2mm
SL 391	Chrome	Nylon	30.2mm

Supplied complete with NT 147 M.E.S. (E10) neon tube with built-in resistor.

To order NT 147G fluorescent tube add /G to Cat. No.

Alternative terminations which can be supplied are:- /C and /S. See drawing.

For LV versions see page 38

### BUILT-IN NEON TUBE

Cat.No.	Bezel	Bezel	'A' dimension
SL 385	Nylon	Nylon	26.9mm
SL 395	Chrome	Nylon	26.9mm

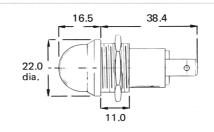
Supplied complete with NT 14 neon tube and separate resistor, built-in to the assy.

To order NT 49G fluorescent tube add /G to Cat. No.

Alternative terminations which can be supplied are:- /C, /S and /WL. (See drawing).



**SL 138N** 



SL 138N. Nylon bezel, nylon body. SL 139N. Chrome bezel, nylon body. Supplied complete with NT 151 MCC (BA9s) neon tube with built-in resistor.

To order NT 151G fluorescent tube add  $\ensuremath{/} G$  to Cat. No.

Terminations:- /C or /S. See drawing.

For LV version see page 38.



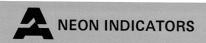


Either of these two lenses can be supplied

Voltage to be stated on order

RED, AMBER, CLEAR or GREEN

Full details of neon tubes on page 21

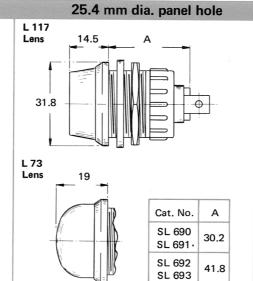




SL 691/L73



SL 693/C/L117



Dimensions in mm

These indicators are similar in all respects to the 19mm series shown on page 30.

Chrome finish metal body only.

SL 691. MES neon tube. SL 693. MCC neon tube.

Terminations available as on page 30.

Max. panel thickness 8.7mm.

For LV versions see page 39.



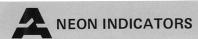


Either of the two lenses may be supplied

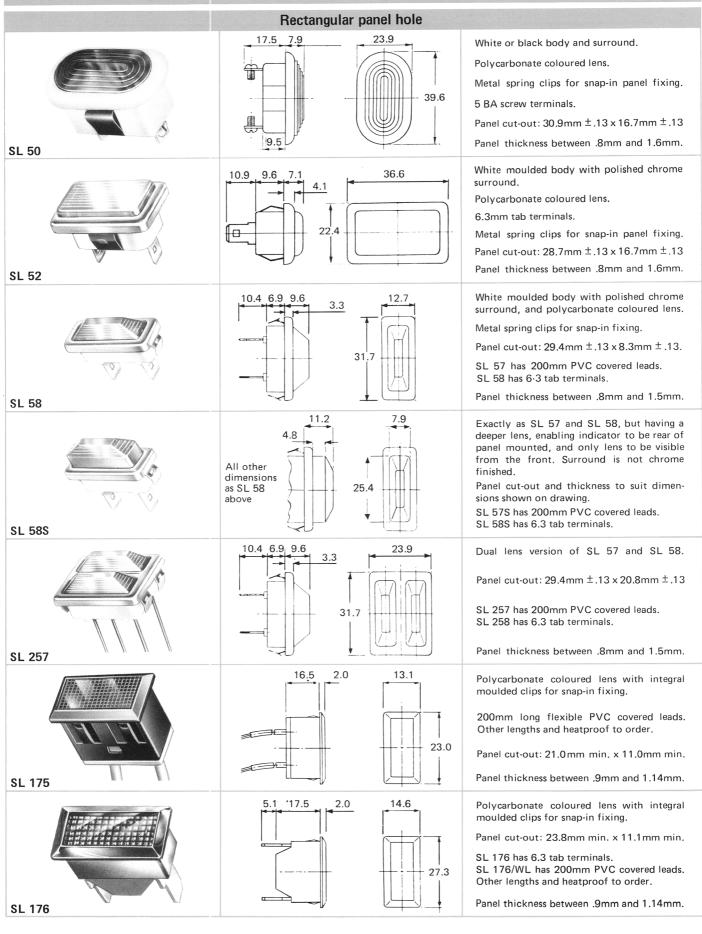


58.4 long x 17.8 dia

Moulded PVC Insulating Terminal Cover Part No. M445 Supplied as an extra



### **RECTANGULAR SERIES**

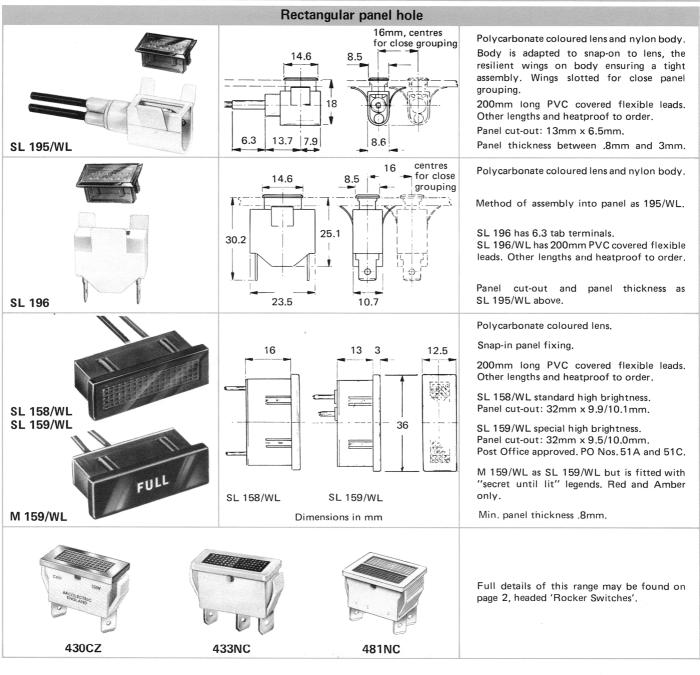


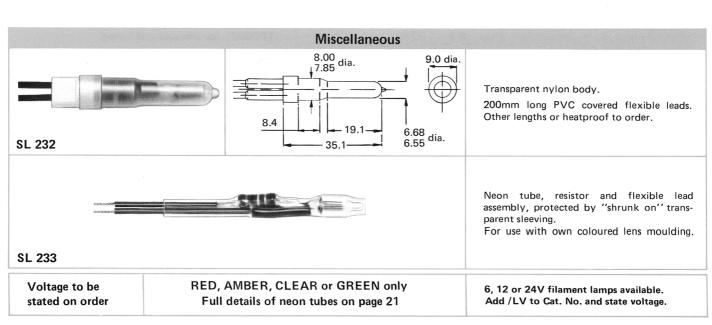
Voltage to be stated on order

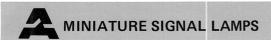
RED, AMBER, CLEAR or GREEN only Full details of neon tubes on page 21

