

# Belling-Lee Technical Catalogue

## Components and Interconnection Systems Division

### Product information

In compiling this catalogue we have included all the relevant product data which is likely to be required.

Our local Technical Sales Engineer will always be pleased to check the contents of your catalogue and ensure that it includes the latest information. We welcome any suggestions which would improve its usefulness.

### Patents, registered designs and trademarks

Belling-Lee is a registered trade mark and this is applicable to all our products. In addition, we use other trade names, registered and unregistered, covering individual items or groups of similar items, e.g. FLEXIPAD. Many of our products are covered by patents and/or registered designs (or applications), too numerous to list in this catalogue.

Enquiries concerning these matters should be addressed to our Patents Department.

### Evaluation samples

Engineers can request samples for evaluation and any precise information which may be of assistance.

### Modifications and alterations

Belling-Lee reserve the right to make any modifications to the data and products shown in this catalogue.

### Conditions of sale

All sales transactions are in accordance with our standard conditions of quotation and sale, copies of which are available on request.

Lampholders  
Indicating fuseholders  
Panel fuseholders  
Open fuseholders  
Fuseclips and fuseholder adaptors  
Thermal and magnetic delays

Subminiature coaxial connectors  
Miniature coaxial connectors  
Miniature coaxial units  
Standard coaxial connectors  
BNC connectors

Terminals  
Barrier terminal blocks  
Flexible terminal blocks  
Knobs

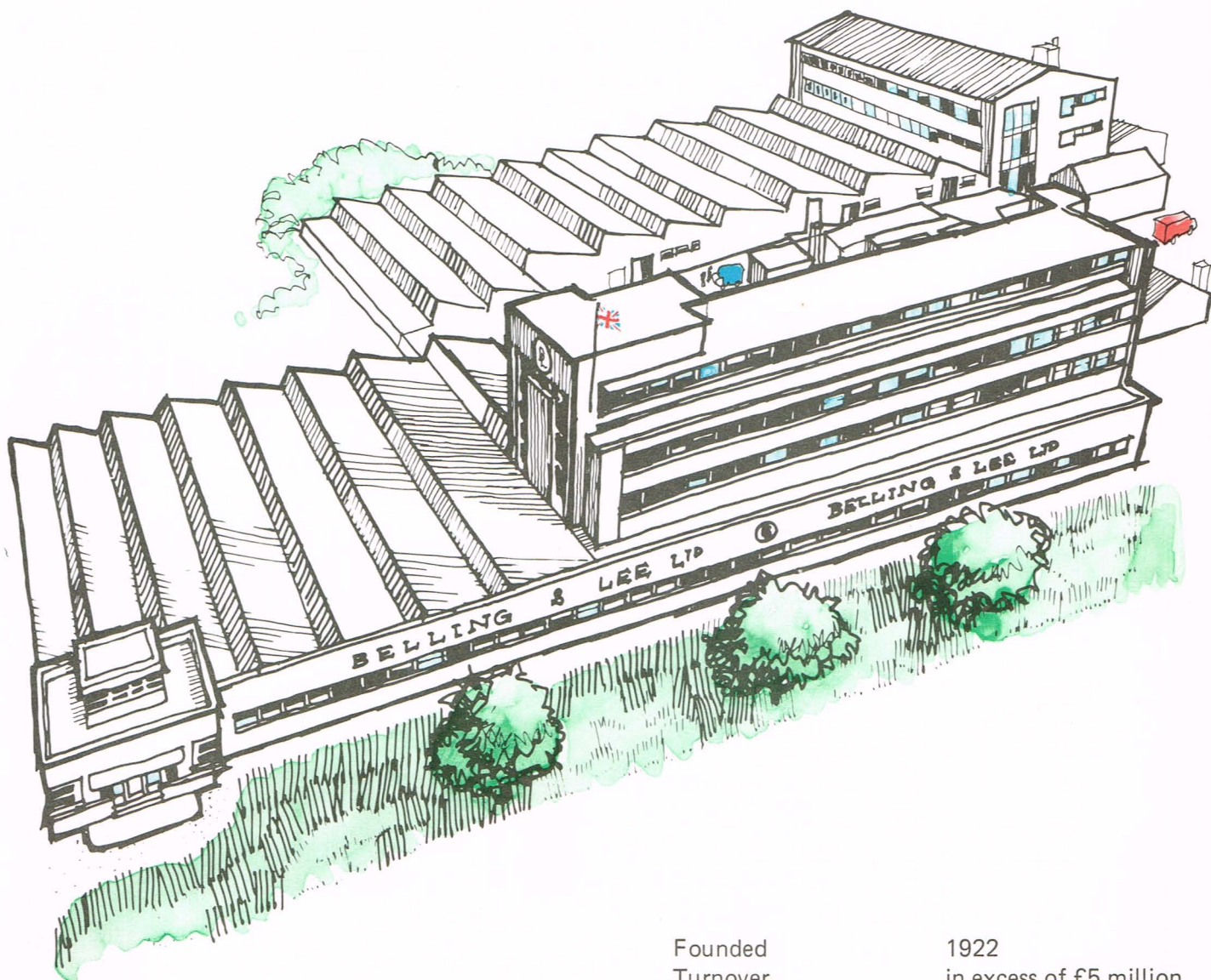
Single pole plugs and sockets  
Multipole connectors  
Mains connectors  
Printed circuit edge connectors  
Ribbon cable  
Flexible circuits  
Interconnection systems

DE VERELL ASSOCIATES  
WELLINGTON

REC. -2 FEB 1978

ANSB.....

# Divisions of Belling-Lee



Founded	1922
Turnover	in excess of £5 million
Employees	exceeding 1,000
Issued capital	£520,000
Site area	7 acres



Belling & Lee Ltd. have three main Product Divisions in addition to the Electronic Component and Interconnection Systems Division.

## Electronic Equipment Division

A comprehensive range of equipment and accessories for coaxial cable television systems used in hotels, schools, blocks of flats and whole towns up to 300,000 subscribers.

## Radio Frequency Interference Suppression Equipment Division

Modular and custom built RFI shielded enclosures up to 120 dB attenuation and a 1 Hz to 10 GHz frequency range with associated power and signal line filters. The RFI filter range includes standard list line and customised filters ranging from a few milliamperes to several hundred amperes.

The L3000 modular shielded enclosures are supplied as complete prefabricated units for installation using a minimum of tools and site labour.

## Prestincert Limited

Manufacture patented, self piercing inserts for mounting components swiftly, securely and accurately to piece parts, panels or chassis of steel, aluminium etc. The Prestincert technique reduces operation costs as the components are punched directly into sheet metal without the need for pre-pierced holes. Standard and customised bushes are available with unified and metric threads, each designed for a specific sheet thickness.

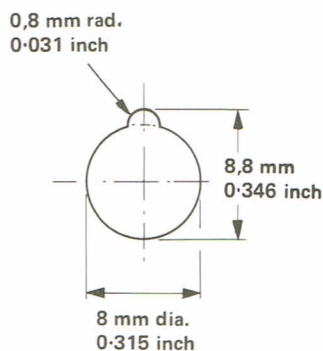
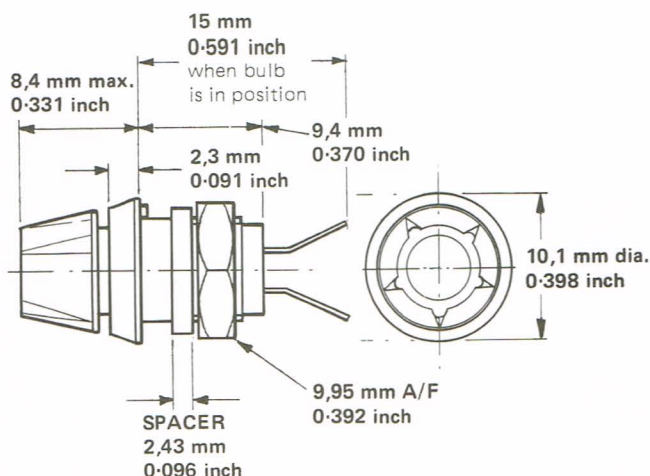
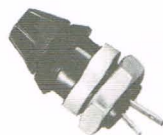
Catalogue information for all these products are available upon request.



# BELLING-LEE

Belling and Lee Ltd., Gt. Cambridge Road, Enfield, Middlesex, EN1 3RY.  
Telephone: 01-363 5393. Telex: 263265. Cables: 'Radiobel' Enfield.

## L1901 Sub-miniature lampholder

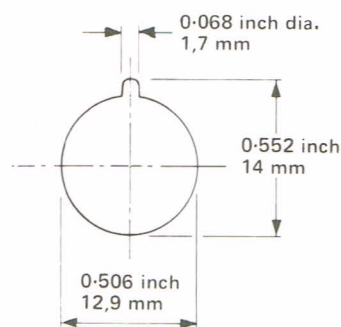
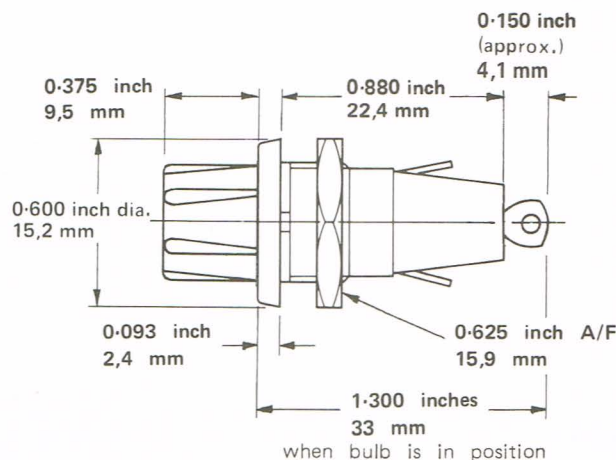
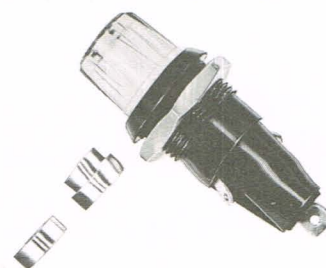


Panel cut-out

A fully insulated, panel mounting, sub-miniature lampholder of metric design for 3 mm tubular flange cap lamps. The lens is available with a choice of 5 colours (see below), and unscrews for lamp replacement. It is supplied with spacer which enables it to be used on very thin panels, if required

<b>Lamp style:</b>	3 mm tubular (T - 1), with flange cap type S3s
<b>Power rating:</b>	≤ 0.75 Watt (temperature rise < 40 °C)
<b>Lens colours:</b>	Amber, blue, clear, green or red
<b>Panel thickness (maximum):</b>	6 mm 0.23 inch
<b>Fixing torque:</b>	0.4 N m 3.5 lbf inch
<b>Temperature range:</b>	-40 °C to +70 °C (Ambient)
<b>humidity</b>	21 days (BS 2011) (part 2, damp heat, long term)
<b>Insulation resistance:</b>	≥ 10 <sup>3</sup> megohms
<b>Voltage breakdown (to panel)</b>	≥ 3 kV at 50 Hz
<b>Materials:</b>	Mouldings — polycarbonate Contacts — brass, silver-plated
<b>Weight (average):</b>	1.9 g 0.07 oz
<b>Belling-Lee reference number:</b>	L1901/Colour of lens

## L1896A Low voltage lampholder



Panel cut-out

This miniature indicator fitting has been designed to match the styling of fuseholders L1596B, E6011B and neon light L1897 shown elsewhere in the green section. It requires the same size panel cut-out and has a single fixing nut. A locating spigot on the underside of the rim prevents rotation.

The bulb is easily removed from the front of the panel after unscrewing the lens.

The lens is available in a choice of 5 colours.

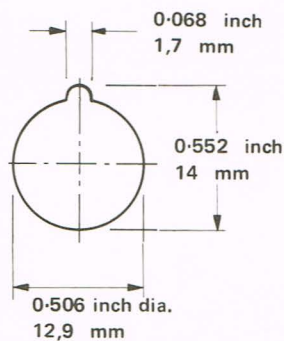
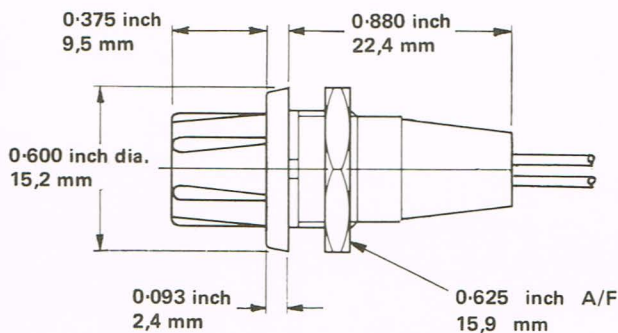
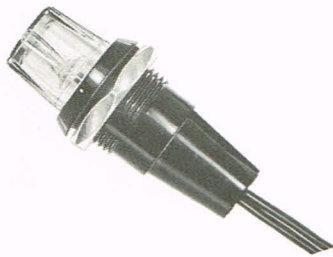
L1896A uses 5 mm tubular L.E.S. lamps (cap E5/8) or 6 mm tubular midjet flange lamps (S6s8), covering a range of voltage ratings and filament life requirements.

Mounting rings for both lamps are included.

