

Isolators

Component Directory



Charles Endirect **Safety** Products

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Please note the images in this document are for representation purposes only and are not to scale, colour may vary.

Introduction

Charles Endirect Ltd is a leading Manufacturer and Supplier of electrical components and equipment, for use in street lighting and the highway, rail, and construction industries. The Company has been delivering these products to UK and international markets since 1984.

Our experience and expertise in this field gives us the edge to manufacture and supply some of the most intelligent, high specification and robust products available in the market.

Charles Endirect Ltd is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Quality Accredited organisation with all areas of the company operating stringent quality control systems. This results in products that are designed and manufactured to comply with, or exceed, all relevant legislation. Charles Endirect is a founding member of the Highway Electrical Manufacturers & Suppliers Association (HEMSA) and an active member of the Highways Electrical Association (HEA). We are also a Member and supporter of the Institution of Lighting Professionals (ILP).

Charles Endirect offers a comprehensive range of Lockable Safety Isolators (LSI) and all supported by a choice of Extension Boxes, Gland Plates, Gable Glands, Central Earthing Terminals (CET) and Fuses, providing maximum versatility.

Their reliability and build quality ensure performance in hostile environments, hence their extensive use in 25-year PFI contracts.

Service

As a family-owned company, we know how important good customer service is. Our Customer Services Team is happy to help with any questions you may have, and we have Area Sales Managers throughout the UK who can offer help and advice, and can visit.

To ensure we can provide you with the level of support you need, when you need it, we endeavour to retain high levels of stock for our standard ranges to enable us to despatch in one to two working days and offer a next working day service if time is of the essence.

To request a quotation or for more information about our products and services, please contact our Customer Services Team below:



sales@charlesendirect.com



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Lockable Safety Isolator (LSI) Range

The Charles Endirect Lockable Safety Isolator range offers high quality, durable, double pole isolation with a lockable cover for added security and safety. The Isolators can be fitted with fuse carriers, miniature circuit breakers (MCBs) or controls for festive lighting and feature the innovative Charles Endirect sliding interlock. This safety feature means that the fuse can only be removed when the switch is in the 'OFF' position. The range consists of three different sized models from 2 to 4 module widths, i.e. L2, L3 and L4.

| L2 | L3 | L4 |
|--|--|--|
| H142mm, W57mm, D82mm | H154mm, W79mm, D82mm | H168mm, W96mm, D90mm |
|  |  |  |

Switch disconnecter and fuse Carrier

Charles Endirect manufactures their switch disconnecter and fuse carrier to the highest specification. Notably, the switch has been certified at a utilisation category of AC22A and, as such, is capable of switching a high inductive load. The fuse carrier accepts BS88 cartridge fuse (LD for 230V, MD for 415V)

These products have been independently tested and comply with International standards.

Isolators are available with MCB or SPD options, please ask for further details.

BS88/ IEC269-1 CARTRIDGE FUSES:
LD* for 230V (*please specify rating)
MD* for 415V (*please specify rating)



CEL1232
Switch



CEL1132
Fuse Carrier

L2 Isolator

The L2 is a two-module enclosure which is most commonly fitted with a double pole switch and fuse carrier (L2/SF/A1 shown here) but is also available fitted with a double pole switch and MCB or SPD which can be wired in parallel or in series. Can be supplied complete with pre-wired incoming tails if required. There is an additional option of supplying L2 units with an earth block fitted. (See Selection Chart for more options.)

Dimensions(mm): H142 x W57 x D82

Gland Plates to fit direct to L2 Isolator

The L2 can be supplied with plastic, brass or brass ferrule plate.

- | | |
|----|-----------------------------|
| A1 | Plastic with 1 x 20mm hole |
| A2 | Plastic with 1 x 25mm hole |
| B1 | Brass with 1 x 20mm hole |
| C2 | Brass with 1 x 25mm ferrule |
| C3 | Brass with x 20mm ferrules |

Note: Gland plates with holes are fitted with conical grommets; gland plates with ferrules are supplied with cable shrouds.

Extension Boxes

There is no extension box option.

Terminal Rack fitted in Extension Boxes

There is no terminal rack option



L2 Isolator

L3 Isolator

The L3 is a three-module enclosure available with a wide range of combinations depending on application (see selection chart for details). It is most commonly fitted with a double pole switch and 2 x fuse carriers. The L3 isolator is supplied with earth and neutral blocks as standard. This isolator can be provided complete with pre-wired incoming tails if required. We are also able to replace fuse carriers for MCB's and configure for Festive Lighting. We also can supply this isolator with surge protection if required, which can be wired in either series or parallel.

Dimensions(mm): H154mm, W79mm, D82mm

Gland Plates to fit direct to L3 Isolator

| | |
|----|--|
| K3 | Plastic with 2 x 20mm holes |
| K5 | Plastic with 1 x 25mm hole and 1 x 20mm hole |
| M3 | Brass with 2 x 20mm holes |

Note: Gland plates with holes are fitted with conical grommets; gland plates with ferrules are supplied with cable shrouds.

Extension Boxes

| | |
|----|-----------------------------------|
| X4 | Dimensions (mm): H100 x W79 x D57 |
| X0 | Dimensions (mm): H36 x W96 x D69 |

Gland plates to fit direct to X4 Extension Box

The X4 will accept plastic, brass or brass ferrule plate - see list of gland plates to fit L3 as above

Gland plates to fit direct to X0 Extension Box

The X0 will accept plastic, brass or brass ferrule plate – see list of gland plates to fit L4

Terminal Rack fitted in Extension Boxes

| | |
|------|--|
| TR2 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X4 |
| TR9 | 2 live, 2 neutral and 1 earth BB termination blocks fitted in X4 |
| TR15 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X4 |



L3 Isolator



X4 extension box with P4 gland plate



The X0 extension box takes the base of the L3 unit to the same width as L4

L4 Isolator

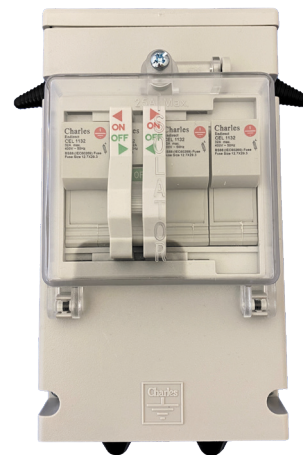
The L4 is a four-module enclosure available with a wide range of combinations depending on application (see selection chart for details). This isolator can be provided complete with incoming tails if required.

This isolator enclosure is ideal for the control and protection of Festive Lighting and other specialised applications. It has the capacity to incorporate switches, fuses, SPDs, RCCBs, MCBs, time clocks and contactors.