6,12 or 24V filament lamps available. Add /LV to Cat. No. and state voltage.

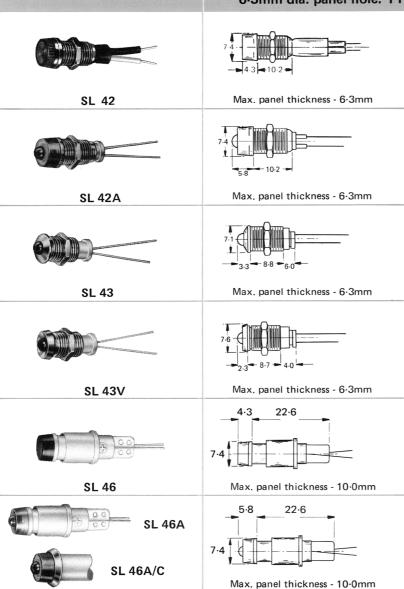
### **RECTANGULAR SERIES**







### LIGHT EMITTING DIODE LAMPS 6-3mm dia. panel hole. T1 L.E.D.



Alternative bodies, either chrome finish brass or nylon. Metal bodies threaded 6.2/ 6.1mm dia. x 40 TPI Whit, nylon bodies are plain for push-on nut fixing. Polycarbonate lenses and diodes in RED, GREEN or YELLOW.

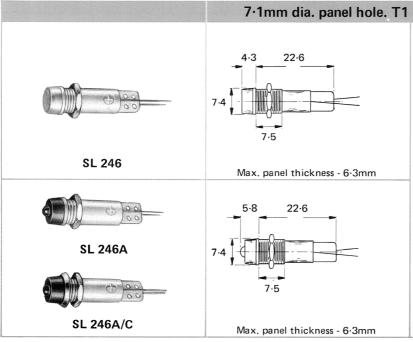
Plain wire terminations, or at extra cost, 200mm PVC covered flexible leads. Add /WL to Cat. No. for flexible leads.

Cat. No. SL 42 Metal body and coloured Cat. No. SL 42A As SL 42, but with diode projecting through the lens. Cat. No. SL 43 As SL 42, less lens, but with diode projecting through chrome finish bezel. Cat. No. SL 43V As SL 43, but with extended chrome finish shrouding bezel. Cat. No. SL 46 Nylon body and coloured lens. All insulated body, with Cat. No. SL 46A diode projecting through lens. Cat. No. SL 46A/C As SL 46A, but fitted with loose chrome bezel.

Flexible leads are colour coded: WHITE indicating positive and BLACK for negative, to prevent polarity reversal.

On units with plain wire terminations, rear nylon plug is clearly marked with polarity.

### 7-1mm dia. panel hole. T1 L.E.D.



Nylon body, screwed 7.04/6.95 dia. x 40 TPI Whit. for screwed nut fixing.

Coloured polycarbonate non-removable lens, in RED, GREEN or YELLOW.

Plain wire terminations. 200mm long PVC covered flexible leads at extra cost. For flexible leads add /WL to Cat. No.

Rear plug clearly marked with polarity.

Loose chrome finish bezel available to order, add /C to Cat. No.

Cat. No. SL 246 Coloured lens.

Cat. No. SL 246A Coloured lens, but with

diode projecting through

lens.

Cat. No. SL 246A/C As above, but fitted with loose chrome bezel.

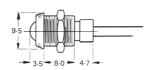
### LIGHT EMITTING DIODE LAMPS 8.0mm dia. panel hole. T1¾ L.E.D.



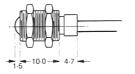
SL 48L SL 48H



SL 48PL SL 48PH



Max. panel thickness - 5.5mm



Max. panel thickness - 3.8mm

Technical Data for L.E.D. lamps below.

Chrome finish brass bodies, threaded 7.9/7.8mm dia. x 40 TPI Whit. Low intensity LED — RED only.

High intensity LED – RED only.

High intensity LED – RED, GREEN or

YELLOW.

Cat. No. SL 48L Low intensity LED.
Cat. No. SL 48H High intensity LED.
Cat. No. SL 48PL Low intensity LED, rim-

less body.

Cat. No. SL 48PH High intensity LED,

otherwise exactly as SL

48PL.

Cat. No. SL 48 As SL 48L, but less LED

lamp, for manufacturers who wish to fit their own

T 1% size LED.

Plain wire terminations, or, at extra cost, 200 mm PVC covered flexible leads.