<b>Power rating(lamp):</b>	≤ 1 W (temperature rise ≤ 40 °C)
<b>Voltage proof:</b>	2 kV at 50 Hz
<b>Insulation resistance:</b>	> 100 megohms
<b>Temperature range:</b>	-40 °C to +60 °C (Ambient)
<b>Panel thickness (maximum):</b>	0.141 inch 3.6 mm
<b>Fixing torque (maximum):</b>	0.68 N m 6 lbf inch
<b>Lens colours:</b>	Amber, blue, clear, green or red
<b>Materials and finish:</b>	Body moulding — phenolic resin Lens — polycarbonate Contacts — silver-plated
<b>Lamp style:</b>	T1½ 5 mm tubular L.E.S. (cap E5/8) and T1½ 6 mm tubular midjet flange lamp (S6s8).
<b>Weight (average):</b>	4.7 g 0.17 oz
<b>Belling-Lee reference number:</b>	L1896A/Colour of lens Example: L1896A/red



## L1897/240 Neon indicator light



Panel cut-out

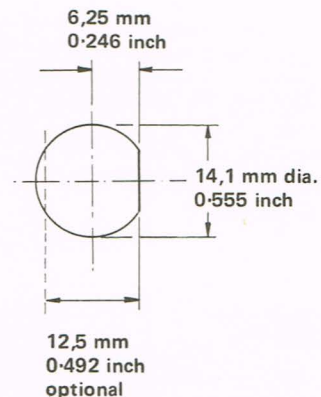
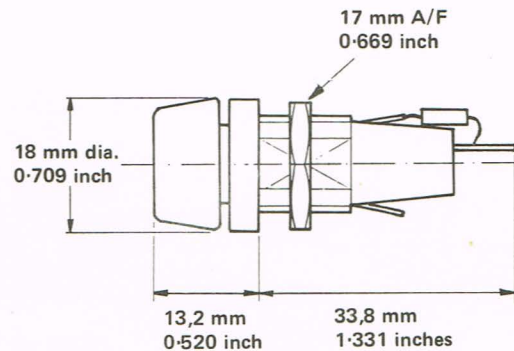
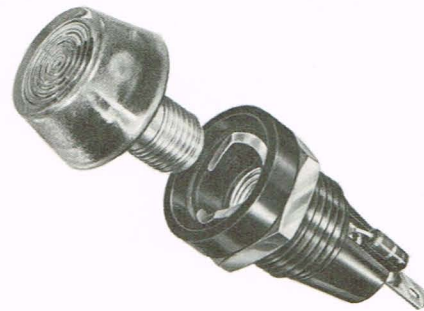
Styled to match the L1896A miniature lampholder and L1596B and E6011B fuseholders.

Complete with neon lamp and resistor for instant connection. Attractive in appearance and economically priced.

<b>Voltage range:</b>	200 V to 250 Va.c./d.c.
<b>Breakdown voltage:</b>	> 8 kVd.c. (leads to chassis)
<b>Insulation resistance:</b>	> 100 megohms (leads to chassis)
<b>Temperature range:</b>	-55 °C to +60 °C (Ambient)
<b>Panel thickness (maximum):</b>	0.141 inch 3,6 mm
<b>Fixing torque (maximum):</b>	0,68 N m 6 lbf inch
<b>Length of wires:</b>	8.75 inches 222,3 mm
<b>Materials:</b>	Body moulding — phenolic resin Lens — polycarbonate
<b>Lens colours:</b>	Amber, clear, or red.
<b>Weight (average):</b>	5,2g 0.18 oz
<b>Belling-Lee reference number:</b>	L1897/240/colour of lens Example: L1897/240/Red

## L2009 Panel fuseholder, indicating

20 x 5 mm



Panel cut-out

A miniature panel fuseholder for 20 x 5 mm fuse links. The fuse carrier (cap) houses a neon lamp which lights and becomes visible through a lens in the top when the fuse link has blown and the power remains on.

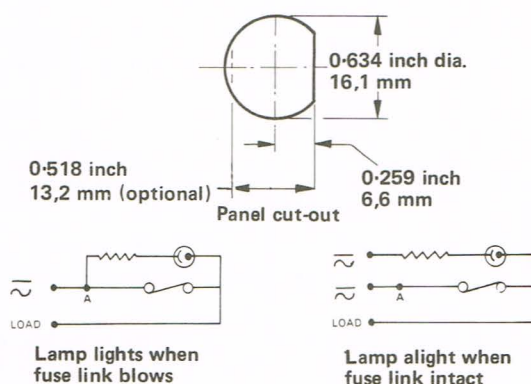
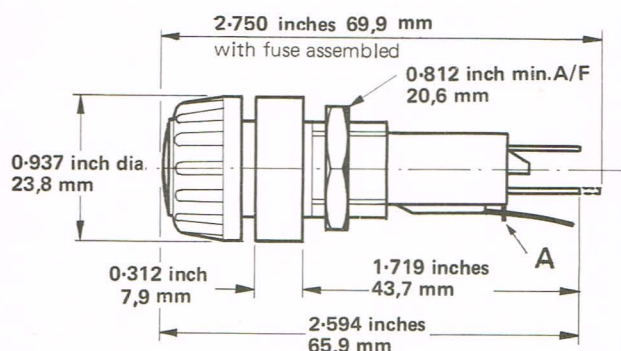
Available with a choice of two lens colours, clear or red.

Supplied complete with neon lamp and ballast resistor for 240 Va.c.

<b>Current rating:</b>	6,3 A
<b>Insertion resistance:</b>	10 milliohms maximum
<b>Insulation resistance:</b>	> 100 megohms (cap removed)
<b>Voltage breakdown:</b>	> 5 kVd.c. (cap removed)
<b>Temperature range:</b>	-40 °C to + 70 °C (Ambient)
<b>Panel thickness:</b>	7,9 mm 0.312 inch maximum
<b>Fixing torque:</b>	0,68 N m 6 lbf inch maximum
<b>Fuse carrier torque:</b>	5 lbf in 0,56 N m maximum
<b>Terminations:</b>	For solderless snap-on connectors 0.110 x 0.024 inch 2,8 x 0,61 mm up to 5 A, or solder (all ratings).

<b>Weight (average):</b>	10,9 g 0.38 oz
<b>Belling-Lee reference number:</b>	L2009/240/Clear or L2009/240/Red

## L1848A/240 Panel fuseholder, indicating, size 0



Designed for a 1 1/4 inches x 1/4 inch, 32 mm x 6.3 mm size 0, 3AG and IEC 127 Standard Sheet IV fuse link. This panel fuseholder is supplied complete with neon lamp and ballast resistor which may be wired either so that the lamp lights when the fuse link is intact or when the fuse link has been blown.

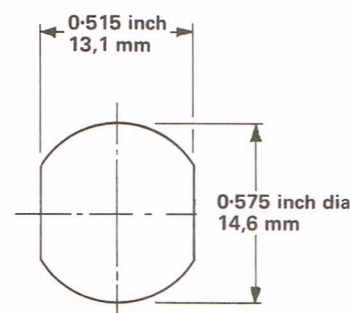
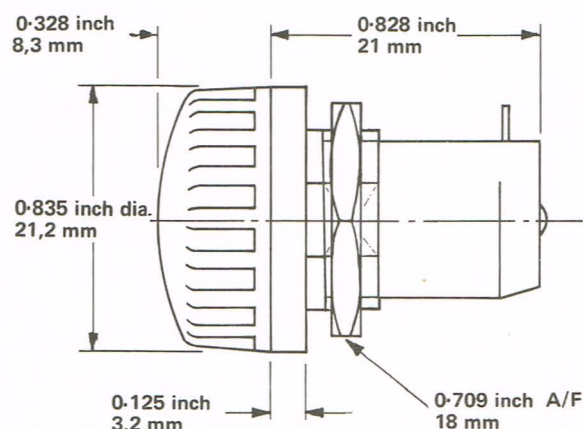
Bayonet fitting fuse carrier; terminations equally suitable for solderless snap-on connectors 0.250 x 0.032 inch 6.3 x 0.81 mm or soldered connections.

L1848A/240 with 68 kilohms ballast resistor is suitable for 200–260 V a.c./d.c. circuits.

<b>Current rating (maximum):</b>	10 A (15 A @ 55 °C ambient temperature)
<b>Temperature rise:</b>	≤ 30 °C
<b>Insertion resistance:</b>	≤ 10 milliohms
<b>Ambient temperature range:</b>	–40 °C to +70 °C
<b>Insulation resistance:</b>	> 100 megohms
<b>Voltage breakdown (a.c.):</b>	> 2.5 kV terminations to chassis > 2.5 kV between terminations, cap removed
<b>Panel thickness (maximum):</b>	0.250 inch 6.35 mm
<b>Fixing torque (maximum):</b>	1.36 N m 12 lbf inch
<b>Fuse carrier torque (maximum):</b>	0.565 N m 5 lbf inch
<b>Materials:</b>	Body – moulded plastic lens – moulded low-loss plastic Contacts – brass, silver-plated
<b>Weight (average):</b>	23.6 g 0.83 oz

## L675 Panel fuseholder, size 00

Barrier and panel sealed



Panel cut-out

This fuseholder was specially designed for the Services for use with heavy duty (high rupturing capacity) fuse links. It is not suitable for use with glass cartridge fuse links.

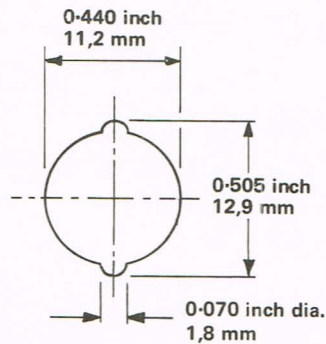
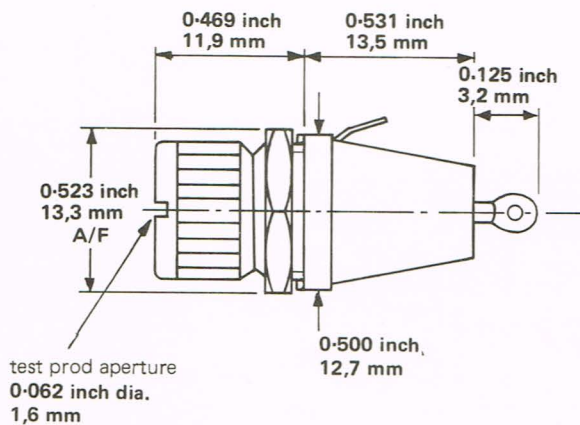
<b>Specification:</b>	DEF - 64
<b>Current rating:</b>	2 A (temperature rise ≤ 40 °C)
<b>Breakdown voltage (d.c.):</b>	Sea level > 9 kV 60 000 feet 18 000 m 1 kV
<b>Insulation resistance:</b>	> 100 megohms
<b>Insertion resistance:</b>	< 30 milliohms
<b>Humidity:</b>	H5
<b>Temperature range:</b>	–55 °C to +70 °C (Ambient)
<b>Panel thickness (maximum):</b>	0.15 inch 3.8 mm
<b>Fixing torque (maximum):</b>	0.62 N m 5.5 lbf inch
<b>Weight (average):</b>	0.48 oz 13.7 g

Qualification Approved



## L575A Panel fuseholder, size 00

With test prod aperture in lid



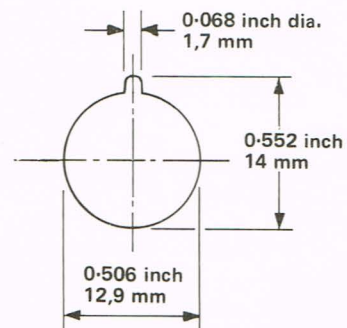
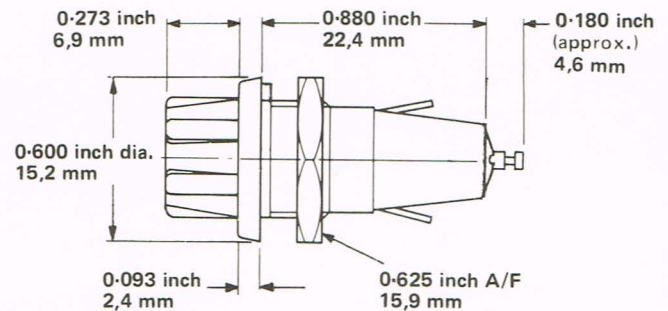
Panel cut-out

This miniature, panel mounting fuseholder was designed for the use of the Services and is recommended for all situations where space is at a premium.