Dimensions (mm): H168mm, W96mm, D90mm

Gland Plates to fit direct to L4 Isolator

| | |
|-----|---|
| D3 | Plastic with 2 x 20mm holes |
| D4 | Plastic with 2 x 25mm holes |
| D6 | Plastic with 3 x 20mm holes |
| E3 | Brass with 2 x 20mm holes |
| E4 | Brass with 2 x 25mm holes |
| E5 | Brass with 1 x 25mm hole and 1 x 20mm holes |
| E6 | Brass with 3 x 20mm holes |
| F4 | Brass with 2 x 25mm ferrules |
| F6 | Brass with 3 x 20mm ferrules |
| F12 | Brass with 1 x 25mm hole and 1 x 25mm ferrule |
| F23 | Brass with 3 x 35mm ferrules |



L4 Isolator

Note: Gland plates with holes are fitted with conical grommets; gland plates with ferrules are supplied with cable shrouds.

Extension Boxes

| | |
|---------------|----------------------------------|
| X1 | Dimensions(mm): H 65 x W96 x D69 |
| X2 | Dimensions(mm): H144 x W96 x D69 |
| X3 | Dimensions(mm): H144 x W96 x D69 |
| X21= X2 + X1 | Dimensions(mm): H209 x W96 x D99 |
| X35 = X3 + X5 | Dimensions(mm): H209 x W96 x D99 |

Gland plates to fit direct to X1, X2, X21 Extension Boxes

The X1, X2, and X21 will accept plastic, brass or brass ferrule plate - see list of gland plates to fit L4 as above

Gland Plates to fit direct to X3, X35 Extension Boxes

The X3 and X35 will accept plastic, brass or brass ferrule plate

| | |
|-----|--|
| G6 | Plastic with 3 x 20mm holes |
| G7 | Plastic with 3 x 25mm holes |
| H6 | Brass with 3 x 20mm holes |
| H7 | Brass with 3 x 35mm holes |
| H8 | Brass with 2 x 25mm and 1 x 20mm holes |
| H10 | Brass with 4 20mm holes |
| H11 | Brass with 2 x 20mm and 2 x 25mm holes |
| H27 | Brass with 1 x 20mm and 2 x 35mm holes |
| J7 | Brass with 3 x 25mm ferrules |
| J16 | Brass with 1 x 20mm hole and 2 x 25mm ferrules |
| J20 | Brass with 4 x 25mm ferrules |
| J30 | Brass with 3 x 35mm ferrules and 1 x 20mm hole |

L4 Isolator cont.

Terminal Racks Fitted in Extension Boxes

| | |
|------|---|
| TR4 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X2 |
| TR5 | 3 live, 1 neutral and 2 earth BB termination blocks fitted in X21 |
| TR6 | 3 live, 1 neutral and 2 earth BB termination blocks fitted in X35 |
| TR7 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X21 |
| TR8 | 2 live, 2 neutral and 2 earth BB termination blocks fitted in X35 |
| TR8A | 2 live, 2 neutral and 2 earth BB termination blocks fitted in X2 |
| TR10 | 2 live, 2 neutral and 2 earth BB termination blocks fitted in X3 |
| TR11 | 2 live, 2 neutral and 2 earth BB termination blocks fitted in X35 |
| TR12 | 3 live, 2 neutral and 1 earth BB termination blocks fitted in X3 |
| TR17 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X2 |
| TR22 | 1 live, 1 neutral and 1 earth BB termination blocks fitted in X35 |
| TR23 | 2 live, 1 neutral and 1 earth BB termination blocks fitted in X2 |
| TR24 | 2 live, 2 neutral and 1 earth BB termination blocks fitted in X2 |

To help you choose the products you need, please refer to our selection charts.

Isolator Selection Charts

| Isolators - Electricity Board Supply | | | | | |
|--|---|-------------------------|------------------------------------|-------------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable 2x Double Insulated (DI) Tails | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 2.5mm - 6.0 mm | DI Tails x 2 | 1 x Up | | | 142 x 57 x 82 |
| | | | | L2/SF/A1 | |
| | | | | | |
| | | | | | |
| Pre-fitted incoming tails | | 1 x up | L2/SFE/A1/6.0/350+350E+510E/M8 Lug | | 142 x 57 x 82 |
| | | | | | |
| 2.5mm - 6.0mm | DI Tails x 2 | 2 x Up | | L3/S2F/K3 | 154 x 79 x 82 |
| | | | | | |
| | | | | | |
| 2.5mm - 6.0mm | DI Tails x 2 | 3 x Up | | L4/S3FNE/D3 | 168 x 95 x 90 |
| | | | | | |
| | | | | | |
| | | | | | |
| 2.5mm - 6.0mm | DI Tails + 1 x 6mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW20 | L3/S2F/M3 (1D) | 154 x 79 x 82 |
| | | | | | |
| | | | Ferrules | L3/S2F/P4 (1D) | |
| | | | | | |
| 2.5mm - 6.0mm | DI Tail + 1 x 6mm Fused Downward Spur | 2 x Up 1 x Down | BW20 CW20 (CEL) | L4/S3FNE/E3 (1D) | 168 x 95 x 90 |
| | | | Ferrules | L4/S3FNE/F12 (1D) | |
| | | | | | |
| 2.5mm - 6.0mm | DI Tails + 2 x 6mm Fused Downward Spur | 1 x Up 2 x Down | BW/CW20 | L4/S3F/TR12/H6 | 312 x 95 x 90 |
| | | | | | |
| | | | Ferrules | L4/S3F/TR12/J7 | |

To choose the product you need, follow the steps below:

Column 1 - SELECT INCOMING CABLE SIZE

Column 2 - SELECT INCOMING CABLE CONFIGURATION e.g. single or looped

Column 3 - SELECT OUTGOING FUSED CIRCUITS e.g. 1 upward circuit

Column 4 - SELECT GLAND, FERRULE OR CET

Column 5 - ORDER REFERENCE, please quote this when placing an order

Column 6 - DIMENSIONS

| Isolators - Private Supply | | | | | |
|--|--|-------------------------|-------------------------|------------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 2.5mm. 4.0mm. 3C | Single | 1 x Up | BW/CW20 | L2/SFE/B1 | 142 x 57 x 82 |
| | | | Ferrules | L2/SFE/C2 | |
| | | | CET | L2/SFE/A1 | |
| | | | | | |
| 2.5mm. 4.0mm. 3C | Single or Two looped | 1 x Up | BW/CW20 | L3/SF/M3 | 154 x 79 x 82 |
| | | | Ferrules | L3/SF/P4 | |
| | | | CET | L3/SF/K3 | |
| | | | | | |
| 2.5mm 4.0mm. 3C | Three looped (Two looped + Unfused Spur) | 1 x Up | BW/CW20 | L3/SF/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/SF/TR2/X0/F6 | |
| | | | CET | L3/SF/TR2/X0/D6 | |
| | | | | | |
| 2.5mm. 4.0mm. 3C | Single or Two looped | 2 x Up | BW/CW20 | L3/S2F/M3 | 154 x 79 x 82 |
| | | | Ferrules | L3/S2F/P4 | |
| | | | CET | L3/S2F/K3 | |
| | | | | | |
| 2.5mm. 4.0mm. 3C | Three looped (Two looped + Unfused Spur) | 2 x Up | BW/CW20 | L3/S2F/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/S2F/TR2/X0/F6 | |
| | | | CET | L3/S2F/TR2/X0/D6 | |
| | | | | | |
| 2.5mm. 4.0mm. 3C | Single or Two Looped | 3 x Up | BW/CW20 | L4/S3FNE/E3 | 168 x 95 x 90 |
| | | | Ferrules | L4/S3FNE/F4 | |
| | | | CET | L4/S3FNE/D3 | |
| | | | | | |
| 2.5mm. 4.0mm. 3C | Three Looped (Two looped + Unfused Spur) | 3 x Up | BW/CW20 | L4/S3FN/TR4/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F6 | |
| | | | CET | L4/S3FNE/TR4/D3 | |