### T1 L.E.D. lamps used on 6.3 and 7.1mm dia. series

	Forward	Max.	Continuous Forward	Power	Lum Inter	Viewing	
	Voltage	Voltage	Current	Dissipation	Min.	Typical	Angle
RED	1.7V	2·0V	50 mA	100 mW	0.3 mcd	1.0 mcd	$90^{\circ}$
YELLOW	2·1V	3.0V	35 mA	105 mW	0⋅8 mcd	4.0 mcd	$90^{\circ}$
GREEN	2·2V	3.0V	35 mA	105 mW	0⋅3 mcd	1.0 mcd	$90^{\circ}$

Material – Ga AsP RED
Ga AsP YELLOW
Ga P GREEN

### T1¾ L.E.D. lamps used on 8.0mm dia. series

### Low Intensity

			Continuous		Lumi	nous	
	Forward	Max.	Forward	Power	Inter	nsity	Viewing
	Voltage	Voltage	Current	Dissipation	Min.	Typical	Angle
RED	1.7V	2·2V	100 mA	180 mW	0.8 mcd	1.6 mcd	$80^{\circ}$

### **High Intensity**

			Continuous	Lum	Luminous		
	Forward	Max.	Forward	Power	Inte	nsity	Viewing
	Voltage	Voltage	Current	Dissipation	Min.	Typical	Angle
RED	2·0V	3·0V	35 mA	105 mW	1·2 mcd	4.0 mcd	65°
YELLOW	2·1V	3.0V	35 mA	105 mW	2.5 mcd	6.0 mcd	$65^{\circ}$
GREEN	2·2V	3.0V	35 mA	105 mW	0⋅5 mcd	1⋅5 mcd	$65^{\circ}$

Material – Ga AsP RED
Ga AsP YELLOW
Ga P GREEN

Recommended series resistances for all T1 and T1¾ L.E.D. lamps except T1¾ low intensity Red.

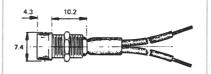
6 volts DC 100 ohms ¼ watt 12 volts DC 270 ohms 1 watt 24 volts DC 560 ohms 2 watt Recommended series resistances for T1¾ low intensity Red L.E.D. lamps.

6 volts DC 39 ohms ½ watt 12 volts DC 100 ohms 1 watt 24 volts DC 220 ohms 2½ watt

### LOW VOLTAGE FILAMENT LAMPS 6.3mm dia. panel hole



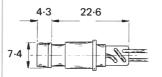
**SL 40** 



Max. panel thickness - 6.3mm



**SL 44** 



Max. panel thickness - 10.0mm

Alternative bodies, either chrome finish brass or nylon. Metal bodies threaded 6.2/ 6-1mm dia. x 40 TPI Whit. Black or white nylon bodies are plain for push-on nut fixing. 200 mm flexible PVC covered leads.

RED, GREEN, AMBER, BLUE or CLEAR polycarbonate lenses.

Complete with built-in filament lamp. Voltage range: 5/6V, 12/14V, 24/28V.

SL 40 Brass body.

SL 40/C As SL 40 but fitted with loose chrome bezel.

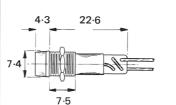
SL 44 Nylon body.

SL 44/C As SL 44 but fitted with loose chrome bezel.

### 7.1mm dia. panel hole



**SL 244** 



Nylon body, threaded 7.04/6.95 dia. x 40 TPI Whit. for screwed nut fixing.

200mm flexible PVC covered leads.

RED, GREEN, AMBER, BLUE or CLEAR polycarbonate lenses.

Complete with built-in filament lamp. Voltage range: 5/6V, 12/14V, 24/28V.

Loose chrome finish bezel available. To order add /C to Cat. No.

### SIGNAL LAMPHOLDERS

### 9.5 SERIES

## SL 60/L30 L111

### 16.0 12.2 12.2 6.3

9.5 mm dia. panel hole Dimensions in mm

Max, panel thickness 8.6mm

### LES (E5/8) Bulb

Threaded nylon body for screwed nut fixing. Screwed 9.5/9.3mm dia. x 26 TPI Whit.

Removable polycarbonate lens for front of panel bulb replacement.

Lens No. L30 is standard, but either Lens No. L3 or Lens No. L111 can be supplied.

Solder tag connections.

SL 60 LED. Version fitted with T134 light emitting diode.

### **SL 61**



### 12.7 4.1 23.9 6.3

Panel thickness between .9 and 1.14mm

### LES (E5/8) Bulb

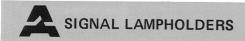
Polycarbonate lens-body, with clips for snap-in panel mounting.

Rear nylon base assembly removable for bulb replacement.

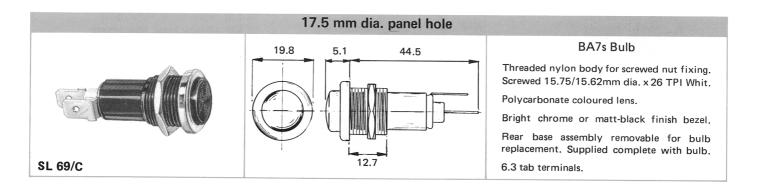
SL 61 Moulded bezel. Solder tags. **SL 61B** Chrome bezel. Solder tags; SL 61/WL Moulded bezel. 200mm PVC covered flexible leads.

SL 61B/WL Chrome bezel. 200mm PVC covered flexible leads.

Lenses available in:-RED, GREEN, AMBER, BLUE or CLEAR. Details of suitable bulbs for signal lampholders are listed on page 41.



### 12.7 mm dia. panel hole T1% (6mm), S6s/8 cap midget flange bulb 9.1 21.3 Threaded nylon body for screwed nut fixing. Screwed 11.79/11.68mm dia. x 32 TPI Whit. Polycarbonate coloured lens. Front of panel bulb replacement. Solder tag connections. Chrome finish bezel. Removable lens/bezel. **SL 62** SL 62M As above less bezel. Removable lens. **SL 63** Max. panel thickness 9.6mm SCREWED L.E.S.(E.5) S6s/8 **ADAPTOR BULB** ALTERNATIVE LES (E5/8) Bulb SL 63 As SL 62, but complete with loose adaptor (see adjacent drawing). **SL 62M** SL 63M As SL 62M, but complete with loose **SL 63M** adaptor (see adjacent drawing). BA7s Bulb 15.9 5.1 44.5 Flexible nylon body for snap-in fixing. Polycarbonate coloured lens. Bright chrome or matt-black finish front bezels. Rear base assembly removable for bulb replacement. Supplied complete with bulb. **SL 67/C** 6.3 tab terminals. Max. panel thickness, snap-in fit 1.14mm 16.0 6.3 40.4 BA7s Bulb Flexible nylon body for snap-in fixing. Rear base assembly removable for bulb replacement. Supplied complete with bulb. 31.8 6.3 tab terminals. Black bezel. The legend is not visible until lit. 22.9 When ordering, please state type of legend 4.8 required, and the colour.