<b>Specification:</b>	RCS 262 Issue 2
<b>Current rating:</b>	2.5 A (temperature rise $\leq 55^\circ\text{C}$ )
<b>Breakdown voltage (d.c.):</b>	Sea level $\geq 3.5\text{ kV}$ 60 000 feet 18 000 m $> 1\text{ kV}$ $> 100\text{ megohms}$ $< 5\text{ milliohms}$
<b>Insulation resistance:</b>	
<b>Insertion resistance:</b>	
<b>Humidity:</b>	Class H2
<b>Temperature range:</b>	$-40^\circ\text{C}$ to $+70^\circ\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	0.064 inch 1,6 mm
<b>Fixing torque (maximum):</b>	0.32 N m 2.8 lbf inch
<b>Weight (average):</b>	0.19 oz 5,3 g

Qualification Approved

## L1596B Panel fuseholder, Size 00



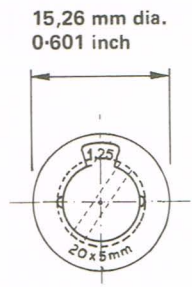
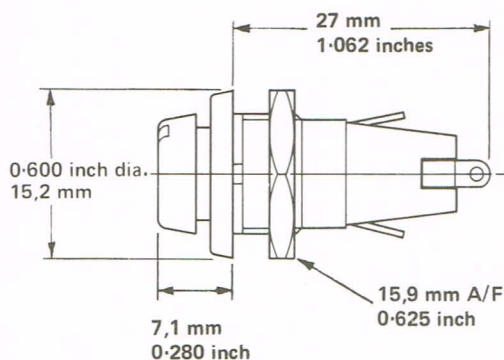
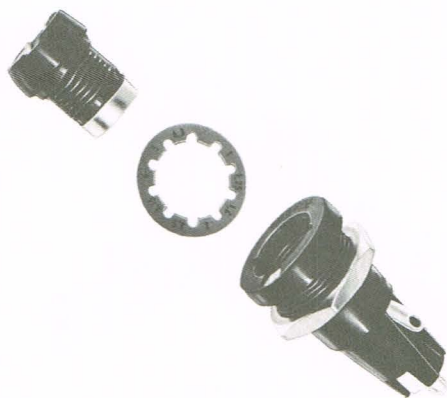
Panel cut-out

A robust, miniature, panel mounting fuseholder of contemporary styling. The fuse link is withdrawn on removal of the screw cap, which has a 'knock-out' for insertion of a test probe, if required.

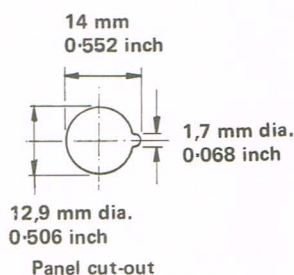
<b>Current rating:</b>	7 A (temperature rise $\leq 40^\circ\text{C}$ ).
<b>Breakdown voltage (d.c.):</b>	Sea level $\geq 4\text{ kV}$ 60 000 feet 18 000 m $1\text{ kV}$ $> 100\text{ megohms}$ $< 10\text{ milliohms}$
<b>Insulation resistance:</b>	
<b>Insertion resistance:</b>	
<b>Temperature range:</b>	$-55^\circ\text{C}$ to $+70^\circ\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	9/64 inch 3,6 mm
<b>Fixing torque (maximum):</b>	0.68 N m 6 lbf inch
<b>Weight (average):</b>	0.17 oz 4,8 g

## L2006A Panel fuseholder L2007 Dial-a-rating kit (optional)

for 20 x 5 mm fuse link



L2007



Panel cut-out

This fully finger-proofed panel mounting fuseholder is designed to meet the safety requirements of IEC 257, DEMKO, NEMKO and SEMKO, and BS 415.

L2007, Dial-a-rating accessory kit enables the value of the fitted fuse like to be readily indicated.

Mounting on the panel is effected through a single hole and secured by a nut. A locating spigot on the underside of the rim prevents rotation.

<b>Current rating:</b>	6,3 A (temperature rise $< 65^{\circ}\text{C}$ on accessible parts).
<b>Test voltage:</b>	4 k V d.c. 50 cycles 1 minute
<b>Insertion resistance:</b>	5 milliohms av., 10 milliohms max.
<b>Breakdown voltage (d.c.):</b>	$> 4$ kV
<b>Insulation resistance:</b>	$\geq 100$ megohms
<b>Temperature range:</b>	$-55^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (Ambient)
<b>Panel thickness:</b>	0,91 to 3,58 mm 0.036 - 0.141 inch
<b>Recommended fixing torque:</b>	0,68 N m 6 lbf in
<b>Conductor size (maximum):</b>	1,2 mm diameter, 24/0,2 mm or 18 s.w.g.
<b>Weight (average):</b>	4,7 g 0.17 oz

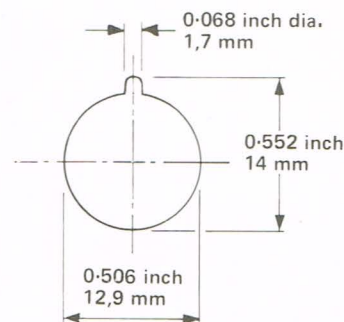
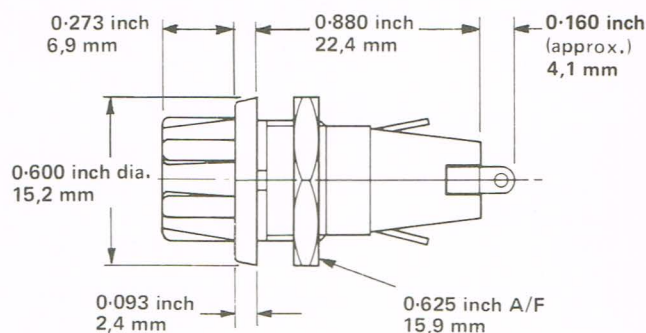
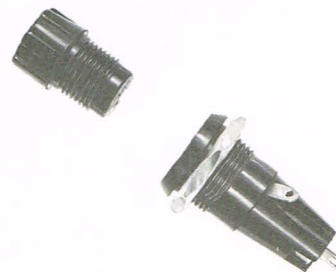
**Belling-Lee reference number:**

<b>Fuseholder:</b>	L2006
<b>Dial-a-rating kit:</b>	L2007/A for fuse ratings 1, 1.25, 1.6, 2, 2.5, 3.15, 4, 5, 6.3 A

<b>Dial-a-rating kit:</b>	L2007/B for fuse ratings 0.032, 0.04, 0.05, 0.063, 0.08, 0.1, 0.125, 0.16, 0.2, 0.25, 0.315, 0.4, 0.5, 0.63, 0.8 A
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## E6011B Panel fuseholder

for 20 x 5 mm fuse link



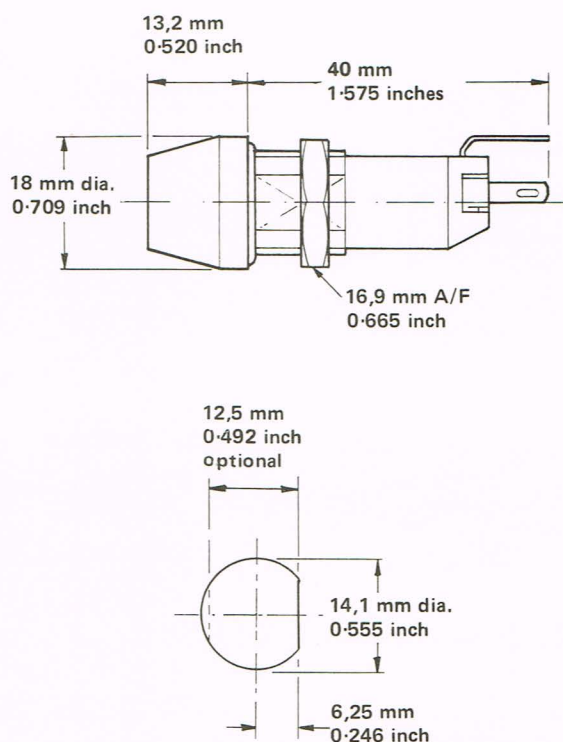
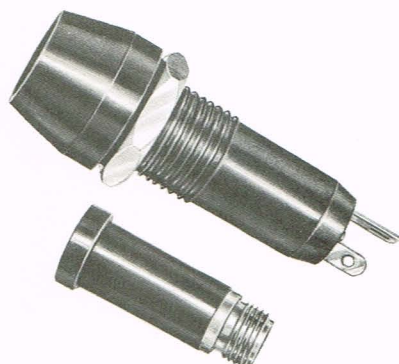
Panel cut-out

<b>Current rating:</b>	6,3 A
<b>Voltage rating:</b>	250 V a.c.
<b>Breakdown voltage (d.c.):</b>	Sea level $\geq 4$ kV 60 000 feet 18 000 m 1 kV
<b>Insulation resistance:</b>	$> 100$ megohms
<b>Insertion resistance:</b>	$< 10$ milliohms
<b>Temperature range:</b>	$-55^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	9/64 inch 3,6 mm
<b>Fixing torque (maximum):</b>	0,68 N m 6 lbf inch
<b>Weight (average):</b>	0.17 oz 4,8 g



## L1742 Panel fuseholder, barrier and panel sealed, for 20 x 5 mm fuse link

## L1742/U Panel fuseholder, unsealed for 20 x 5 mm fuse link



Panel cut-out

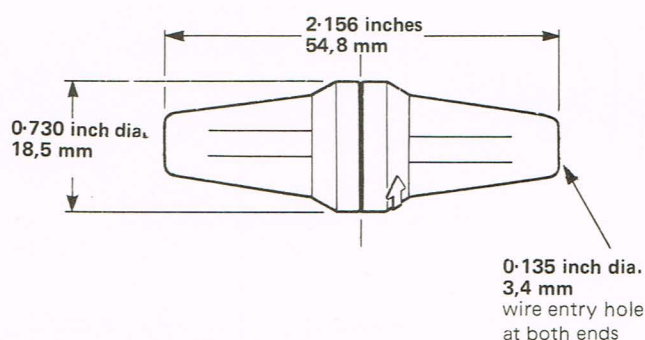
These panel mounting fuseholders for 20 x 5 mm fuse links are designed to meet the safety requirements of IEC 257, DEMKO, NEMKO, and SEMKO. A coin slot in the fuseholder head facilitates easy fuse link removal.

Mounting on the panel is effected through a single hole, shaped to engage the anti-swivel flats on the fuseholder body, which is secured with a nut.

The connector posts are suitable for soldering or for solderless snap-on connectors.

<b>Current rating:</b>	6,3 A
<b>Insertion resistance (maximum):</b>	10 milliohms
<b>Breakdown voltage (d.c.):</b>	> 3 kV
<b>Insulation resistance:</b>	≥ 100 megohms
<b>Temperature range:</b>	- 55 °C to + 70 °C (Ambient)
<b>Sealing:</b>	Leakage less than 1 cc/h @ 15 lbf/inch <sup>2</sup> 100 kPa
<b>Panel thickness (maximum):</b>	0.315 inch 8 mm
<b>Contacts:</b>	Nickel-plated brass
<b>Terminations:</b>	0.110 x 0.024 inch 2,8 x 0,61 mm
<b>Weight (average):</b>	15,5 g 0.55 oz

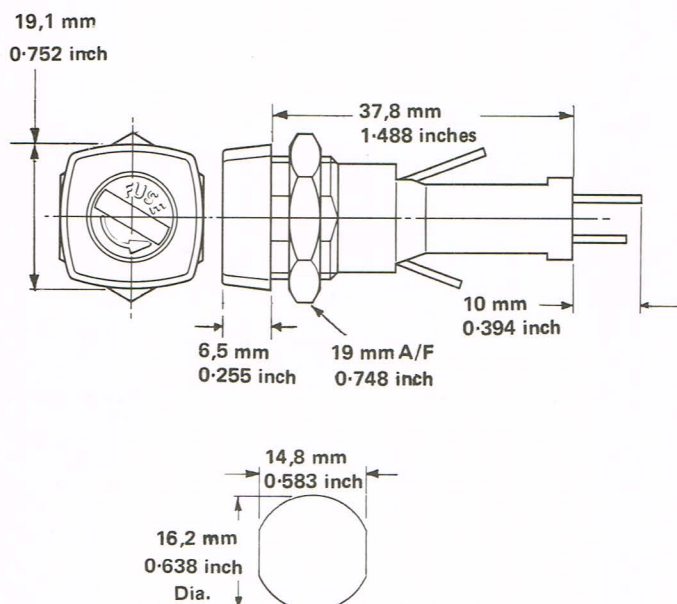
## L1745 In-line fuseholder, size 0



Simply and economically wired into a supply line, the L1745 accommodates a 1 1/4 inches x 1/4 inch 32 mm x 6,3 mm fuse link. The circuit is broken when the fuseholder is opened by a simple push-and twist operation.

<b>Colour:</b>	Black
<b>Current rating:</b>	7 A (temperature rise ≤ 25 °C)
<b>Insertion resistance (maximum):</b>	15 milliohms
<b>Insulation resistance (minimum):</b>	100 megohms
<b>Maximum safe working voltage (BS 415):</b>	34 V peak
<b>Temperature range:</b>	-25 °C to +60 °C (Ambient)
<b>Connections:</b>	Solder
<b>Maximum wire size:</b>	70/0.0076 inch 30/0,25 mm, overall diameter 0.125 inch 3,18 mm
<b>Weight (average):</b>	5,18 g 0.18 oz
<b>Belling-Lee reference number:</b>	L1745/Black

## L2004 Panel fuseholder, size 0 (Adaptor available for 20 x 5 mm fuse links) L2003 Coloured bezel for above (L2004 Supplied complete with black bezel)



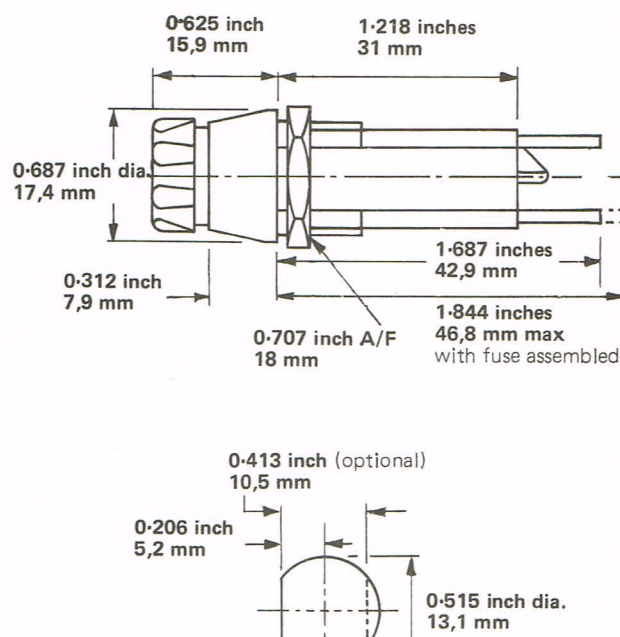
Panel cut-out

The L2004 is a fully fingerproof safety fuseholder designed to comply with the requirements of Publications IEC 257, and BS 415. The fuseholder is supplied with a black removable bezel, which snaps into place over the front flange. Other bezels in green, grey, red and white can be purchased in packs of 50, quoting quantity required and Belling-Lee reference number L2003/Colour.