| Isolators - Private Supply | | | | | |
|--|--|-------------------------|-------------------------|------------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 6.00mm. 3C | Single | 1 x Up | BW/CW20 | L2/SFE/B1 | 142 x 57 x 82 |
| | | | Ferrules | L2/SFE/C2 | |
| | | | CET | L2/SFE/A1 | |
| 6.00mm. 3C | Single | 2 x Up | BW/CW20 | L3/S2F/M3 | 154 x 79 x 82 |
| | | | Ferrules | L3/S2F/P4 | |
| | | | CET | L3/S2F/K3 | |
| 6.00mm. 3C | Single | 3 x Up | BW/CW20 | L4/S3FNE/E3 | 168 x 95 x 90 |
| | | | Ferrules | L4/S3FNE/F4 | |
| | | | CET | L4/S2FNE/D3 | |
| 6.00mm. 3C | Two Looped | 1 x Up | BW/CW20 | L3/SF/TR2/M3 | 254 x 79 x 82 |
| | | | Ferrules | L3/SF/TR2/P4 | |
| | | | CET | L3/SF/TR2/K3 | |
| 6.00mm. 3C | Three Looped (Two Looped + Unfused Spur) | 1 x Up | BW/CW20 | L3/SF/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/SF/TR2/X0/F6 | |
| | | | CET | L3/SF/TR2/X0/D6 | |
| 6.00mm. 3C | Two looped | 2 x Up | BW/CW20 | L3/S2F/TR2/M3 | 254 x 79 x 82 |
| | | | Ferrules | L3/S2F/TR2/P4 | |
| | | | CET | L3/S2F/TR2/K3 | |
| 6.00mm. 3C | Three Looped (Two Looped + Unfused Spur) | 2 x Up | BW/CW20 | L3/S2F/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/S2F/TR2/X0/F6 | |
| | | | CET | L3/S2F/TR2/X0/D6 | |
| 6.00mm. 3C | Two looped | 3 x Up | BW/CW20 | L4/S3FN/TR4/E3 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F4 | |
| | | | CET | L4/S3FN/TR4/D3 | |
| 6.00mm 3C | Three Looped (Two Looped + Unfused Spur) | 3 x Up | BW/CW20 | L4/S3FN/TR4/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F6 | |
| | | | CET | L4/S3FN/TR4/D6 | |
| 6.00mm. 3C | Single + 1 x 6mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW20 | L3/S2F/M3 (1D) | 154 x 79 x 90 |
| | | | Ferrules | L3/S2F/P4 (1D) | |
| | | | CET | L3/S2F/K3 (1D) | |
| 6.00mm. 3C | Single + 1 x 6mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW20 | L4/S3FNE/E3 (1D) | 168 x 95 x 90 |
| | | | Ferrules | L4/S3FNE/F4 (1D) | |
| | | | CET | L4/S3FNE/F4 (1D) | |
| 6.00mm. 3C | Looped + 1 x 6mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW20 | L3/S2F/TR9/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/S2F/TR9/X0/F6 | |
| | | | CET | L3/S2F/TR9/D6 | |

| Isolators - Private Supply | | | | | |
|--|---------------------------------------|-------------------------|-------------------------|-----------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 6.00mm. 3C | Single + 1 x 6mm Fused downward Spur | 2 x Up 1 x Down | BW/CW20 | L4/S3FN/TR24/E3 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR24/F4 | |
| | | | CET | L4/S3FN/TR24/D3 | |
| 6.00mm. 3C | Looped + 1 x 6mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW20 | L4/S3FN/TR24/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR24/F6 | |
| | | | CET | L4/S3FN/TR24/D6 | |
| 6.00mm. 3C | Singles + 2 x 6mm Fused Downward Spur | 1 x Up 2 x Down | BW/CW20 | L4/S3F/TR12/H6 | 312 x 95 x 99 |
| | | | Ferrules | L4/S3F/TR12/J7 | |
| | | | CET | L4/S3F/TR12/G6 | |
| 6.00mm. 3c. | Looped + 2 x 6mm Fused Downward Spur | 1 x Up 2 x Down | BW.CW20 | L4/S3F/TR12/H10 | 312 x 95 x 99 |
| | | | Ferrules | L4/S3F/TR12/J20 | |
| | | | CET | L4/S3F/TR12/G10 | |
| 6.00mm. 4. (TP&N) | Single or Two Looped | 1 x Up (230V) | BW/CW20 | L4/SF/TR5/E3 | 377 x 95 x 90 |
| | | | Ferrules | L4/SF/TR5/F4 | |
| | | | CET | L4/SF/TR5/D3 | |

| Isolators - Private Supply | | | | | |
|--|---|-------------------------|-------------------------|-------------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 10.00mm. 3C. | Single | 1 x Up | BW/CW20 | L3/SF/M3 | 154 x 79 x 82 |
| | | | Ferrules | L3/SF/P4 | |
| | | | CET | L3/SF/K3 | |
| 10.00mm. 3C. | Single | 2 x Up | BW/CW20 | L3/S2F/M3 | 154 x 79 x 82 |
| | | | Ferrules | L3/S2F/P4 | |
| | | | CET | L3/S2F/K3 | |
| 10.00mm. 3C. | Single | 3 x Up | BW/CW20 | L4/S3FNE/E3 | 168 x 95 x 90 |
| | | | Ferrules | L4/S3FNE/F4 | |
| | | | CET | L4/S3FNE/D3 | |
| 10.00mm. 3C. | Two Looped | 1 x Up | BW/CW20 | L3/SF/TR2/M3 | 254 x 79 x 82 |
| | | | Ferrules | L3/SF/TR2/P4 | |
| | | | CET | L3/SF/TR2/K3 | |
| 10.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 1 x Up | BW/CW20 | L3/SF/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/SF/TR2/X0/F6 | |
| | | | CET | L3/SF/TR2/X0/D6 | |
| 10.00mm. 3C. | Two Looped | 2 x Up | BW/CW20 | L3/S2F/TR2/M3 | 254 x 79 x 82 |
| | | | Ferrules | L3/S2F/TR2/P4 | |
| | | | CET | L3/S2F/TR2/K3 | |
| 10.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 2 x Up | BW/CW20 | L3/S2F/TR2/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/S2F/TR2/X0/F6 | |
| | | | CET | L3/S2F/TR2/X0/D6 | |
| 10.00mm. 3C. | Two Looped | 3 x Up | BW/CW20 | L4/S3FN/TR4/E3 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F4 | |
| | | | CET | L4/S3FN/TR4/D3 | |
| 10.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 3 x Up | BW/CW20 | L4/S3FN/TR4/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F6 | |
| | | | CET | L4/S3FN/TR4/D6 | |
| 10.00mm. 3C. | Single or Looped + 1 x 10mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW20 | L3/S2F/TR9/X0/E6 | 290 x 95 x 82 |
| | | | Ferrules | L3/S2F/TR9/X0/F6 | 290 x 95 x 82 |
| | | | CET (Single) | L3/S2F/TR9/K3 | 254 x 79 x 82 |
| | | | CET (Looped) | L3/S2F/TR9/X0/D6 | 290 x 95 x 82 |
| 10.00mm. 3C. | Single + 1 x 10mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW20 | L4/S3FN/TR9/X0/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR24/F4 | |
| | | | CET | L4/S3FN/TR24/D3 | |
| 10.00mm. 3C. | Single or Looped + 1 x 10mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW20 | L4/S3FN/TR24/E6 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR24/F6 | |
| | | | CET | L4/S3FN/TR24/D6 | |