Max. panel thickness 2.3mm

Lenses available in:RED, GREEN, AMBER, BLUE or CLEAR

SL 71/C/Legend

Details of suitable bulbs for signal lampholders are listed on page 41

### 19 mm dia. panel hole



SL 88/L 41



SL 90/C/L 90



SL 390/C/L 90

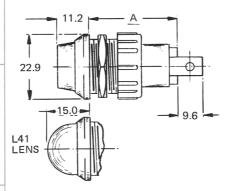


SL 392/C/L 90



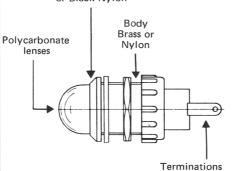
SL 396/L 90

THREAD:— 18.92mm 18.80mm



Max. panel thickness 6.3mm (except SL90 which is 11.2mm)

Bezel Polished chrome or Black Nylon



Solder Tags are standard (Excepting SL 93 and SL 392)

For 6.3mm Tab type add /C to Cat. No. For 6 BA Screw Terms, add /S to Cat. No. (Excepting SL 386 and SL 396).

### MES (E10) Bulb

,							
Cat. No.	Bezel	Body	'A' Dimension				
SL 88	Nylon	Nylon	30.2				
SL 89	Nylon	Nylon	24.6				
SL 90	Chrome	Brass	35.0				
SL 90SB	Chrome	Brass	30.2				
SL 99	Chrome	Brass	24.6				
SL 390	Chrome	Nylon	30.2				

### MCC (BA9s) Bulb

	Wide (B) teep Balls							
SL 93	Chrome	Brass	35.0					
SL 382	Nylon	Nylon	35.0					
SL 392	Chrome	Nylon	35.0					

### TWIN LES (E5/8) Bulbs

SL 386	Nylon	Nylon	21.3
SL 396	Chrome	Nylon	21.3

Bulbs are accessible from front or rear of panel. Bulbs are not supplied unless requested, but the following chart indicates those types which are suitable.

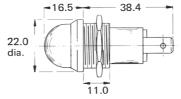
Symbol "RO" means 11mm round bulbs. Symbol "TU" means 10mm tubular bulbs.

Underlining of symbols menas that bulbs may easily be removed by fingers from the front.

Cat Nos.	Suitable bulbs
SL 88, 90SB, 93, 390, 392	RO, <u>TU</u>
SL 90, 382	RO, TU
SL 89, 99	RO, TU with L41 only



SL 138/C/L 41



Max. panel thickness 6.3mm

### MCC (BA9s) Bulb

SL 138. Nylon bezel, Nylon body. SL 139. Chrome bezel, Nylon body.

Bulbs accessible from front only. Bulbs not supplied unless requested.



ı /1



Either of these two lenses can be supplied.



58.4 long x 17.8 dia.

Moulded PVC Insulated Terminal Cover. Part No. M445

Supplied as an extra.

Lenses — Transparent RED, AMBER, GREEN, BLUE or CLEAR available — Translucent RED, YELLOW or OPAL

Details of suitable bulbs for signal lampholders are listed on page 41.

### 25.4 mm dia. panel hole



SL 690/L73



SL 692/C/L117

Overall dimensions of these lampholders and details of alternative lenses on page 31

These indicators are similar in all respects to the 19mm series shown on page 38.

Chrome finish metal body only.

Terminations available as on page 38.

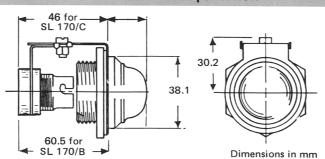
Max. panel thickness 8.7mm.

SL 690 MES (E10) Lampholder. SL 692 MCC (BA9s) Lampholder.

### 31.8 mm dia. panel hole



SL 170/C SL 170/B



### SBC Bulb

SL 170/C. Brass lampholder. SL 170/B. Moulded lampholder.

Removable coloured polycarbonate lens for bulb replacement.

Polished chrome bezel.

Bezel threaded 31.75mm dia. x 16 TPI Whit

Max. panel thickness 9.6mm.

### 54.1 mm dia. panel hole



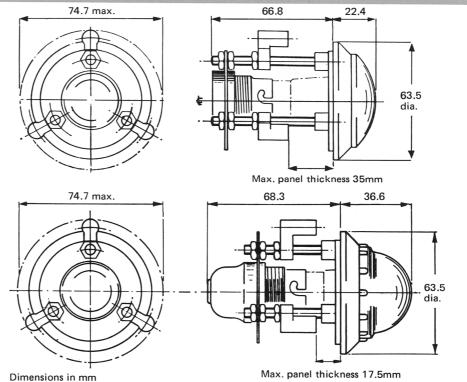
SL 100 (L39 Lens)



SL 102 (L44 Lens)



Lens Supplied if requested



### BC or SBC Bulbs

Removable coloured polycarbonate lenses for bulb replacement. SL 100 has brass BC lampholder, for a 15 watt pigmy lamp. SL 102 has moulded BC lampholder, for a 15 watt pigmy lamp.

Polished chrome bezel.

SBC lampholders if requested.

Lenses available in:-RED, GREEN, AMBER, BLUE or CLEAR

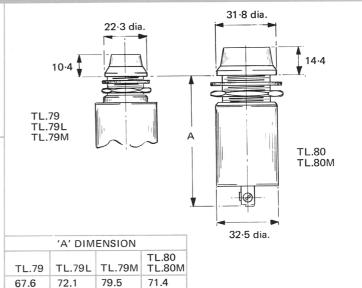
Details of suitable bulbs for signal lampholders are listed on page 41.

### 19.0 mm dia. and 25.4 mm dia. panel holes



TL79/L/L90





TL80/L117

Threaded polycarbonate coloured lenses facilitate bulb replacement. Bulbs must be  $6.5\ V$  .15 A.

Transformers are sealed with epoxy resin in moulded cases, polished chrome bezels.

Transformers for the following supply voltages:- 100/120 V AC, 200/250 V AC, 380/440 V AC.

Bulbs supplied with all models.

An electronic flasher unit, sealed in with the transformer, can be supplied.