**Adaptor:** Order L1940A for use with 20 x 5 mm fuse links.

<b>Current rating:</b>	15 A (temperature rise $\leq 40^\circ\text{C}$ above ambient) 10 A (when tested in accordance with IEC 257) 30 A (BS AU 105)
<b>Breakdown voltage:</b>	$\geq 4 \text{ k Vd.c.}$
<b>Insulation resistance:</b>	$\geq 100 \text{ megohms}$
<b>Insertion resistance:</b>	$\leq 5 \text{ milliohms}$
<b>Temperature range:</b>	$-25^\circ\text{C}$ to $+85^\circ\text{C}$ (Ambient)
<b>Humidity:</b>	21 days (BS 2011 - IEC 68-1)
<b>Panel thickness:</b>	4 mm maximum
<b>Fixing torque:</b>	10.6 lbf inch 1,2 Nm
<b>Weight (average):</b>	9,7 g 0.342 oz
<b>Terminations:</b>	Will accept two sizes of solderless snap-on connectors 0.250 x 0.032 inch 6,3 x 0,81 mm and 0.187 x 0.032 inch 4,75 x 0,81 mm, or solder

## L1744A Panel fuseholder, bayonet locking, size 0



Panel cut-out

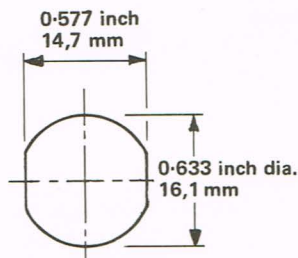
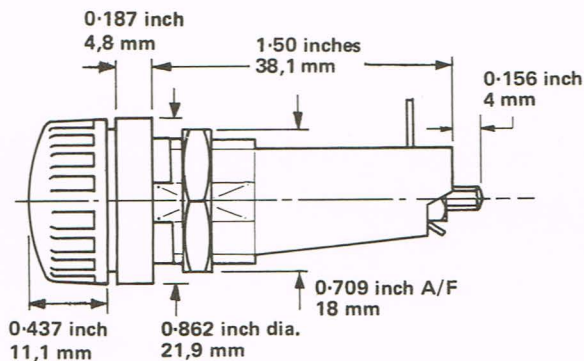
A panel mounting fuseholder for a  $\frac{1}{4}$  inches x  $\frac{1}{4}$  inch, 32 mm x 6,3 mm fuse link, fitting a 0.515 inch diameter panel cut-out. It has a bayonet locking cap, and connection posts suitable for soldering or for 0.250 inch x 0.032 inch 6,3 mm x 0,81 mm solderless snap-on connectors. A special internal insulation barrier is incorporated to provide superior breakdown voltage performance.

<b>Current rating:</b>	10 A (temperature rise $\leq 40^\circ\text{C}$ above ambient) 20 A (BS AU 105)
<b>Breakdown voltage (a.c.):</b>	$> 4 \text{ kV}$ between terminations $> 10 \text{ kV}$ terminations to panel
<b>Insulation resistance:</b>	$> 100 \text{ megohms}$
<b>Insertion resistance:</b>	$< 15 \text{ milliohms}$
<b>Humidity:</b>	21 days (BS 2011 - IEC 68-1)
<b>Temperature range:</b>	$-55^\circ\text{C}$ to $+70^\circ\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	0.313 inch 7,9 mm
<b>Fixing torque (maximum):</b>	1,18 N m 10 lbf inch
<b>Mouldings:</b>	Phenolic resin
<b>Contacts:</b>	Brass, silver-plated
<b>Weight (average):</b>	13,7 g 0.48 oz



## L1382 Panel fuseholder, size 0

Barrier and panel sealed



Panel cut-out

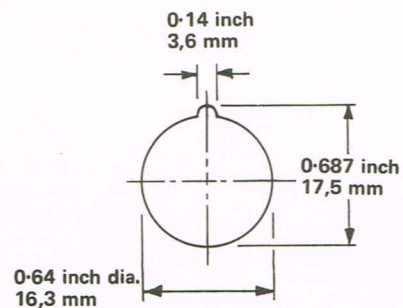
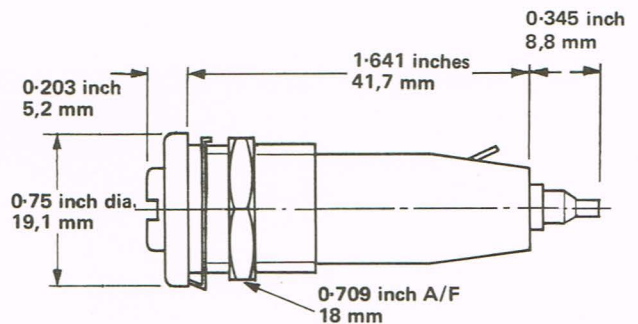
Originally developed for use with heavy duty size 0 fuse links, the design has now been modified to accommodate glass cartridge fuse links as well. The L1382/H variant has a test prod aperture 0.094 inch 2,4 mm diameter in the head.

Another variant, L1382/LIVE, has received qualification approval by the Post Office. It is marked with the Post Office reference number P.O.136F and the end terminal is marked LIVE.

<b>Specification:</b>	DEF - 64
<b>Current rating:</b>	7 A (temperature rise $\leq 40^{\circ}\text{C}$ ) (15 A at $55^{\circ}\text{C}$ maximum)
<b>Breakdown voltage (d.c.):</b>	$> 10\text{ kV}$
<b>Insulation resistance:</b>	$> 100\text{ megohms}$
<b>Insertion resistance:</b>	$< 15\text{ milliohms}$
<b>Humidity:</b>	H5 (DEF - 5011)
<b>Temperature range:</b>	$-55^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	0.156 inch 4 mm
<b>Fixing torque:</b>	1,7 N m 15 lbf inch
<b>Weight (average):</b>	0.84 oz 23,4 g

Qualification Approved

## L1348A Panel fuseholder, size 0



Panel cut-out

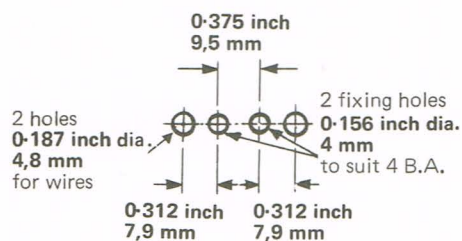
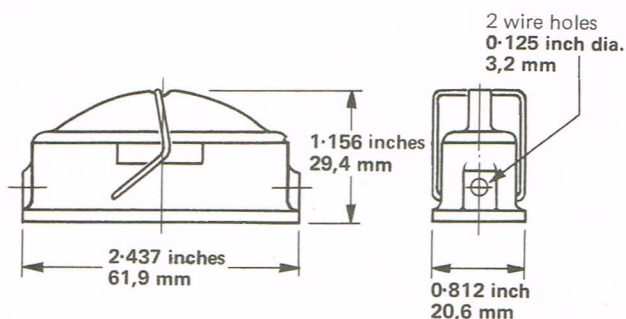
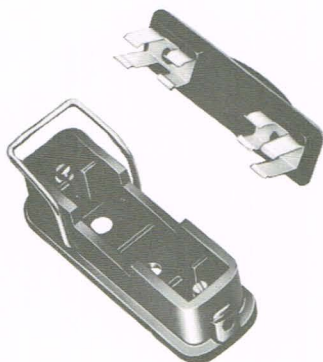
This standard size 0 panel fuseholder, used throughout the instrument industry, is also extensively used by H.M. Services and the Post Office.

<b>Current rating:</b>	7 A (temperature rise $\leq 40^{\circ}\text{C}$ ) 15 A at $55^{\circ}\text{C}$ maximum ambient temperature
<b>Breakdown voltage (d.c.):</b>	$> 9\text{ kV}$
<b>Insulation resistance:</b>	$> 100\text{ megohms}$
<b>Insertion resistance:</b>	$< 5\text{ milliohms}$
<b>Humidity:</b>	H2 (RCS 11)
<b>Temperature range:</b>	$-40^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ (Ambient)
<b>Panel thickness (maximum):</b>	0.4 inch 10 mm
<b>Fixing torque:</b>	0,57 N m 5 lbf inch
<b>Weight (average):</b>	0.7 oz 19,7 g

## L1045/C3 Single fusebox, size 0

With end and rear wire entries

Scale 1:2



Panel cut-out

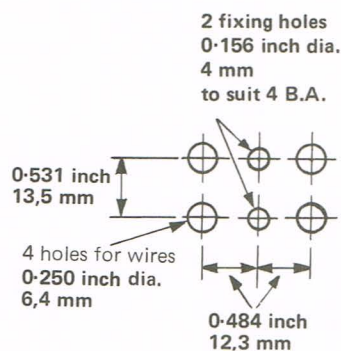
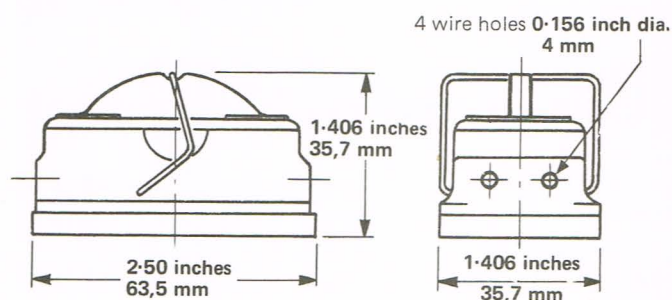
Designed for chassis mounting. A standard  $1\frac{1}{4}$  inches x  $\frac{1}{4}$  inch 32 mm x 6,3 mm fuse link is held in the lid and automatically exposed and isolated from the circuit as the lid is raised. Leads may be inserted through the base or through the ends of the box.

**Current rating:** 10 A (temperature rise  $\leq 40^\circ\text{C}$ )  
**Breakdown voltage (d.c.):** to chassis  $> 4\text{ kV}$   
**Temperature range:**  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$  (Ambient)  
**Weight (average):** 22,1 g 0.78 oz

## L1033/C4 Double fusebox, size 0

With end and rear wire entries  
A two-pole version of L1045/C3

Scale 1:2



Panel cut-out

**Current rating:** 10 A (temperature rise  $\leq 40^\circ\text{C}$ )  
**Breakdown voltage (d.c.):** Between poles  $> 8\text{ kV}$   
Poles to chassis  $> 4\text{ kV}$   
**Temperature range:**  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$  (Ambient)  
**Weight (average):** 47 g 1.68 oz



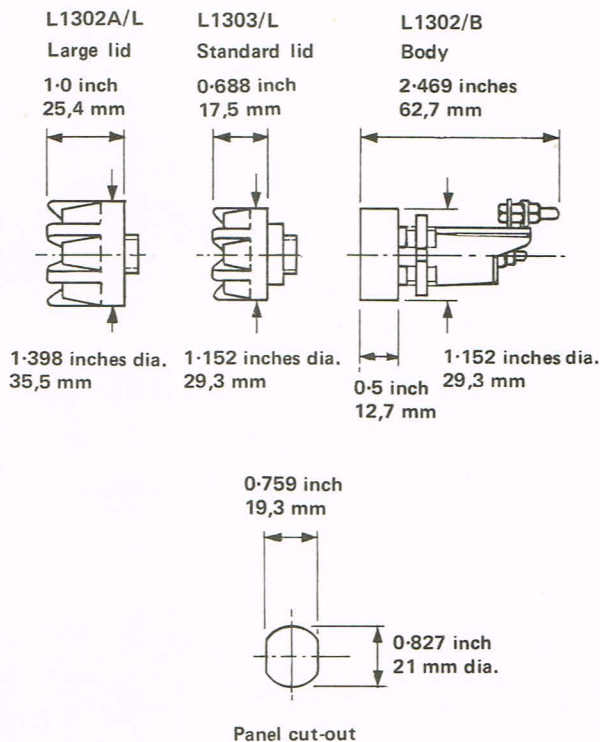
## Heavy duty panel fuseholders, barrier and panel sealed L1302/B Body L1302A/L large lid L1303/L standard lid

Scale 1:2



L1303/L

L1302/B



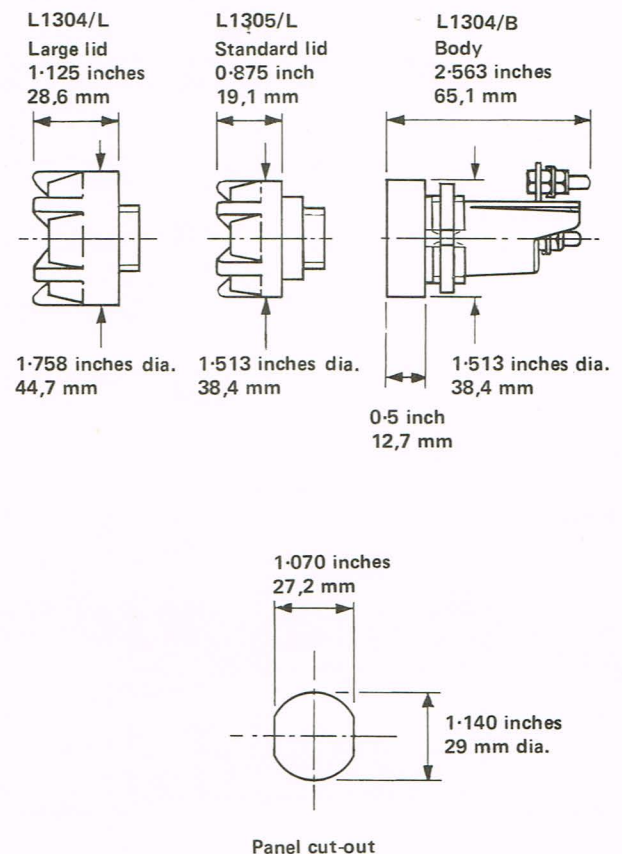
## Heavy duty panel fuseholder, barrier and panel sealed L1304/B Body L1304/L large lid L1305/L standard lid

Scale 1:2



L1304/L

L1304/B



These panel mounting fuseholders for size 1 fuse links, were developed for use in military, sea and land vehicles. They also have many industrial applications.