| Isolators - Private Supply | | | | | |
|--|---|-------------------------|-------------------------|-----------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| 10.00mm. 3C. | Single or Looped + 2 x 6mm Fused Downward Spur | 1 x Up 2 x Down | BW/CW20 | L4/S3F/TR12/H10 | 312 x 95 x 99 |
| | | | Ferrules | L4/S3F/TR12/J20 | |
| | | | CET (Single) | L4/S3F/TR12/G6 | |
| | | | CET (Looped) | L4/S3F/TR12/G10 | |
| 10.00mm. 4C. (TP&N) | Single or Two Looped | 1 x Up (230V) | BW/CW25 | L4/SF/TR5/E4 | 377 x 95 x 99 |
| | | | Ferrules | L4/SF/TR5/F4 | |
| | | | CET | L4/SF/TR5/D4 | |
| 16.00mm. 3C. | Single or Two Looped | 1 x Up | BW/CW25 | L4/SF/TR4/E4 | 312 x 95 x 90 |
| | | | Ferrules | L4/SF/TR4/F4 | |
| | | | CET | L4/SF/TR4/D4 | |
| 16.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 1 x Up | BW/CW25 | L4/SF/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/SF/TR8/J7 | |
| | | | CET | L4/SF/TR8/G6 | |
| 16.00mm. 3C. | Single or Two Looped | 2 x Up | BW/CW25 | L4/S2F/TR4/E4 | 312 x 95 x 90 |
| | | | Ferrules | L4/S2F/TR4/F4 | |
| | | | CET | L4/S2F/TR4/D4 | |
| 16.00mm. 3C | Three Looped (Two Looped + Unfused Spur) | 2 x Up | BW/CW25 | L4/S2F/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/S2F/TR8/J7 | |
| | | | CET | L4/S2F/TR8/G6 | |
| 16.00mm. 3C | Single or Two looped | 3 x Up | BW/CW25 | L4/S3FN/TR4/E4 | 312 x 95 x 90 |
| | | | Ferrules | L4/S3FN/TR4/F4 | |
| | | | CET | L4/S3FN/TR4/D4 | |
| 16.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 3 x Up | BW/CW25 | L4/S3FN/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/S3FN/TR8/J7 | |
| | | | CET | L4/S3FN/TR8/G6 | |
| 16.00mm. 3C | Single or Looped + 1 x 10mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW25 | L4/S2F/TR10/H8 | 312 x 95 x 99 |
| | | | Ferrules | L4/S2F/TR10/J7 | 312 x 95 x 99 |
| | | | CET (Single) | L4/S2F/TR24/D4 | 312 x 95 x 90 |
| | | | CET (Looped) | L4/S2F/TR10/G6 | 312 x 95 x 99 |
| 16.00m 3C. | Single or Looped + 1 x 10mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW25 | L4/S3FN/TR10/H8 | 312 x 95 x 99 |
| | | | Ferrules | L4/S3FN/TR10/J7 | 312 x 95 x 99 |
| | | | CET (Single) | L4/S3FN/TR24/D4 | 312 x 95 x 90 |
| | | | CET (Looped) | L4/S3FN/TR10/G6 | 312 x 95 x 99 |
| 16.00mm. 4c. (TP&N) | Single or Two Looped | 1 x Up (230V) | BW/CW25 | L4/SF/TR5/E4 | 377 x 95 x 90 |
| | | | Ferrules | L4/SF/TR5/F4 | |
| | | | CET | L4/SF/TR5/D4 | |

| Isolators - Private Supply | | | | | |
|---|---|-------------------------|-------------------------|-----------------|---------------------------|
| Incoming Cable Size (mm) | Incoming Cable Configuration | Outgoing Fused Circuits | Glands, ferrules, CET's | Order Reference | Dimensions H x W x D (mm) |
| When MCB is required, substitute F for M, plus MCB Current Rating, e.g. 6 Amp MCB = M6 | | | | | |
| * Units for 25mm cable where TR4 used - it is possible to substitute TR7 where more space is required | | | | | |
| 25.00mm. 3C. | Single or Two Looped | 1 x Up | BW/CW25 | L4/SF/TR4/E4 | 312 x 95 x 90 |
| | | | Ferrules | L4/SF/TR4/F4 | |
| | | | CET | L4/SF/TR4/D4 | |
| 25.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 1 x Up | BW/CW25 | L4/SF/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/SF/TR8/J7 | |
| | | | CET | L4/SF/TR8/G7 | |
| 25.00mm. 3C. | Single or Two Looped | 2 x Up | BE/CW25 | L4/S2F/TR4/E4 | 312 x 95 x 90 |
| | | | Ferrules | L4/S2F/TR4/F4 | |
| | | | CET | L4/S2F/TR4/D4 | |
| 25.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 2 x Up | BW/CW25 | L4/S2F/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/S2F/TR8/J7 | |
| | | | CET | L4/S2F/TR8/D4 | |
| 25.00m. 3C. | Single or Two Looped | 3 x Up | BW/CW25 | L4/S3F/TR4 /E4 | 32 x 95 x 90 |
| | | | Ferrules | L4/S3F/TR4/F4 | |
| | | | CET | L4/S3F/TR4/D4 | |
| 25.00mm. 3C. | Three Looped (Two Looped + Unfused Spur) | 3 x Up | BW/CW25 | L4/S3FN/TR8/H7 | 377 x 95 x 99 |
| | | | Ferrules | L4/S2FN/TR8/J7 | |
| | | | CET | L4/S3FN/TR8/G7 | |
| 25.00mm. 3C. | Single or Looped + 1 x 10mm Fused Downward Spur | 1 x Up 1 x Down | BW/CW25 | L4/S2F/TR10/H8 | 312 x 95 x 99 |
| | | | Ferrules | L4/S2F/TR10/J7 | 312 x 95 x 99 |
| | | | CET(Single) | L4/S2F/TR24/D4 | 312 x 95 x 90 |
| | | | CET | L4/S2F/TR10/G8 | 312 x 95 x 99 |
| 25.00mm. 3C. | Single or Looped + 1 x 10mm Fused Downward Spur | 2 x Up 1 x Down | BW/CW25 | L4/S3FN/TR10/H8 | 312 x 95 x 99 |
| | | | Ferrules | L4/S3FN/TR10/J7 | 312 x 95 x 99 |
| | | | CET(Single) | L4/S3FN/TR24/D4 | 312 x 95 x 90 |
| | | | CET(Looped) | L4/S3FN/TR10/G8 | 312 x 95 x 99 |
| 25.00mm. 4C. (TP&N) | Single or Two Looped | 1 x Up (230V) | BW/CW32 | L4/SF/TR6/H27 | 377 x 95 x 99 |
| | | | Ferrules | L4/SF/TR5/F23 | 377 x 95 x 90 |
| | | | CET | L4/SF/TR5/D4 | 377 x 95 x 90 |