Lens Colours TRANSPARENT Red, Amber, Green, Blue or Clear TRANSLUCENT Red, Yellow or White



**PVC** Insulating terminal cover which can be supplied at extra cost if requested.



Screwed adaptor T221

M272





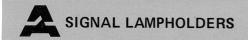
Alternative lenses

For the convenience of customers, a screwed adaptor and special bezel can be supplied, enabling a TL79 Transformer unit to be used as a complete TL80 unit.

L41

L73

Cat. No.	Panel Hole	Max. Panel Thickness	Type of Bulb 6.5 Volt	Terminals	Lens Type and Cat. No.	Weight approx	Extras
T.L.79	19.00 mm $\phi$	5.6 mm	11 mm MES Round	5BA screw & Clamp	L41 only	127gr	Third terminal for earthing secondary winding of
T.L.79/C	19.0 mm $\phi$	5.6 mm	11 mm MES Round	6.3 Snap-on	L41 only	127gr	transformer
T.L.79/L	19.0 mm φ	10.4 mm	11 mm MES Round	5BA Screw & Clamp	L41 or L90	127gr	Legend Plates. Quote:
T.L.79/M	19.0 mm $\phi$	10.4 mm	11 mm MBC Round	5BA Screw & Clamp	L41 or L90	127gr	P.387 for T.L.79 P.386 for T.L.80
T.L.80	25.4 mm $\phi$	9.6 mm	11 mm MES Round	5BA Screw & Clamp	L73 or L117	170gr	Rubber Washers for
T.L.80/C	25.4 mm $\phi$	9.6 mm	11 mm MES Round	6.3 Snap-on	L73 or L117	170gr	Improving Seal between Bezel and Panel
T.L.80/M	25.4 mm φ	9.6 mm	11 mm MBC Round	5BA Screw & Clamp	L73 only	170gr	and
T.L.G.80	This model, si	est.	Improving Seal between Lens and Bezel				



### GUIDANCE ON THE CHOICE OF LOW VOLTAGE BULBS FOR SIGNAL LAMPHOLDERS

Signal Lampholder Cat.	Bulb Type	Max. bulb diameter	Max. bulb length	Maximum wattage bulb for continuous running at 20-25°C ambient	Bulb Accessibility from front	Bulb Accessibility from rear	Remarks
No.		mm.	n. mm. Polycarbonate lens of panel	of panel	of panel		
SL 60	LES (E5/8)	7	16	1.5	Yes	No	
SL 61	LES (E5/8)	7	16	1.5	No	Yes	
SL 62	T1¾ 6mm midget flange S 6s/8 CAP	6	16	1.5	Yes	No	
SL 63	LES (E5/8)	6	16	1.5	Yes	No	
SL 67/C	BA7s	7.5	23	2	No	Yes	
SL 69	BA7s	7.5	23	2	No	Yes	
SL 71	BA7s	7.5	23	2	No	Yes	
SL 88	MES (E10/13)	12	31	3		Yes	
SL 89	MES (E10/13)	12	31	3		Yes	
SL 90	MES (E10/13)	12	35	3	See chart	Yes	
SL90/SB	MES (E10/13)	12	31	3	page 38	Yes	
SL 93	MCC (BA9s)	12	31	3	See chart	Yes	
SL 99	MES (E10/13)	12	31	3	page 38	Yes	
SL 138 SL 139	MCC (BA9s)	12	30	3	Yes	No	
SL 390	MES (E10/13)	12	30	3	See chart	Yes	
SL 382 SL 392	MCC (BA9s)	12	30	3	page 38	Yes	
SL 690	MES (E10/13)	12	30	3	Yes	Yes	
SL 692	MCC (BA9s)	12	30	3	Yes	Yes	

If bulbs are alight only intermittently the wattage ratings given above may be exceeded.

For higher ambient temperatures than 20-25°C and use in confined spaces the bulb rating may need to be reduced.

### SIGNAL LAMP LENSES

When ordering as spares, please state colour. Available in TRANSPARENT or TRANSLUCENT material. Polycarbonate suitable for temperatures up to 130°C.

Cat. No.	Description	Thread Details	Effective Length of Thread	
L 2	Polycarbonate lens as supplied on SL 82	·870"/·865" dia. x 16 T.P.I. WHIT (EXTERNAL)	·16"	
L 3	Polycarbonate lens as supplied on SL 80. Transparent RED, AMBER and CLEAR only.	-472"/-467" dia. x 32 T.P.I. WHIT (INTERNAL)		
L 8	Similar to above L 3 but smaller internal thread fits SL 78. Transparent RED, AMBER and CLEAR only.	·381"/·377" dia. x 26 T.P.I. WHIT (INTERNAL)		
L 30	Polycarbonate lens as supplied on SL 60	·472"/·467" dia. x 32 T.P.I. WHIT (INTERNAL)		
L 39	Polycarbonate lens as supplied on SL 100	1.788"/1.783" dia. x 12 T.P.I. WHIT (EXTERNAL)	.23"	
L 40	Polycarbonate lens as supplied on SL 170	·992"/·987" dia. x 16 T.P.I. WHIT (EXTERNAL)	·28"	
L 41	Polycarbonate lens as supplied on SL 90, SL 88 etc.	·615"/·610" dia. x 26 T.P.I. WHIT (EXTERNAL)	·17"	
L 44	Polycarbonate lens as supplied on SL 102	1.788"/1.783" dia. x 12 T.P.I. WHIT (EXTERNAL)	·22"	
L 73	Polycarbonate lens as supplied on TL 80	·872"/·868" dia. x 26 T.P.I. WHIT (EXTERNAL)	·25"	
L 90	Polycarbonate lens as supplied on SL 390	·615"/·610" dia. x 26 T.P.I. WHIT (EXTERNAL)	·19"	
L 99	Polycarbonate lens as supplied on SL 77	495"/-492" dia. x 32 T.P.I. WHIT (EXTERNAL)	-07''	
L 111	Polycarbonate lens as supplied on SL 60	·472"/·467" dia. x 32 T.P.I. WHIT (EXTERNAL)		
L 117	Polycarbonate lens as supplied on TL 80	872"/-868" dia. x 26 T.P.I. WHIT (EXTERNAL)	-36"	
L 123	Polycarbonate lens as supplied on SL 100	1.788"/1.783" dia. x 12 T.P.I. WHIT (EXTERNAL)	.28"	





L 84

Moulded polycarbonate in all colours.