The fuseholders have different lids, either the standard or large, the latter providing a finger guard and increased creepage path for additional safety under wet conditions, thus permitting a higher working voltage to be used.

Fuse link withdrawal occurs automatically as the lid is unscrewed.

Mounting on the panel is effected through a single hole, shaped to engage the anti-swivel flats on the fuseholder body, which is secured with a ring-nut.

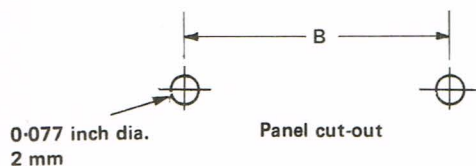
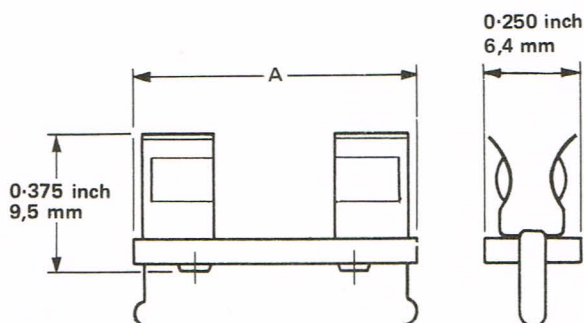
The terminals are supplied complete with washer and shakeproof nuts.

<b>Current rating:</b>	15 A (temperature rise $\leq 40^{\circ}\text{C}$ )
<b>Maximum working volts</b> (Services' rating):	L1302/B - L1302A/L 620 V peak L1302/B - L1303/L 250 V peak
<b>Insulation resistance:</b>	$> 100$ megohms
<b>Insertion resistance:</b>	$< 5$ milliohms
<b>Temperature range:</b>	$-40^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ (Ambient)
<b>Sealing:</b>	Leakage less than 1 cc/h at 15 lbf/inch <sup>2</sup> 100 kPa
<b>Panel thickness (maximum):</b>	0.204 inch 5,2 mm
<b>Weight (average):</b>	with large lid 2.47 oz 70 g with standard lid 2.0 oz 57 g

These two fuseholders are similar to the size 1 fuseholders, but are designed to accommodate the larger size 2 fuse links.

<b>Current rating:</b>	30 A (temperature rise $\leq 40^{\circ}\text{C}$ )
<b>Maximum working volts</b> (Services' rating):	L1304/B - L1304/L 620 V peak L1304/B - L1305/L 250 V peak
<b>Insulation resistance:</b>	$> 100$ megohms
<b>Insertion resistance:</b>	$< 5$ milliohms
<b>Temperature range:</b>	$-40^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ (Ambient)
<b>Sealing:</b>	Leakage less than 1 cc/h at 15 lbf/inch <sup>2</sup> 100 kPa
<b>Panel thickness (maximum):</b>	0.204 inch 5,2 mm
<b>Weight (average):</b>	with large lid 4.4 oz 125 g with standard lid 4.2 oz 120 g

**L1383 Open fuseholder, size 00**  
**L1426 Open fuseholder, 20 x 5 mm**  
Single pole, for printed circuits of 0.1 inch module

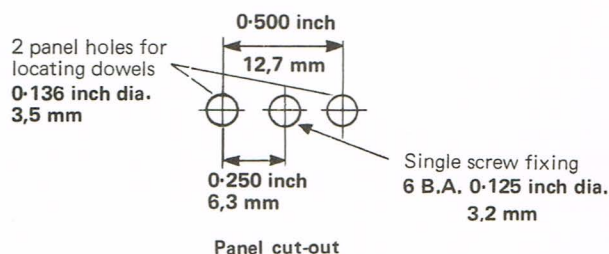
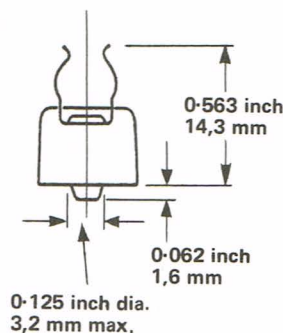
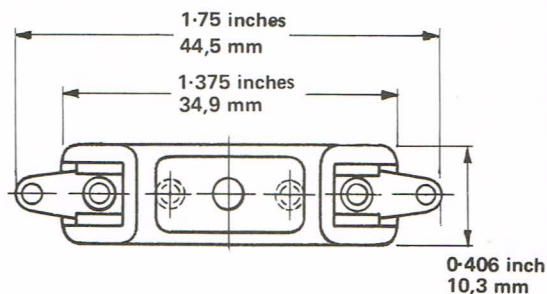
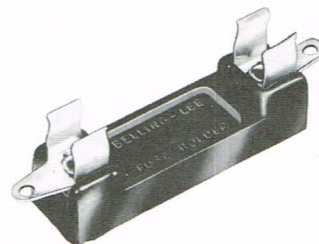


Dimension	L1383	L1426
A	0.735 inch 18.7 mm	0.937 inch 23.8 mm
B	0.700 inch 17.8 mm	0.900 inch 22.9 mm

Mounted by means of its terminals, the fuseholder may be connected and secured in position in a single soldering operation.

<b>Current rating:</b>	2 A (temperature rise $\leq 40^{\circ}\text{C}$ )		
<b>Breakdown voltage (d.c.):</b>	Sea level $> 3\text{ kV}$		
<b>Insulation resistance:</b>	$30 \times 10^3$ megohms		
<b>Insertion resistance:</b>	$< 4$ milliohms		
<b>Humidity:</b>	Dry conditions only		
<b>Ambient temperature (maximum):</b>	$90^{\circ}\text{C}$		
<b>Panel thickness (maximum):</b>	0.063 inch 1.6 mm		
<b>Materials:</b>	Insulant — S.R.B.P. Contacts — beryllium-copper, silver-plated.		
<b>Weights (average):</b>	L1383	0.03 oz	0.9 g
	L1426	0.036 oz	1.02 g

**L510 Open fuseholder, size 0**  
Single pole



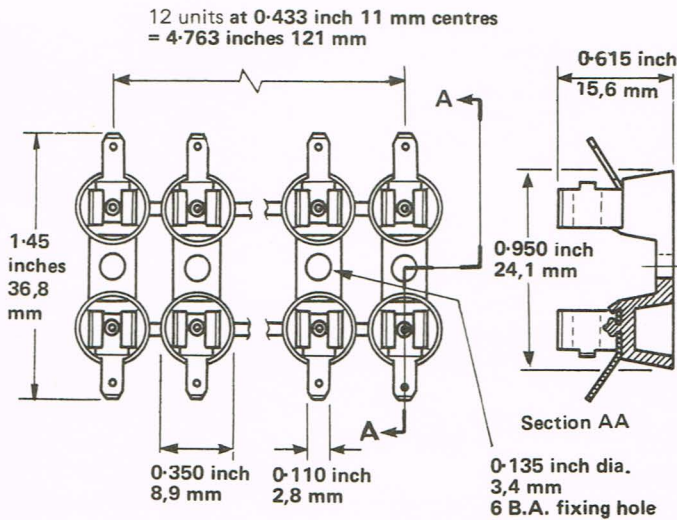
This chassis mounting, single fuseholder is fixed by means of a central screw, and has dowels to prevent rotation.

<b>Current rating:</b>	7 A (temperature rise $\leq 40^{\circ}\text{C}$ )
<b>Breakdown voltage (d.c.):</b>	$> 8\text{ kV}$
<b>Insulation resistance:</b>	$> 10^3$ megohms
<b>Insertion resistance:</b>	$< 10$ milliohms
<b>Humidity:</b>	H2 (RCS 11)
<b>Temperature range:</b>	$-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (Ambient)
<b>Materials:</b>	Moulding — phenolic resin Contacts — phosphor-bronze, silver-plated
<b>Weight (average):</b>	0.13 oz 3.71 g



## L2005 Open fuseholder, 20 x 5 mm

Twelve-way



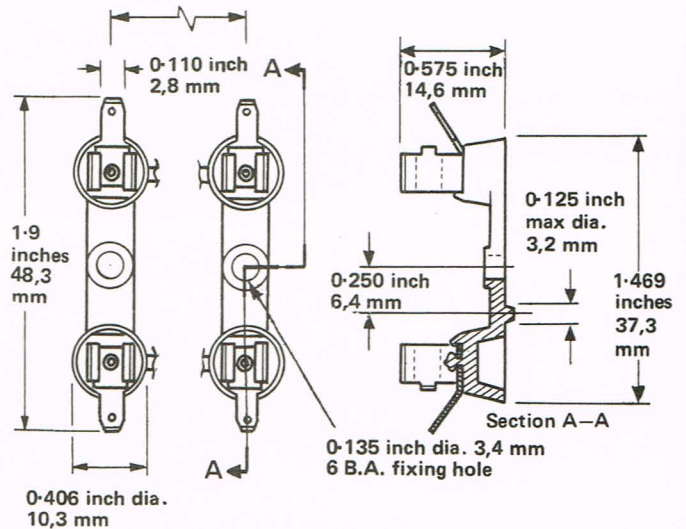
## L1746 Open fuseholder Size 0

Twelve-way



Scale 1:2

12 units at 0.500 inch 12.7 mm centres  
= 5.500 inches 139.7 mm



A European version of L1746

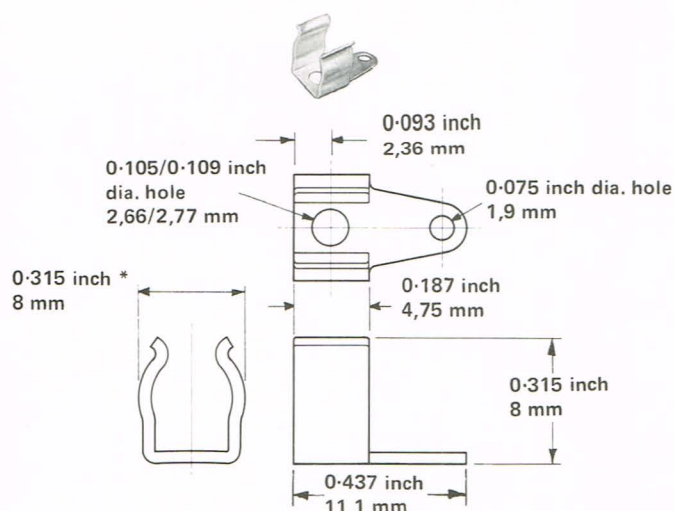
<b>Current rating:</b>	2 A at 85 °C maximum ambient 6.3 A at 60 °C maximum ambient
<b>Insertion resistance (maximum):</b>	5 milliohms per pole
<b>Breakdown voltage:</b>	5 kV minimum at 50 Hz
<b>Insulation resistance (minimum):</b>	100 megohms
<b>Temperature range:</b>	-55 °C to +100 °C (Ambient)
<b>Terminations:</b>	Suitable for solderless snap-on connectors 0.110 inch x 0.012 inch 2.8 mm x 0.3 mm up to 5 A or soldered (wire to be wrapped first) for > 5 A
<b>Materials:</b>	Insulant - nylon Contacts - phosphor-bronze silver-plated
<b>Mounting:</b>	12 holes 6 B.A. clearance at 1 per fuseway
<b>Weight (average):</b>	16.3 g 0.57 oz

Although normally supplied as a 12-way assembly, this is easily divisible into smaller units as required.