For applications to suit 35mm cables please contact CEL customer Services Team:
sales@charlesendirect.com or call (+44) 01963 828 400

Festive Lighting

CEL's work in challenging industrial outdoor lighting situations means we are perfectly placed to provide safe and effective control and protection for all you Festive lighting systems.

Our standard range of units will meet most requirements - or we can design a custom unit to work with your specific application. This could be in conjunction with our LSI (Lockable Safety Isolators) or be housed in one of our control boxes.

Our four standard units, designed to work from DNO (Distribution Network Operator) supply, offer the range of features, high specifications and practical considerations you'd expect from CEL products. These include switches, fuses, RCCBs, RCBs, MCBs, time clocks and contractors.

| L3/Festive 1 | L4/Festive 1 | L4/Festive 2 | L4/Festive 3 |
|---|--|---|--|
| H154mm x W79mm x D82mm | H336mm x W95mm x D90mm | H336mm x W95mm x D90mm | H336mm x W95mm x D90mm |
| SPL3/RCB06/EG071/E/ILF2/K3 | SP2L4/SFE/RCB016/EG071/ES220/ILF2/D3 | SP2L4/S2FNE/RCB016/EG071/ES220/ILF2/D3 | SP2L4/S3FNE/RCV016/EG071/ES220/ILF2/E3(1D) |
|  |  |  |  |

| Name | Description |
|--------------|---|
| L3/Festive 1 | 3 module enclosure with 6A RCBO protection to Festive lighting circuit controlled by time switch. For incoming DNO supply. |
| L4/Festive 1 | 2 x 4 module enclosures with 16A RCBO protection to Festive lighting circuit switched through a contactor controlled by time switch fuse carrier for protection to the lantern. Double pole isolation to both circuits, For incoming DNO supply. |
| L4/Festive 2 | 2 x 4 module enclosures with 16A RCBO protection to Festive lighting circuit switched through a contactor controlled by time switch with two fuse carriers for protection to the lanterns. Double pole isolation to all circuit. For incoming DNO supply. |
| L4/Festive 3 | 2 x 4 module enclosure with 16A RCBO protection to Festive lighting circuits switched through a contractor controlled by time switch with three fuse carriers for protection to the lanterns and sign. Double pole isolation to all circuits. Will accept up to 6mm 3C SWA cable, with 6mm spur |

Extension Boxes

Extension boxes are available to fit onto Isolators and cut-outs to provide more versatility, ease of termination and quick installation.

They have been designed for strength with moulded DIN rails, with the X2 and X3 incorporating strengthened terminal clamps suitable for use with up to 25mm² (35mm³ circular) Steel Wire Armoured (SWA) cables.

Manufactured from brass, standard DIN rail-mounted live, neutral and earth terminals are fully insulated.









X2 Extension box



X3 Extension box

Extension Boxes Options

| Reference | Description | Dimensions (mm) | Image (not to scale) |
|-----------|---|------------------|---|
| X0 | Spreader box to fit under L3 to accept larger extension boxes | H36 x W96 x D69 |  |
| X1 | Small extension box to fit onto X0 or L4. | H65 x W95 x D69 |  |
| X2 | Extension box to fit onto X0 or L4. | H144 x W96 x D69 |  |
| X3 | Extension box to fit X0 or L4. | H144 x W96 x D99 |  |
| X4 | Extension box to fit onto L3 range. | H100 x W79 x D57 |  |
| X5 | Extension box to fit on the end of X3 | H65 x W96 x D99 |  |

Gland Plate Options - for Extension Boxes


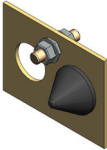
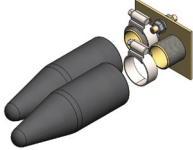
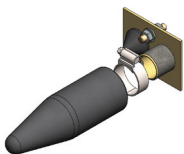
| To fit X1, X2 | | To fit X3 | |
|---------------|---|-----------|--|
| D3 | Plastic with 2 x 20mm holes | G6 | Plastic with 3 x 20mm holes |
| D4 | Plastic with 2 x 25mm holes | G7 | Plastic with 3 x 25mm holes |
| D6 | Plastic with 3 x 20mm holes | G27 | Plastic with 2 x 35mm holes |
| | | | |
| E3 | Brass with 2 x 20mm holes | H6 | Brass with 3 x 20mm holes |
| E4 | Brass with 2 x 25mm holes | H7 | Brass with 3 x 25mm holes |
| E5 | Brass with 1 x 20mm and 1 x 25mm hole | H8 | Brass with 2 x 25mm and 1 x 20mm holes |
| E6 | Brass with 3 x 20mm holes | H10 | Brass with 4 x 20mm holes |
| | | H11 | Brass with 2 x 20mm and 2 x 25mm holes |
| F4 | Brass with 2 x 25mm ferrules | H27 | Brass with 1 x 20mm and 2 x 35mm holes |
| F6 | Brass with 3 x 20mm ferrules | | |
| F12 | Brass with 1 x 25mm hole and 1 x 25 ferrule | J7 | Brass with 3 x 25mm ferrules |
| F23 | Brass with 2 x 35mm ferrules | J16 | Brass with 1 x 20mm hole and 2 x 25mm ferrules |
| | | J20 | Brass with 4 x 25mm ferrules |
| | | J30 | Brass with 3 x 35mm ferrules and 1 x 20mm hole |
| To fit X4 | | | |
| K3 | Plastic with 2 x 20mm holes | P4 | Brass with 2 x 25mm ferrules |
| K5 | Plastic with 1 x 25mm and 1 x 20mm hole | P14 | Brass with 1 x 20mm hole and 1 x 25mm ferrule |
| | | | |
| M3 | Brass with 2 x 20mm holes | | |