14.6mm long x 8.5mm wide.

Snap-in fit in panel cut-out:-  $13.1/13.0 \times 7.1/7.0$ mm.

Panel thickness between .75 and 1.3mm.



\_ 54

Moulded polycarbonate in all colours.

Interchangeable with Post Office Cap. Lamp. No. 1.

9.5mm dia. 6.1mm deep lens area. 6.7mm dia. bore.

Push fit in panel cut-out 7.9mm dia.



SL 97

All moulded



SL 96

Chrome finish bezel

Moulded polycarbonate lenses. All colours.

Threaded 9.4/9.3mm dia, x 26 TPI Whit.

16 mm dia. bezel. 12.7 mm dia. lens area.

Panel cut-out 9.5mm dia.

Panel thickness max. 4.8mm





**SL 65** 

**SL 70** 

All moulded Chrome finish Moulded polycarbonate lenses. Al colours.

22.4mm dia. bezel 19mm dia. lens area. Panel cut-out 19mm dia.

Threaded 18.9/18.8mm dia. x26 TPI Whit.

Panel thickness (10.4 for SL 65 max. (7.1 for SL 70



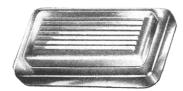
### L 14

Moulded snap-in lens. All colours.

19mm dia. x 12.7mm deeps.

Panel cut-out 16.1/16.0mm dia.

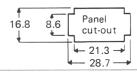
Snap-in fit in panel 3.0mm max.



**SL 53** 

Chrome finish bezel Moulded polycarbonate lens. All colours. 36.6mm long, 22.4mm wide, 7.1mm deep.

Held in panel by bending rear tags.



**SL 103** 



Moulded lens, all colours, chrome finish bezel.

46.0mm dia., 12.7mm deep.

Panel cut-out 38.1mm dia.

Max. panel thickness 9.6mm.



K 76 POINTER KNOB



Moulded in black nylon, white optional. Moulded-in brass insert for 6·35 dia. spindle. Grub screw fixing.

19mm dia. 12·7mm deep. 31·7mm over pointer.



L 94 Black

L95 White

38.1mm long, 25.4mm wide, 33.1mm high. Single 2BA fixing.



### IN-LINE FUSE HOLDER

Moulded in natural colour nylon. Supplied without fuses or leads.

F33. Overall length 36.5mm. For 15.9mm long  $\times$  4.7mm dia. fuses or 20mm long  $\times$  5mm dia. fuses.

F35. Overall length 50.8mm. For 31.7mm long x 6.3mm dia. fuses

Fuses 5 amp maximum.



T 36

Ball bearing turntable for small directional portable radios.

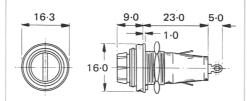
81.8mm dia. 3-fixing holes 4.1mm dia. on 47.8mm p.c.d. equally spaced.

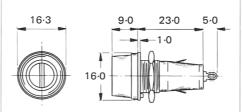


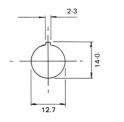
FH 332



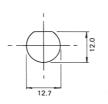
FH 333







Panel hole 'A'
Max. panel thickness
3.5



Panel hole 'B'
Max. panel thickness
4.5

Designed to comply with all the latest international safety standards.

Alternative versions available i.e.

Release of fuse carrier by fingers or Release of fuse carrier by screwdriver.

Moulded nylon body and fuse carrier. Body threaded for screwed nut fixing.

Silver plated solder tag terminations.

Alternatives for either 5 mm dia. x 20 mm fuses or  $3/16^{\prime\prime}$  dia. x  $5/8^{\prime\prime}$  fuses.

Max. rating 6.3A. 250V. AC.

Fuses not supplied.

### FINGER RELEASE

FH 330 3/16" dia. x 5/8" Fuse. Panel hole 'A'.

FH 332 5mm dia. x 20mm Fuse. Panel hole 'A'.

FH 334 3/16" dia. x 5/8" Fuse. Panel hole 'B'.

FH 336 5mm dia. x 20mm Fuse. Panel hole 'B'.

### SCREWDRIVER RELEASE

FH 331 3/16" dia. x 5/8" Fuse. Panel hole 'A'.

FH 333 5mm dia. x 20mm Fuse. Panel hole 'A'.

FH 335 3/16" dia. x 5/8" Fuse. Panel hole 'B'.

FH 337 5mm dia. x 20mm Fuse. Panel hole 'B'.



Registered in London, England No: 357431

Registered Office: CENTRAL AVENUE · EAST MOLESEY · SURREY · ENGLAND KT8 0RF.

Telephone: STD 01-979 3232 10 lines

Cables: ARCOLECTRIC MOLESEY

V.A.T. Registration Number: 211 3314 30 Telex Number: 24959

**DIRECTORS** Rodney Collier: Chairman and Managing Director

Robert Harris: Secretary and Export Sales Manager

John Harris: **Technical Director** 

**SALES PERSONNEL**  Home Sales Manager: Assistant Sales Manager:

Peter Dillistone Richard Entract

Home Sales Engineers:

Howard Cowley, Graham Woods-Smith and Chris Macdonald.

**Export Sales Manager:** Assistant Export Manager: Roger Sign

Robert Harris

**OFFICE HOURS** 

9.0 a.m. - 5.0 p.m. Monday to Friday.

**PRODUCTION** 

Some of the most modern factories in Europe employing 600 people. In East Molesey two factories with 75,000 square feet of space making moulding tools, press tools, plastic mouldings, metal stampings, turned metal parts and coiled springs. The final assembly of many switches is

now fully automated on computer controlled assembly machines.

A third factory in Aldershot -6,500 square feet, assembling neon indicators.

**INSPECTORATE APPROVAL** 

Ministry of Defence specification 0529.

**EXPORT** 

More than a quarter of sales are to overseas customers. Our products are assembled and distributed in U.S.A. by Arcolectric Corporation, North Hollywood, California. Arcolectric Switches Limited has a minority share interest in Arcolectric Corporation.