<b>Current rating:</b>	5 A at 75 °C maximum ambient 7.5 A at 50 °C maximum ambient
<b>Insertion resistance (maximum):</b>	5 milliohms per pole
<b>Breakdown voltage:</b>	6 kV minimum at 50 Hz
<b>Insulation resistance (minimum):</b>	100 megohms
<b>Temperature range:</b>	-55 °C to +100 °C (Ambient)
<b>Terminations:</b>	Suitable for solderless snap-on connectors 0.110 inch x 0.012 inch 2.8 mm x 0.3 mm up to 5 A or soldered (wire to be wrapped first) for > 5 A.
<b>Materials:</b>	Insulant - nylon Contacts - phosphor-bronze, silver-plated
<b>Mounting:</b>	12 holes 6 B.A. clearance at 1 per fuseway with dowels removed. When mounted singly an additional hole 0.129 inch 3.3 mm diameter is required for dowel.
<b>Weight (average):</b>	20.7 g 0.73 oz

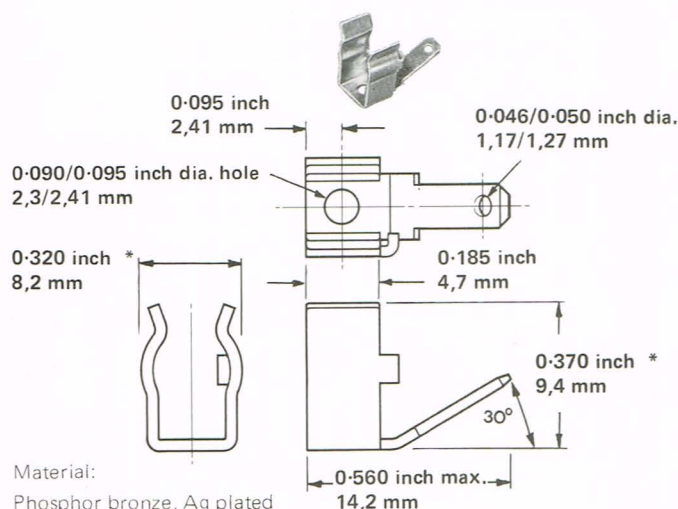
## PP499 Fuseclip

for ¼ inch nominal dia. (6,35 mm) fuse link



## Y14219 Fuseclip

for ¼ inch nominal dia. (6,35 mm) fuse link



Material:  
Phosphor bronze, Ag plated

\* with maximum fuse link inserted

PP499 is the fuse clip used in fuseholder type L510 shown on page 11  
Y14219 is used in L1746 described on a separate page. Both clips can be supplied loose for mounting on customers' own panels.

These fuse clips are made of phosphor-bronze, which is superior to brass for this purpose, and are silver-plated for low contact resistance. Contact pressure can be increased, if desired, by gently squeezing the two wings closer together. The current rating is determined by the temperature attained by the contacts, which, amongst other things, is dependent upon the type of fuse link and the conductors used, and should not exceed 110 °C.

PP499 is intended for soldered connections, but Y14219 may also be used with 0.110 x 0.012 inch (2,8 x 0,3 mm) push-on connectors at currents up to 5 A, and incorporates a retaining ear controlling axial displacement of the fuse link.

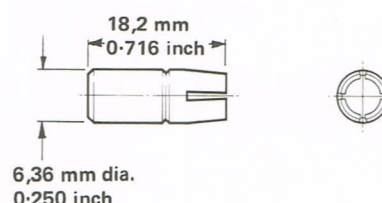


Recommended mounting hole dimensions

Nominal length of fuse link		Dimension A	
inch	mm	inch	mm
5/8	16	0.438	11,1
3/4	19	0.563	14,3
7/8	22	0.688	17,5
1	25	0.813	20,7
1.1/16	27	0.876	22,3
1.1/4	32	1.063	27

## L1940A Adaptor

For 20 x 5 mm fuse link



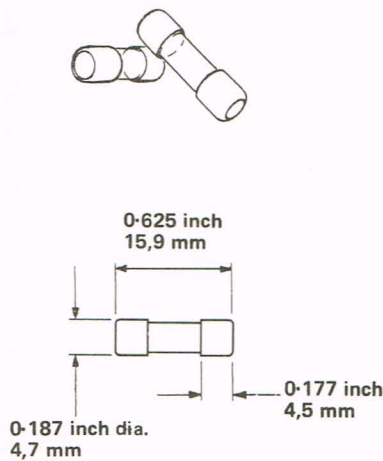
This adaptor permits the use of 20 x 5 mm fuse links, in panel fuseholders designed for size 0 fuse links (1¼ inches x ¼ inch diameter 32 mm x 6,3 mm).

Current rating: 6,3 A  
Material: Brass, nickel-plated  
Weight (average): 3,43 g 0.12 oz



## L562 Miniature glass fuse links, size 00

5/8 inch x 3/16 inch diameter 15,9 mm x 4,7 mm



This range of miniature fuse links was developed originally for Services' use, but has many applications in instrumentation, electronic data processing machines, printed circuitry, and all miniaturised equipment.

The higher ratings (250 mA and over) blow within 10 seconds at twice their rated current 2 In, lower ratings at 3 In.

De-rating factor for operation at elevated temperatures: 1.75 % per 10 °C up to 100 °C.

<b>Breaking capacity:</b>	See table
<b>Life:</b>	≥ 1 000 hours continuous at rated current at 25 °C. Rated value on cap
<b>Marking:</b>	
<b>Weight (average):</b>	0,61 g 0.02 oz
<b>Belling-Lee reference number:</b>	L562/current rating in amperes Example: L562/050 is a 50 mA fuse link.

Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

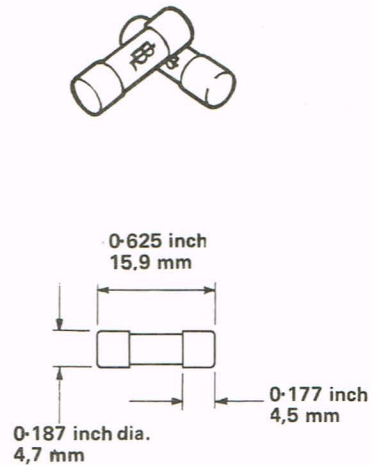
Continuous rating 1 000 h	Rated voltage	
	d.c. +	a.c. +
50 mA	900 V	250 V
100 mA	900 V	250 V
150 mA	600 V	250 V
250 mA	600 V	250 V
350 mA	300 V	250 V
500 mA	300 V	250 V
1 A	200 V	250 V
2.5 A	150 V	150 V
4 A	60 V	60 V
5 A	60 V	60 V
7 A	60 V	60 V

+ based on maximum breaking cap. of 10 In.

‡ based on maximum breaking cap. of 10 In or 35 A whichever is greater

## L754 Miniature, ceramic fuse links, size 00

5/8 inch x 3/16 inch diameter 15,9 mm x 4,7 mm



High rupturing capacity fuse links with a range from 50 mA to 2 A and a category of duty 250 V AC2, 230 V DC2 (maximum prospective overload 4 000 A at 0.4 pf and 250 V a.c., or 230 V d.c. time constant ≥ 0.004).

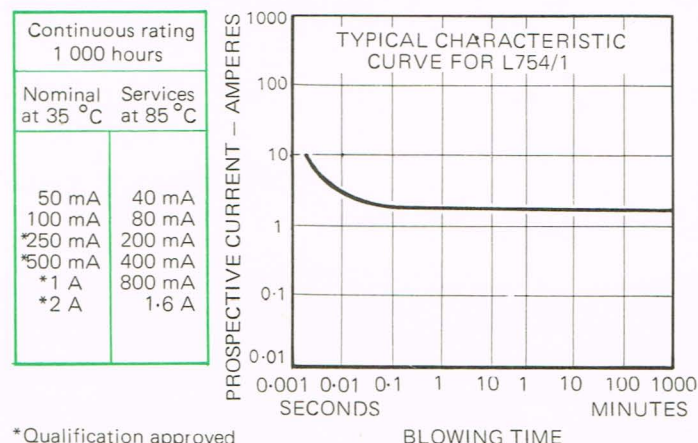
**Minimum life:**  
1 000 hours continuous at rated current at temperatures up to 35 °C  
1 000 hours continuous at 80 % of rated current at temperatures beyond 35 °C up to 85 °C.

**Temperature range:** -60 °C to +85 °C (Ambient)

**Minifuses:**  
The L754 range of fuse links has been extended downwards for instrument protection and other light duty applications by the addition of 10, 15 and 25 mA ratings.

<b>Specification:</b>	DEF - 63 - A
<b>Humidity classification:</b>	DEF - 133
<b>Marking:</b>	Body marked with rating.
<b>Weight (average):</b>	0,85 g 0.03 oz
<b>Belling-Lee reference number:</b>	L754/current rating in amperes Example: L754/050 is a 50 mA fuse link.

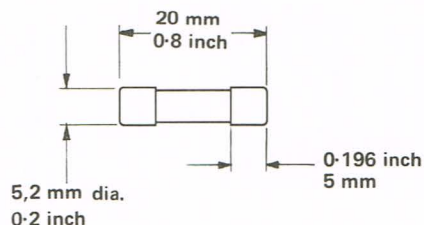
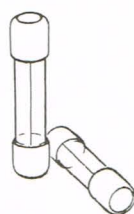
Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.



\*Qualification approved

## L1427A International, glass fuse links

Size 20 x 5 mm diameter



A range of quick acting, cartridge fuse links for use at a maximum ambient temperature of 35 °C, a maximum relative humidity of 75 % and a minimum air pressure of 860 mbar.

Designed to comply with BS 4265, CEE 4 and IEC 127 (ratings above 2 A are not included in BS 4265).

<b>Breaking capacity:</b>	35 A a.c. or 10 x I <sub>n</sub> (whichever is greater).
<b>Voltage rating:</b>	250 V a.c.
<b>Ambient temperature (max.):</b>	35 °C
<b>Marking:</b>	Symbol F, current and voltage rating on cap, in accordance with BS 4265.
<b>Weight:</b>	0.79 g 0.028 oz
<b>Belling-Lee reference number:</b>	L1427A/current rating in amperes Example: L1427A/050 is a 50 mA fuse link.

Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

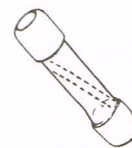
<b>Current ratings:</b>	50 mA
	100 mA
	160 mA
	250 mA
	500 mA
	630 mA
	800 mA
	1 A
	1.25 A
	1.6 A
	2 A
	2.5 A
	3.15 A
	4 A
	5 A
	6.3 A

## L2080/L2081 Time lag glass fuse links

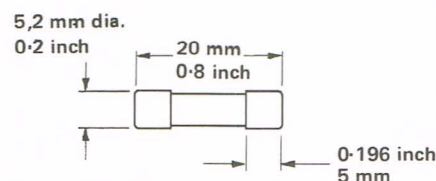
size 20 x 5 mm diameter



L2080



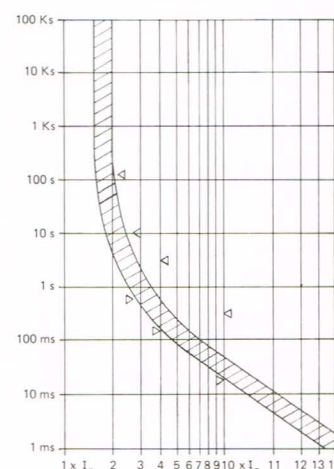
L2081



### L2080 Time-Current Zone

▷ limits from standard-sheet

▨ Belling-Lee values

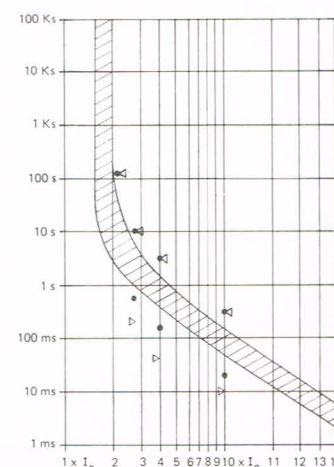


### L2081 Time-Current Zone

▷ limits from standard-sheet  
100 mA

● limits from standard-sheet  
160, 250 mA

▨ Belling-Lee values



Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

A range of light duty time lag fuse links with better than normal anti-surge properties, for the protection of telecommunications and electrical equipment where the prospective fault current of the circuit does not exceed 35 A.

The blowing characteristics (pre-arcing times) are designed to meet the requirements of IEC 127, standard sheet III.

<b>Current ratings:</b>	<b>L2080</b>	—	500 mA 800 mA 1 A 1.6 A 2 A
	<b>L2081</b>	—	100 mA, 160 mA, 250 mA.

**Rated voltage:** 250 V a.c.

**Breaking capacity:** 35 A

**Ambient temperature (max.):** 35 °C

**Weight (average):** 1 g 0.035 oz

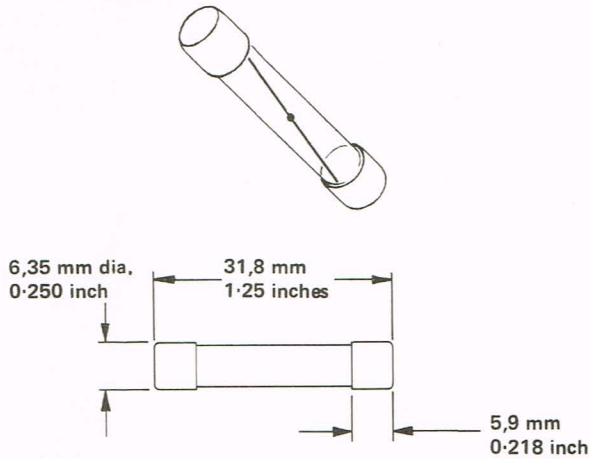
**Marking:** Symbol 'T', Current and voltage ratings on cap.