Gland Plate Options

| Reference | Gland Plate Description | Image (not to scale) |
|----------------|--|---|
| A1 Gland plate | Plastic with 1 x 20mm hole, complete with rubber grommet <i>Fits L2.</i> |  |
| A2 Gland Plate | Plastic with 1 x 25mm hole, complete with rubber grommet <i>Fits L2.</i> |  |
| B1 Gland Plate | Brass with 1 x 20mm hole, complete with rubber grommet <i>Fits L2.</i> |  |
| C2 Gland Plate | Brass gland plate with 1 x 25mm ferrule complete with 1 x jubilee clips and 2 x cable shrouds <i>Fits L2.</i> |  |
| C3 Gland Plate | Brass gland plate with 2 x 20mm ferrules complete with 2 x jubilee clip 2 x cable shrouds <i>Fits L2.</i> |  |
| D3 Gland Plate | Plastic gland plate with 2 x 20mm holes complete with 2 x grommets <i>Fits L4, X0, X1, X2, X7 TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| D4 Gland Plate | Plastic gland with 2 x 25mm holes complete with 2 x grommets <i>Fits L4, X0, X1, X2, X7 TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| D6 Gland Plate | Plastic gland plate with 3 x 20mm holes complete with 3 x grommets <i>Fits L4, X0, X1, X2, X7 TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| E3 Gland Plate | Brass gland plate with 2 x 20mm holes complete with 1 x grommet <i>Fits L4, X0, X1, X2, X7 TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| E4 Gland Plate | Brass gland plate with 2 x 25mm holes complete with 1 x grommet <i>Fits L4, X0, X1, X2, X7 TR4, TR5, TR7, TR17, TR23, TR24</i> |  |

| Reference | Gland Plate Description | Image (not to scale) |
|-----------------|--|---|
| E5 Gland plate | Brass gland plate with 1 x 25mm hole and 1 x 20mm hole complete with 2 x grommets <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| E6 Gland plate | Brass gland plate with 3 x 20mm holes complete with 2 x grommets <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| F4 Gland Plate | Brass gland plate with 2 x 25mm ferrules complete with 2 x grommets <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR7, TR17, TR24</i> |  |
| F6 Gland Plate | Brass gland plate with 3 x 20mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR17, TR23, TR24</i> |  |
| F12 Gland Plate | Brass gland plate with 1 x 25mm hole and 1 x 25mm ferrule complete with 1 grommet, 1 jubilee clip and 1 cable shroud <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| F23 Gland Plate | Brass gland plate with 2 x 35mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits L4, X0, X1, X2, X7</i> <i>TR4, TR5, TR7, TR17, TR23, TR24</i> |  |
| G6 Gland Plate | Plastic gland plate with 3 x 20mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| G7 Gland Plate | Plastic gland plate with 3 x 25mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12,</i> |  |
| G27 Gland plate | Plastic gland plate with 2 x 35mm holes complete with 1 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12,</i> |  |
| H6 Gland plate | Brass gland plate with 3 x 20mm holes complete with 2 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11</i> |  |



| Reference | Gland Plate Description | Image (not to scale) |
|-----------------|---|---|
| H7 Gland Plate | Brass gland plate with 3 x 25mm holes complete with 2 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| H8 Gland Plate | Brass gland plate with 1 x 20mm holes and 2 x 25mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| H10 Gland Plate | Brass gland plate with 4 x 20mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| H11 Gland Plate | Brass gland plate with 2 x 25mm holes and 2 x 20mm holes complete with 4 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| H27 Gland Plate | Brass gland plate with 1 x 20mm holes and 2 x 35mm holes complete with 1 x grommet and 2 galvanised couplers <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| J7 Gland Plate | Brass gland plate with 3 x 25mm ferrules complete with 3 x jubilee clips and 3 x cable shrouds <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| J16 Gland Plate | Brass gland plate with 2 x 25mm ferrules and 1 x 20mm hole complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| J20 Gland plate | Brass gland plate with 4 x 25mm ferrules complete with 4 x jubilee clips and 4 x cable shrouds <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| J30 Gland Plate | Brass gland plate with 3 x 35mm ferrules 1 x 20 mm hole complete with 3 x jubilee clips and 3 x cable shrouds <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12</i> |  |
| K3 Gland Plate | Plastic gland plate with 2 x 20mm holes complete with 2 x grommets <i>Fits L3, X4</i> <i>TR2, TR9, TR15</i> |  |

| Reference | Gland Plate Description | Image (not to scale) |
|-----------------|--|---|
| K5 Gland Plate | Plastic gland plate with 1 x 20mm hole and 1 x 25mm holes complete with 2 x grommets <i>Fits L3, X4 TR2, TR9, TR15</i> |  |
| M3 Gland Plate | Brass gland plate with 2 x 20mm holes complete with 1 x grommet <i>Fits L3, X4 TR2, TR9, TR15</i> |  |
| P4 Gland Plate | Brass gland plate with 2 x 25mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits L3, X4 TR2, TR9, TR15</i> |  |
| P14 Gland Plate | Brass gland plate with 1 x 20mm hole complete with 1 x grommet and 1 x 25mm ferrule complete with 1 x jubilee clip and 1 x cable shroud <i>Fits L3, X4 TR2, TR9, TR15</i> |  |

For **Stand-off Gland Plates** - see Earthing and Accessories section

Option of additional brass ferrules

Ferrules can be added or removed to a brass gland plate to suit customers requirements. They are secured with a brass nut.

| Cable size | Reference | Description | Image (not to scale) |
|-------------|--------------------|---|---|
| <10mm | 20mm Brass Ferrule | 1 x 20mm Brass Ferrule Complete with Brass Nut |  |
| 16mm - 25mm | 25mm Brass Ferrule | 1 x 25mm Brass Ferrule Complete with Brass Nut |  |

Terminal Racks (TR**) with termination blocks

Manufactured from brass, the live, neutral and earth termination block are fully insulated. Terminals can be combined on the DIN rail of an extension box to form a terminal rack.

There is a wide range of termination block arrangements in the extension boxes to facilitate the termination and looping of larger cables. These are Terminal Racks. For detailed applications of the TR's please refer to the Charles Endirect *Lockable Safety Isolator Selection Charts*.