**GOVERNMENT CONTRACTORS**  Arcolectric Switches Ltd. are contractors to the Ministry of Defence, Crown Agents, British Railways, Post Office, B.B.C., I.T.A., Municipal Authorities, Shipping Companies, Nationalised Corporations, Government Research Establishments and Leading Electrical Manufacturers.

**FINANCIAL** 

An independent, totally British Company. A public company since 1958 in the name Arcolectric (Holdings) Ltd. Two-thirds of the shares are controlled by the working Directors. Sales are currently running at the rate of £3½ million per year.

**REGISTRARS** 

Metcalfe Blake & Co., 86 Cannon Street, London, EC4N 6HT.

On request they will be pleased to supply copies of our Annual Reports.

**AUDITORS** 

Deloitte, Haskins & Sells, 128 Queen Victoria Street, London, EC4P 4JX.

**SOLICITORS** 

Herbert Smith & Co., 62 London Wall, London, EC2. Rowe & Maw, 15 Devereux Court, Essex Street, London.

Braby & Waller, 2 Hind Court, Fleet Street, London, EC4A 3DS.

**BANKERS** 

Barclays Bank Limited, 2 York Street, Twickenham, Middlesex.

**HISTORY** 

1932: The original company, Collier Electric Co. Ltd. was established by Richard Collier. Electrical components were manufactured in small factories, at first in Croydon and later in

1939: H. C. Harris joined the company and it was reformed with the name Arcolectric Switches Ltd. derived by taking the "Ar" from Harris and the "Col" from Collier.

1947: The company moved to East Molesey. 1958: Arcolectric Holdings Ltd. was formed.

1959: Richard Collier died.

1966: The No. 2 factory at East Molesey was opened. 1973: The No. 3 factory at Aldershot was opened.

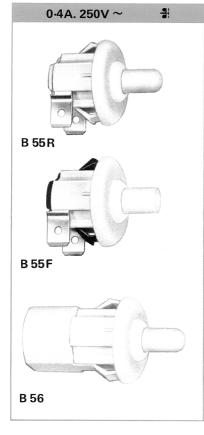
1976: H. C. Harris died.

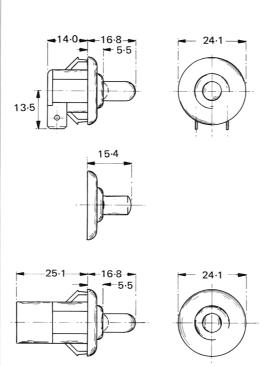
**PATENTS COPYRIGHTS** ETC.

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### SPRING RETURN PUSH BUTTON SWITCHES





Max. plunger travel - 9.6

### 55 and 56

All insulated moulded body, with integral nylon clips for snap-in panel mounting.

Slow make and break, normally closed single pole switch action.

Nylon plunger with overtravel.

6.3 Tab terminals.

Operating pressure: 280gr. approx.

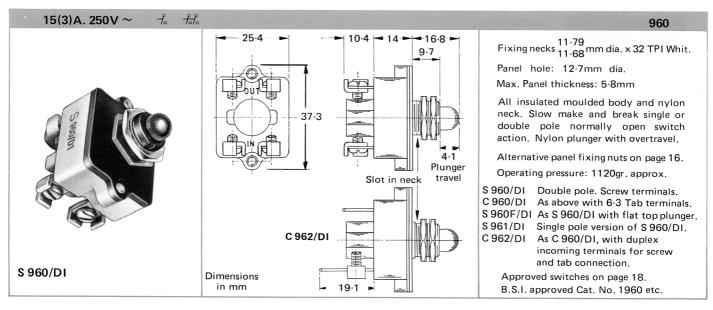
Panel cut-out: 19·2 dia. hole.

		Min.	Max.		
Danal	B 55R	1.0	1.6		
Panel	B 55F	1.0	1.6		
Thickness	B 56	1.0	2.6		

Details of approvals on page 18.

Please state whether refrigerator or oven light application.

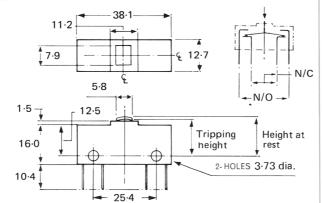
### 0.2A. 250V ~ Fixing necks 11.79 11.68 mm dia. x 32 TPI Whit. 28.7 23.9 10.4 Panel hole: 12.7mm dia. or cut-out Slow make and break, normally closed SP switch action. Metal or moulded nylon fixing necks. Alternative panel fixing nuts on page 16. 7.9 Plunger travel S 930 5 BA. Screw Terminals C 930 6.3 Tab Terminals T 930 Solder Tags For moulded necks, add /DI to Cat. No. .9.1 eg. C 930/DI. \$ 930 Max. panel thickness $-\frac{4\cdot\delta}{4\cdot1}$ on nylon necks Splashproof covers on page 16.





### 15A. 250V ~





Normally 'CLOSED' or normally 'OPEN' depending on terminal connections.

6.3mm Tab Terminals.

Height at rest
Tripping point height
Movement differential
Available overtravel

15.6mm 14.5mm 5.0mm Plunger flush

with case.

Operating force: C 290 680 gr. approx.





C 290/K2

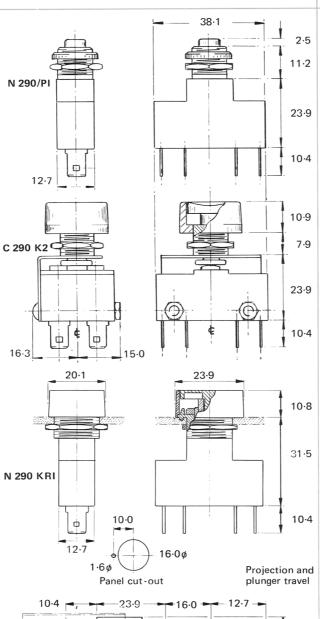


N 290/KR1



C290/PI/TDA

C 290/TDA



Fixing necks screwed:

11.79 mm dia. x 32 TPI Whit.