**Belling-Lee reference number:** List number/current rating  
L2081/100 is a 100 mA time-lag fuse link.



## L2238 Time lag glass fuse links, size 0

1 1/4 inches x 1/4 inch diameter 32 mm x 6,3 mm

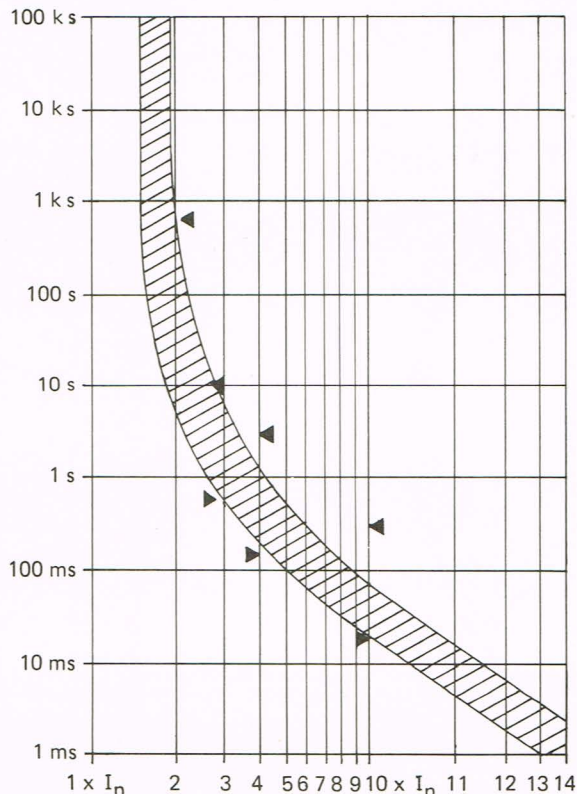


These light duty, time lag fuse links have many applications in the protection of electrical, telecommunications and entertainment equipment, where the action is slow enough to avoid blowing on harmless transient overloads. These fuse links will withstand current surges of 10 times their nominal rating lasting for up to 10 milli-seconds, which would rupture a quick acting fuse.

**Current ratings:** 250 mA, 500 mA, 800 mA, 1 A, 1,6 A, 2 A.  
**Rated voltage:** 250 V.a.c.  
**Breaking capacity:** 35 A  
**Temperature rating:** 35 °C maximum (Ambient)  
**Marking:** Symbol 'T', current and voltage rating on cap  
**Weight(average):** 2,01 g 0.07 oz  
**Belling-Lee reference number:** List No. /Current rating  
 L2238/250 is a 250 mA time lag fuse link.

Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

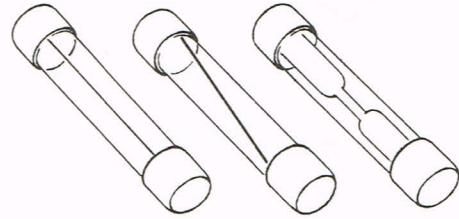
The following ratings are also available to special order, (minimum quantity is 10,000 pieces):  
 315 mA 400 mA 630 mA 1,25 A 2,5 A 3,15 A 4 A 5 A 6,3 A.



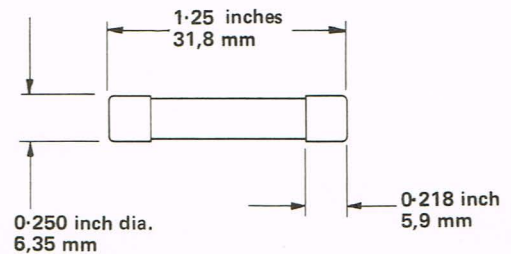
Time-current Characteristics

## L1055 Standard glass fuse links, size 0

1 1/4 inches x 1/4 inch diameter 32 mm x 6,3 mm



(Alternative forms of construction)



These fuse links have a minimum life of 1 000 hours continuous rated current at 25 °C and blow within 10 seconds at 2 In. De-rating factor for operation at elevated temperatures: 1.75 % per 10 °C up to 100 °C.

"For the protection of telecommunication and light electrical equipment where the prospective fault current of the circuit will not exceed 10 times the rated current of the fuse link".

**Markings:** Rated value on cap.

**Weight (average):** 1,98 g 0.07 oz

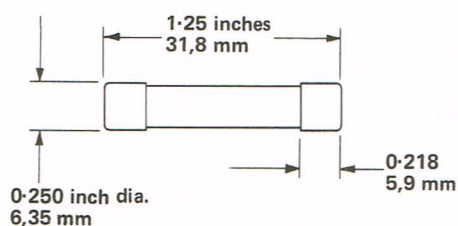
**Belling-Lee reference number:** L1055/current rating in amperes  
 Example: L1055/060 is a 60 mA fuse link.

Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

Continuous rating 1 000 h	Rated voltage	Continuous rating 1 000 h	Rated voltage
60 mA	1000d.c 250a.c	3 A	60 d.c 150 a.c
100 mA	1000d.c 250a.c	5 A	60 d.c 60 a.c
150 mA	1000d.c 250a.c	7.5 A	60 d.c 60 a.c
250 mA	750d.c 250a.c	10 A	60 d.c 60 a.c
500 mA	300d.c 250a.c	12 A	32 d.c 60 a.c
750 mA	300d.c 250a.c	15 A	32 d.c 32 a.c
1 A	250d.c 250a.c	20 A	32 d.c 32 a.c
1.5 A	200d.c 250a.c	25 A	32 d.c 32 a.c
2 A	150d.c 250a.c		

## L693 Standard, ceramic, filled fuse links, size 0

1 1/4 inches x 1/4 inch diameter 32 mm x 6,3 mm



These fuse links have a category of duty 440 V AC4, 230 V DC4 (maximum prospective overload 33 000 A at 0.3 pf and 440 Va.c., or 230 Vd.c. time constant  $\geq 0.015$ ).

### Minimum life:

1 000 hours continuous at rated current at temperatures up to 35 °C  
1 000 hours continuous at 80 % of rated current at temperatures beyond 35 °C up to 85 °C.

**Temperature range:** -60 °C to +85 °C (Ambient)

Approved by Joint Services, Central Electricity Board, and Lloyd's Register of Shipping.

**Specification:** DEF - 63 - A

**Humidity classification:** DEF - 133

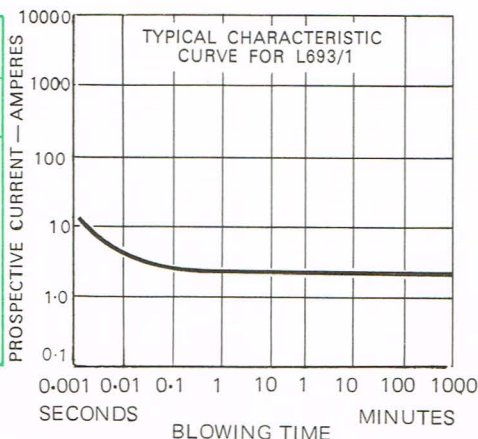
**Marking:** Body marked with rating and Joint Services' catalogue number.

**Weight (average):** 2,6 g 0.09 oz

**Belling-Lee reference number:** L693/current rating in amperes  
Example: L693/.250 is a 250 mA fuse link.

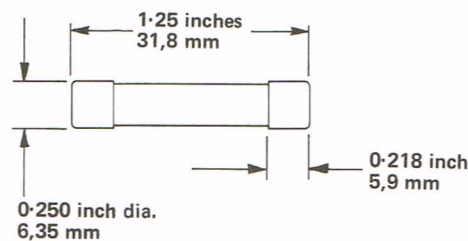
Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

Continuous rating 1 000 hours	
Nominal at 35 °C	Services at 85 °C
250 mA	200 mA
500 mA	400 mA
1 A	800 mA
2 A	1.6 A
3 A	2.4 A
5 A	4 A
7 A	5.6 A
10 A	8 A



## L760 Standard, ceramic, unfilled fuse links, size 0

1 1/4 inches x 1/4 inch diameter 32 mm x 6,3 mm



These fuse links extend the range of heavy duty links down to 60 mA. Category of duty, 250 V AC2, 230 V DC2 (maximum prospective overload 4 000 A at 0.4 pf and 250 Va.c., or 230 Vd.c. time constant  $\geq 0.004$ ).

### Minimum life:

1 000 hours continuous at rated current at temperatures up to 35 °C  
1 000 hours continuous at 80 % of rated current at temperatures beyond 35 °C up to 85 °C.

**Specification:** DEF - 63 - A

**Current ratings:** 60 mA, 100 mA, 150 mA

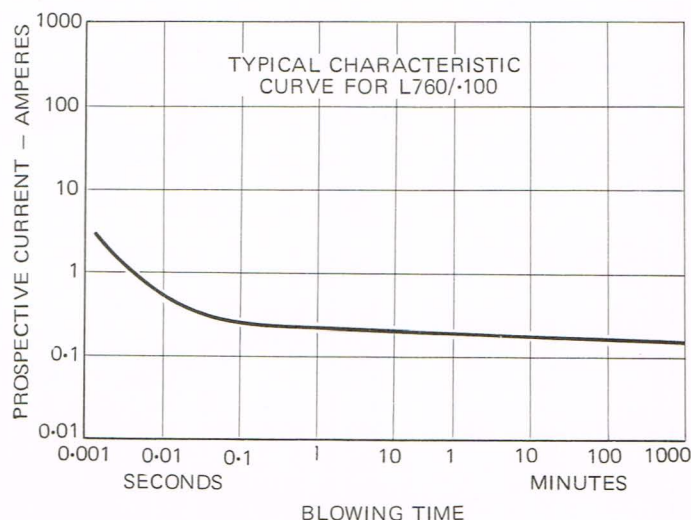
**Temperature range:** -60 °C to +85 °C (Ambient)

**Marking:** Body marked with rating and Joint Services' Catalogue number.

**Weight (average):** 2,2 g 0.08 oz

**Belling-Lee reference number:** L760/current rating in amperes  
Example: L760/.060 is a 60 mA fuse link.

Fuseholders which will accept this type of fuse link, are shown elsewhere in the green section.

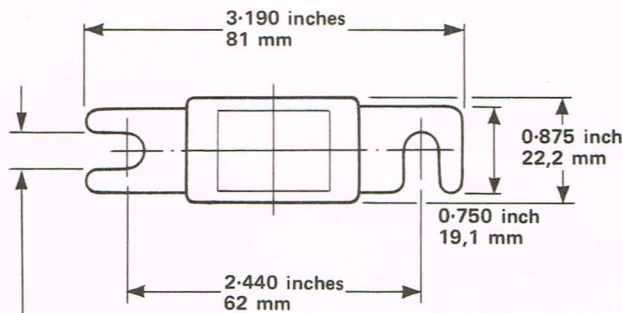




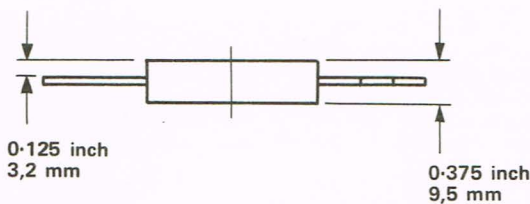
## L1330A Low voltage, heavy duty fuse



Scale 1:2



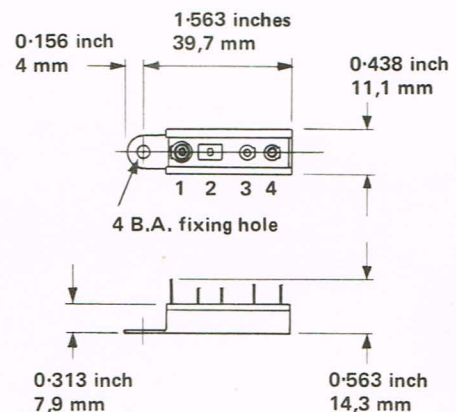
35 A – 225 A 0.340 inch 8,6 mm  
275 A – 500 A 0.406 inch 10,3 mm



These robust, self-contained (needing no holder) fuses afford short circuit protection for the supply and overload protection for welding equipment and heavy current rectifier units, and the motors of battery driven vehicles, hoists and winches. Housed in a strong ceramic case, with a shatter-proof window for visual inspection of the fuse element; this is integral with the solid terminal lugs by which the fuse may be mounted directly in the supply line. These terminal lugs are slotted to facilitate quick release for replacement.

<b>Nominal current ratings:</b>	35 A, 50 A, 80 A, 100 A, 130 A, 150 A, 200 A, 225 A, 275 A, 325 A, 500 A.
<b>Voltage rating:</b>	48 V.
<b>Maximum perspective overload:</b>	3 000 A, time constant (d.c.) 0.005/0.006
<b>Life:</b>	The fuses have a minimum life of 1 000 hours continuous at rated current at a temperature of 25 °C or at 80 % of their nominal rated current at 70 °C, and blow within 10 seconds at three times their rated current.
<b>Temperature range:</b>	–65 °C to + 70 °C. (Ambient)
<b>Weights (average):</b>	18,7g to 29,8g according to rating.
<b>Marking:</b>	Current rating printed on window and stamped on lug.
<b>Belling-Lee reference number:</b>	L1330A/current rating. Example: L1330A/150 is a 150 A fuse.