Terminal Rack Options

| Description and use | | Cable type and direction indicators | | |
|--|------------------------------|-------------------------------------|--------------------|----------------|
| STANDARD Terminals | Used with Isolator/ Cut-outs | LIVE | NEUTRAL | EARTH |
| | | ↑ = incoming cable | ↓ = outgoing cable | ↔ = link cable |
| TR2 in X4 Extension Box <i>Dims: H100 x W79 x D57</i> | Fits both L3 isolator | ↑↓↑↓↑↓ | | |
| TR4 in X2 Extension Box <i>Dims: H144 x W96 x D69</i> | Fits L4 Isolator | ↑↓↑↓↑↓ | | |
| TR5 in X21 Extension Box <i>Dims: H209 x W96 x D69</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓↑↓ | ↑↓↑↓↑↓ | ↔↓ |
| TR6 in X35 Extension Box <i>Dims: H209 x W96 x D99</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓↑↓ | ↑↓↑↓↑↓ | ↔↓ |
| TR7 in X21 Extension Box <i>Dims: H209 x W96 x D69</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓ | | |
| TR8 in X35 Extension Box <i>Dims: H209 x W96 x D99</i> | Fits L4 Isolator | ↑↔↑↓↑↔↑↓↑↔↑↓ | ↑↓↑↓↑↓ | ↔↓ |
| TR8A in X35 Extension Box <i>Dims: H209 x W96 x D99</i> | Fits L4 Isolator | ↑↔↑↓↑↔↑↓↑↔↑↓ | ↑↓↑↓↑↓ | ↔↓ |
| TR9 in X4 Extension Box <i>Dims: H100 x W79 x D57</i> | Fits both L3 isolator | ↑↓↑↓↑↓↑↓↑↓ | | |
| TR10 in X3 Extension Box <i>Dims: H144 x W96 x D99</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓↑↓ | ↑↓↑↓↑↓ | ↓ |
| TR11 in X35 Extension Box <i>Dims: H209 x W96 x D99</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓↑↓ | ↑↓↑↓↑↓ | ↓ |
| TR12 in X3 Extension Box <i>Dims: H144 x W96 x D99</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓↑↓ | ↑↓↑↓↑↓ | ↓ |
| TR15 in X4 Extension Box <i>Dims: H100 x W79 x D57</i> | Fits L3 isolator | ↓↑↓↑↓↑ | | |
| TR17 in X2 Extension Box <i>Dims: H144 x W96 x D69</i> | Fits L4 Isolator | ↓↑↓↑↓↑ | | |
| TR22 in X35 Extension Box <i>Dims: H209 x W96 x D99</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓ | | |
| TR23 in X2 Extension Box <i>Dims: H144 x W96 x D69</i> | Fits L4 Isolator | ↓↑↓↑↓↑↓↑ | | |
| TR24 in X2 Extension Box <i>Dims: H144 x W96 x D69</i> | Fits L4 Isolator | ↑↓↑↓↑↓↑↓↑↓ | | |

Earthing and Earthing Accessories

Fuses for Isolators

CEL isolators fitted with the Charles Endirect CEL1132 Fuse Carrier accept the BS88/ IEC269-1 cartridge fuse:



LD fuse for 230V, these are available in rating 6, 10, 16 and 20 amp.



CEL1132 Fuse Carrier



MD fuse for 415V, these are available in rating 4, 6, 10, 16 and 20 amp.

The L506 (fuse link and neutral break) fuse carrier accepts BS88/IEC269-1 10 x 38 fuse



L506 Fuse



L506 Fuse Carrier

Cable Glands

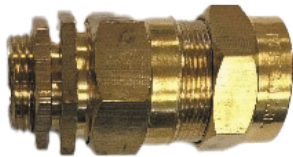
We offer a range of cable glands to suit most standard sizes of cable and connection requirements, including provision for making electrical connection to the armour sheath of the cable.

Our BW and CW Glands are manufactured to BS 6121 and suitable for use with Steel Wired Armour (SWA) cable.

The Central Earthing Terminal gland (CET) is ideal for terminating SWA cables in a narrow space, such as a lighting column, traffic sign or feeder pillar. Easy to use, all terminations are made from the front without the need of a spanner, providing an effective earth bond. The main terminal components are made from zinc plated solid brass.



BW20 gland
Standard compression gland



CW20 gland
Provides an IP66 seal to the outer sheath of the SWA

Plastic Gland PG (M gland)

Plastic glands are of solid construction and provide additional support and insulation to the cable, these can be used for *internal or external* applications.

| 3 x DOUBLE INSULATED TAILS | | | | | |
|----------------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| PG GLAND | 6mm ² | 10mm ² | 16mm ² | 25mm ² | 35mm ² |
| PG20 | YES | YES | NO | NO | NO |
| PG25 | NO | YES | YES | YES | NO |

BW Gland Kits

BW Gland Kits contain a standard compression gland and come with brass lock nut, earth tag and PVC shroud, these are designed for use with steel wire armoured cables (SWA) and provides clamping of the cables to ensure electrical continuity and mechanical retention.



BW20 Compression Gland Kit (brass lock nut, earth tag and PVC shroud)

| BW GLAND RANGE SELECTION CHART | | | |
|--------------------------------|--------|--------|--------|
| CABLE SIZE mm ² | 2 CORE | 3 CORE | 4 CORE |
| 1.5 | BW20 | BW20 | BW20 |
| 2.5 | BW20 | BW20 | BW20 |
| 4 | BW20 | BW20 | BW20 |
| 6 | BW20 | BW20 | BW20 |
| 10 | BW20 | BW20 | BW25 |
| 16 | BW25 | BW25 | BW25 |
| 25 | BW25 | BW25 | BW32 |
| 35 | BW32 | BW32 | BW32 |

CW Gland Kits - with IP66 seal

CW Gland Kits provide an IP66 seal to the outer sheath of the SWA cable and come with brass lock nut, earth tag and PVC shroud. It enables clamping of the cable to ensure electrical continuity and mechanical retention and provides an IP66 seal to the outer sheath of the SWA cable.

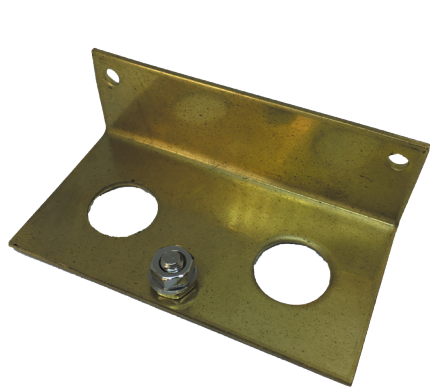


CW20 Compression Gland Kit (*brass lock nut, earth tag and PVC shroud*)

| CW GLAND RANGE SELECTION CHART | | | |
|--------------------------------|--------|--------|--------|
| CABLE SIZE mm ² | 2 CORE | 3 CORE | 4 CORE |
| 1.5 | CW20 | CW20 | CW20 |
| 2.5 | CW20 | CW20 | CW20 |
| 4 | CW20 | CW20 | CW20 |
| 6 | CW20 | CW20 | CW20 |
| 10 | CW20 | CW20 | CW25 |
| 16 | CW25 | CW25 | CW25 |
| 25 | CW25 | CW25 | CW32 |
| 35 | CW32 | CW32 | CW32 |

Stand-off Gland Plates

Stand-off gland plates can be used in street lighting columns or feeder pillars to terminate cables using BW or CW glands.



GP Plate - manufactured from 2mm thick brass with 2 x 5mm fixing holes. All stand-off Gland Plates are supplied with brass earthing stud nut and washer.