Panel hole: 12.7 dia. except /KR series.

Drawing below shows special panel cutout, to accept moulded adaptor, use on /KR series.

Max. Panel thickness: 5.6mm.

6.3 Tab Terminals.

Press button colours: Black, Red, Green

or White.

Fixing rings on 'P' series chrome finish.

Shrouds on 'K' series anodised aluminium.

Shrouds on 'KR' series, moulded natural colour or finished matt or bright chrome. Splashproof covers for 'P' series on page 16.

### Single Pole Switches

All Nylon

N 290/P1 Standard Press Button N 290/K1 Circular Press Button

(Shrouded)

N 290/KR1 Rectangular Press Button

(Shrouded)

N 290/L1 As /K1 less Button & Shroud

### **Double Pole Switches**

Metal Bush and mounting bracket

C 290/P2 Standard Press Button

C 290/K2 Circular Press Button (Shrouded)

38.1

Terminal cover can be

supplied as an extra.

(Sill odded)

C 290/KR2 Rectangular Press Button (Shrouded)

C 290/L2 As /K2 less Button & Shroud

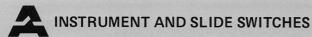
### Single Pole Switches

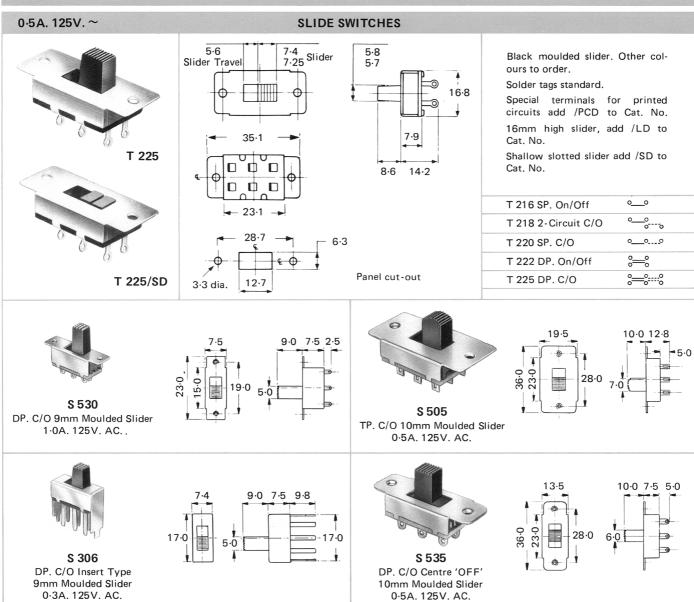
Metal Bush and mounting bracket

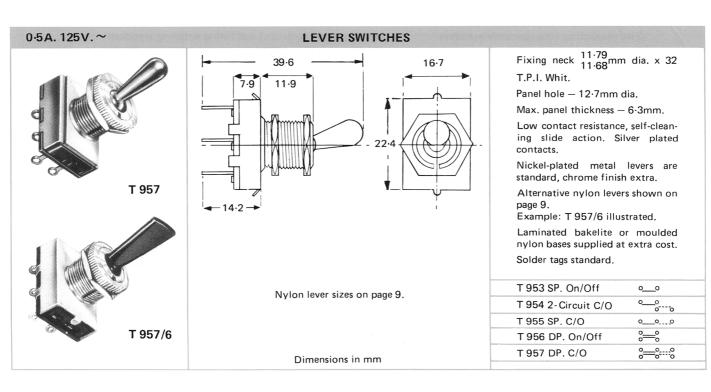
C 290/P1/TDA Special version having 12.7 plunger movement

including overtravel.

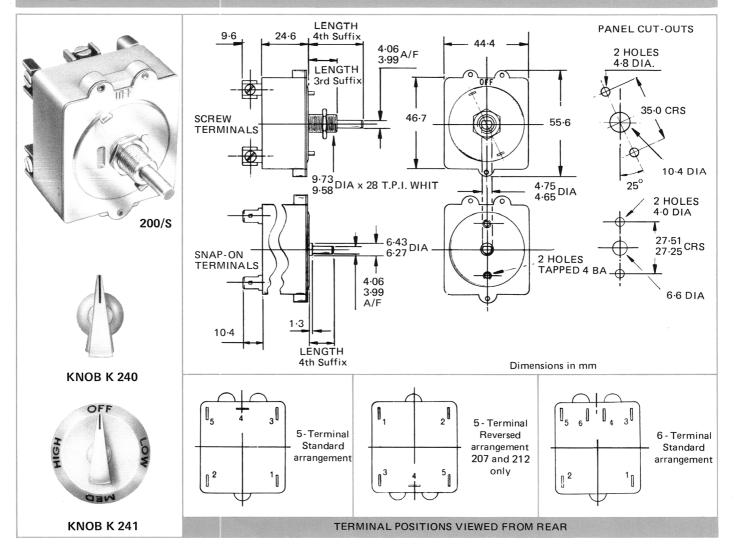
Dimensions in mm











Switches with 5 - Terminals in 3, 4 and 5 position types Switches with 6 - Terminals also available

See drawing above for terminal positions.

All switches have a spring loaded snap action.

Two mounting arrangements available: -

- (1) Threaded bush and nut fixing which is standard
- (2) Plain bush with 2-4 BA. tapped fixing holes. Drawing above gives details.

Switches have D - Section spindles for push-on knobs.

Illustrated are 2-knobs which can be supplied at extra cost.

K 241 suitable for 200 only.

Chart below gives details of all variations available. When ordering place the appropriate suffixes in correct order at rear of the switch basic number. Details of basic numbers in the chart on opposite page. As an example: -200/C/R/X/5.

1st SUFFIX		2nd SUFFIX		3rd SUFFIX			4th SUFFIX								
Terminals		Cover Plate		Centre Bush (length)			Spindle (length)								
С	S	Q	R	S	U	V	W	Х	1	2	3	4	5	6	7
6∙3 Tab.	4 BA Screw & Clamp	No. locating Spurts	With locating Spurts	4 BA Tapped fixing holes	5.6	10.4	12.7	15.0	12.2	19.0	22.3	25.4	27.7	29.8	34·1