## L422/IC/L Miniature delay switch Auto resetting



Terminals 1 & 3 contacts  
Terminals 2 & 4 heater

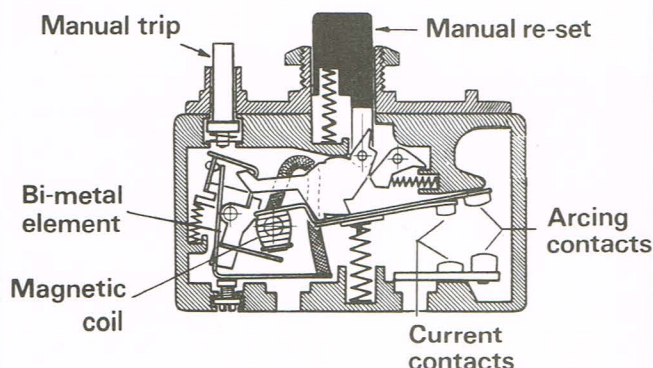
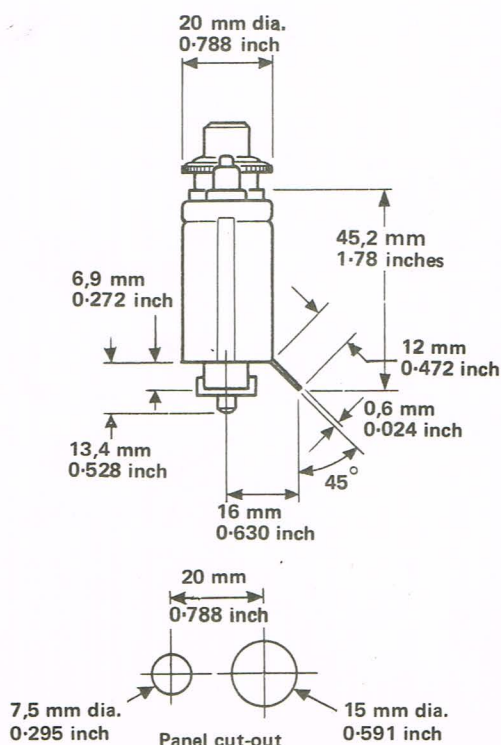
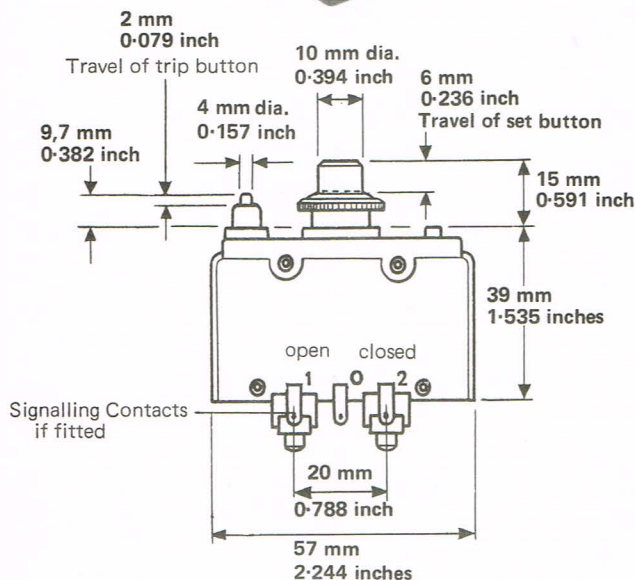
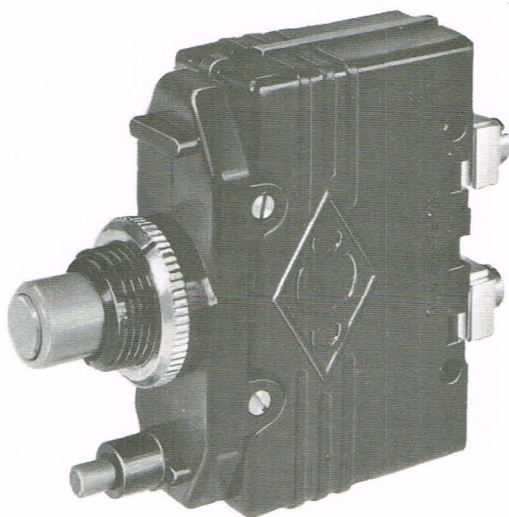
A general purpose indirectly heated delay switch for controlling circuits of low power. The contacts are normally closed, opening within 10-45 seconds.

<b>Switching capacity:</b>	1 A at 25 V.a.c. maximum
<b>Endurance:</b>	250,000 operations at 25 V.a.c.
<b>Heater rating:</b>	1.5 watts 6 V
<b>Weight (average):</b>	0.37 oz 10.5 g

### Note:

If the heater is connected in series with the switch contacts, the current will flow through the bi-metal element and may affect the timing.

## Securex miniature circuit breakers and cut-outs L5100 series, thermally operated L5200 series, thermal-magnetic



These robust, precision devices combine the functions of circuit protection, switching and indication in a single compact unit. They operate thermally on moderate over-current but, in the L5200 series, with large fault currents (above 6 to 10 times the rated current) a magnetic coil takes charge, tripping the mechanism virtually instantaneously, i.e., in a matter of milli-seconds.

Like a fuse, the speed of operation on overload therefore varies inversely as the magnitude of the over-current, but the circuit breaker has the advantage of being able to withstand harmless surges without tripping. Having no fusing element, embrittlement is not a hazard and the characteristics remain constant throughout the long life of the device.

A further advantage is the ability to restore a circuit rapidly after faults have been cleared. However, the action is "trip-free" which means that a circuit cannot be held closed by the "reset" button while faulty conditions exist.

Preferred current ratings (i.e. maximum load current values) extend from 300 mA to 20 A, as detailed opposite.

The maximum breaking capacity is 500 amp at 275 volts a.c. and 0.8 power factor for ratings of 5 amp and over, and 300 amp for ratings below 5 amp. Secondary contacts are fitted for breaking the arc under these conditions, so that the main circuit contacts are not eroded. With L5100 series, in circuits where large, continuous fault currents (> 10 In) can occur, the very sensitive ratings below 2 A should be protected by means of an appropriate external fuse.

### Alternative facilities

The "trip" button can be omitted, so that the device becomes a protective cut-out. The "reset" button has a length of travel of nearly ¼ inch so that it projects well beyond the central boss when the mechanism has tripped, providing a clear indication of the circuit condition. However, an additional set of change-over contacts can be included for remote signalling if required.

### Mounting

The recommended standard types are panel mounted by means of a central threaded boss. However, they can be converted for plug-in mounting in switch boxes, by using 4 mm plug pins in place of the two terminal screws.

### Selection of ratings

As with most thermally operated devices, unless specially compensated, ambient temperature variations will affect the performance and, when selecting a rating, it is prudent to allow for this in order to avoid false operation.

The specified rating of these miniature circuit breakers is determined at a nominal ambient temperature of 20 °C. At lower temperatures the rating may be increased and vice versa, and the normal value should be multiplied by a correction factor which may be obtained from the graph opposite.

Example: L5201/5

The rating at 20 °C is 5 A

At 0 °C the correction factor is 1.05  
the rating is 1.05 x 5 = 5.25 A

At 40 °C the correction factor is 0.92  
the rating is 0.92 x 5 = 4.6 A



<b>Preferred current ratings (In):</b>	0,3 0,5 0,7 1 2 3 5 8 10 and 15 A The circuit breakers will hold in indefinitely on all currents up to 1.1 times the rated value		
<b>Breaking capacity (maximum):</b>	300 A for ratings up to 3 A 500 A for ratings of 5 A and over } at 0.8 power factor		
<b>Tripping times:</b>	At $1.5 \times I_n < 5$ min *At $10 \times I_n$ a.c. $< 10$ ms At $2 \times I_n < 60$ s *At $15 \times I_n$ d.c. $< 10$ ms At $5.5 \times I_n < 7$ s *Magnetic		
<b>Breakdown voltage (d.c.):</b>	$> 4$ kV between terminals $> 6$ kV between linked terminals and metal panel		
<b>Working voltage (max.):</b>	275 V a.c. (r.m.s.) 60 V d.c.		
<b>Insulation resistance:</b>	$> 10^3$ megohms		
<b>Insertion resistance (typical):</b>	<b>Rating</b>	<b>Nominal</b>	<b>Tol.</b>
	0,3 A	9.2 ohm	$\pm 16\%$
	0,5 A	3.3 ohm	$\pm 16\%$
	0,7 A	1.8 ohm	$\pm 16\%$
	1 A	0.9 ohm	$\pm 16\%$
	2 A	0.12 ohm	$\pm 16\%$
	3 A	80 milliohm	$\pm 16\%$
	5 A	50 milliohm	$\pm 16\%$
	8 A	26 milliohm	$\pm 16\%$
	10 A	18.5 milliohm	$\pm 25\%$
	15 A	10 milliohm	$\pm 30\%$
<b>Temperature range:</b>	$-55^\circ\text{C}$ to $+70^\circ\text{C}$ (Ambient)		
<b>Humidity:</b>	H5 (DEF - 5011)		
<b>Altitude:</b>	D1 satisfactory to 9 000 m 30 000 ft (DEF - 5011)		
<b>Acceleration:</b>	A1 satisfactory to over 35 g (DEF - 5011)		
<b>Signalling contacts (if fitted):</b>	Single pole change-over Maximum rating 1 A at 250 V a.c. or 50 V d.c. substantially non-inductive		
<b>Maximum wire size:</b>	7/0,85 mm 7/0.029 inch		
<b>Maximum panel thickness:</b>	4 mm 0.160 inch 8 s.w.g.		
<b>Weight (average):</b>	According to type, 1.9 oz 54 g minimum 2.3 oz 65 g maximum		

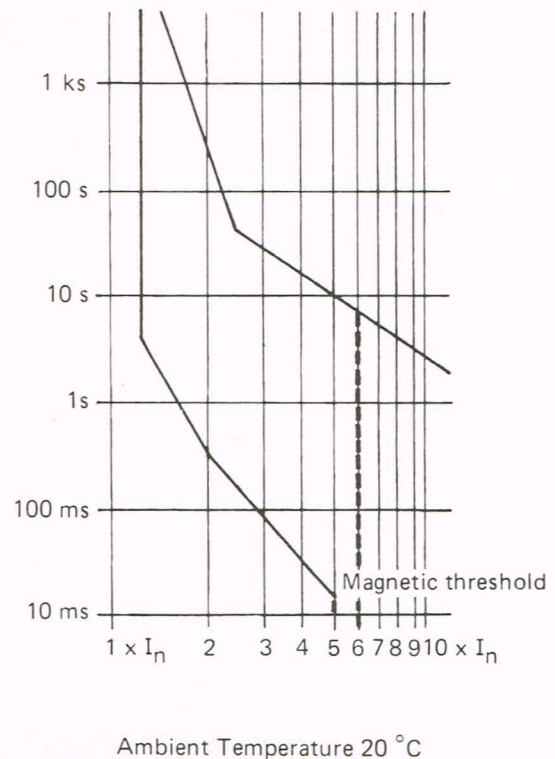
It may be possible to cater for ratings not shown above with minimum quantities of each type.

The ratings in question: 0,1 0,2 0,4 1,5 2,5 3,5 4,6 12 and 20 amp.

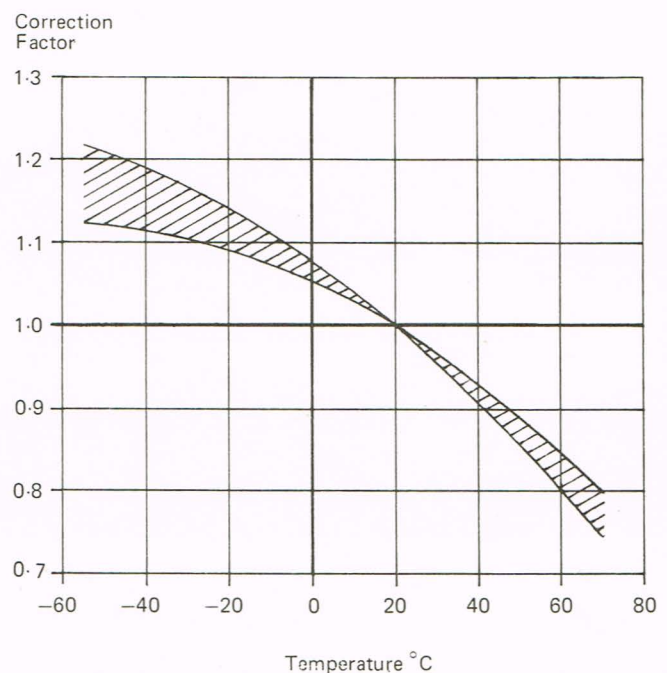
## Belling-Lee reference numbers

Types available:		
List number		Description
<b>Thermal</b>	<b>Thermal-mag.</b>	
L5100/In	L5200/In	Cut-out (i.e. no trip button)
L5101/In	L5201/In	Circuit breaker (i.e. with trip button)
L5110/In	L5210/In	Cut-out with signalling contacts
L5111/In	L5211/In	Circuit breaker with signalling contacts

Example: L5211/5 is a circuit breaker for controlling a circuit in which the normal current is up to 5 A at  $20^\circ\text{C}$ ; fitted with signalling contacts.



Time-Current Characteristics



Limits of the Influence of Temperature