GP 003/20 - manufactured from 2mm thick brass with 2 x 5mm fixing holes, supplied with brass earthing stud, nut and washer.

| STAND - OFF GLAND PLATES | | | | |
|--------------------------|----------------|----------|-----------|----------|
| REF | GLAND HOLES | WIDTH mm | HEIGHT mm | DEPTH mm |
| GP 1032 | 1 x 32 | 55 | 30 | 60 |
| GP 2125 | 1 x 20, 1 x 25 | 95 | 30 | 55 |
| GP 2220 | 2 x 20 | 95 | 30 | 55 |
| GP 2025 | 2 x 25 | 95 | 30 | 55 |
| GP 3125 | 1 x 20, 2 x 25 | 95 | 35 | 85 |
| GP 3225 | 2 x 20, 1 x 25 | 95 | 35 | 85 |
| GP 3320 | 3 x 20 | 95 | 35 | 85 |
| GP 3025 | 3 x 25 | 95 | 35 | 85 |
| GP 003/20 | 1 x 20 | 35 | 35 | 60 |
| GP 003/25 | 1 x 25 | 35 | 35 | 60 |

Central Earthing Terminals (CETs)

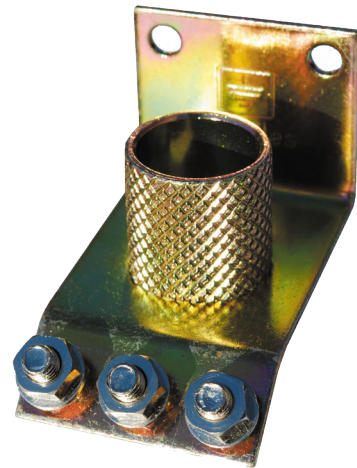
The Charles endirect CET is ideal for terminating SWA cables in a narrow space, typically in a lighting column, traffic sign or feeder pillar. Easy to use, all terminations are made from the front without the need of a spanner, providing an effective earth bond.

Key Features

- Allows easy and effective connection and termination of SWA cable
- Inherently strong and simple design
- Exceeds BSI (Cable gland) torque test
- Main terminal components are all zinc plated solid brass to prevent corrosion
- No loose fitting or easily omitted strands
- Single or multiple earth take-off points
- Comprehensive range, all standard cable sizes
- Supplied complete with jubilee clip



CET 002/-- comes in various sizes, designed to be used with armours **bent back** or **splayed**

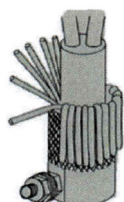


CET 003/-- comes in various sizes, designed to be used with armours **bent back**

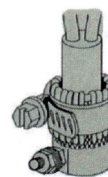


CET 003/-- R comes in various sizes, designed to be used with armours **splayed**

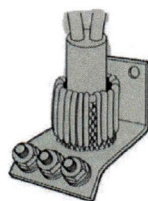
CETs for accepting bent back armours



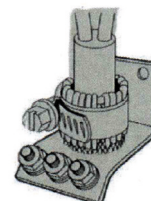
CET 002 with cable inserted and armours bent back



CET 002 with cable inserted, armours bent back and jubilee clip fitted



CET 003 with cable inserted and armours bent back

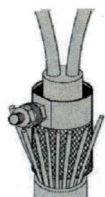


CET 003 with cable inserted, armours bent back and jubilee clip fitted

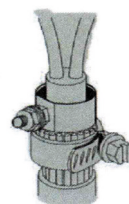
Table of Maximum Cable Sizes Accepted for each - Bent back armours

| CET Range selection chart - Armours bent back | | | |
|---|--------------------------------|--------------------------------|--------------------------------|
| Cable size mm ² | 2 Core | 3 Core | 4 Core |
| 2.5 | CET 002/6 | CET 002/6 | CET 002/6 |
| 4 | CET 002/6 | CET 002/6 | CET 002/6 |
| 6 | CET 002/6 or CET 003/10 | CET 002/10 or CET 003/10 | CET 002/10 or CET 003/10 |
| 10 | CET 002/10 or CET 003/10 | CET 002/16 or CET 003/16 | CET 002/16 or CET 003/16 |
| 16 | CET 002/16 or CET 003/16 | CET 002/16 or CET 003/16 | CET 002/35 |

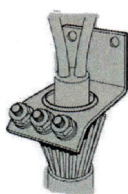
CETs for accepting splayed armours



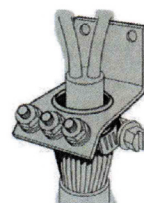
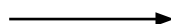
CET 002 with cable inserted and armours splayed



CET 002 with cable inserted, armours splayed and jubilee clip fitted



CET 003 with cable inserted and armours splayed



CET 003 with cable inserted, armours splayed and jubilee clip fitted

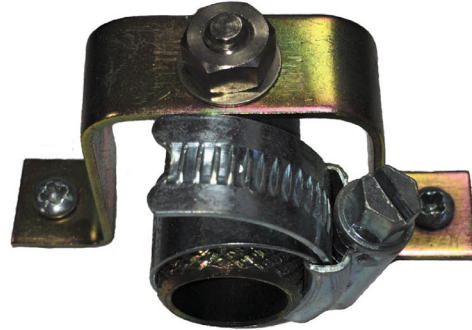
Table of Maximum Cable Sizes Accepted for each - **Splayed armours**

| CET Range selection chart - Armours splayed | | | |
|---|---------------------------------|---------------------------------|---------------------------------|
| Cable size mm ² | 2 Core | 3 Core | 4 Core |
| 2.5 | CET 002/6 | CET 002/6 | CET 002/6 |
| 4 | CET 002/6 | CET 002/6 | CET 002/6 |
| 6 | CET 002/6 or CET 003/10R | CET 002/6 or CET 003/10R | CET 002/6 or CET 003/10R |
| 10 | CET 002/10 or CET 003/10R | CET 002/10 or CET 003/10R | CET 002/16 or CET 003/16R |
| 16 | CET 002/10 or CET 003/16R | CET 002/16 or CET 003/16R | CET 002/35 or CET 003/16R |
| 25 | CET 002/16 or CET 003/16R | CET 002/16 or CET 003/16R | CET 002/35 or CET 003/35R |
| 35 | CET 002/35 or CET 003/35R | CET 002/35 or CET 003/35R | N/A |

CET Accessories



Single saddle - used to fix CET 002/- - to backboard, comes with fixing screws.



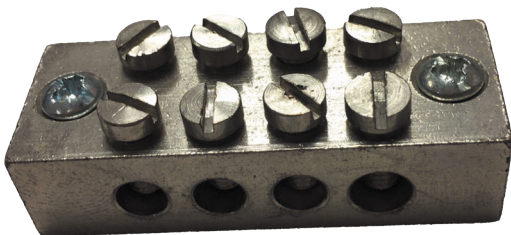
Single saddle - used to fix CET 002/- - to back board, comes with fixing screws. In this image shown fitted with **CET 002/6**



Double/Triple Saddle - using to fix CET 002/- - to back board, comes with fixing screws



Double/Triple Saddle - used to fix CET 002/- - to back board, comes with fixing screws. In this image shown fitted with **CET 002/6**



EB42 - double pinch solid brass earth block for use on backboard - provides three holes at 16mm²



Example of **CET 003** being used with EB42 earth block feeding isolator with plastic gland plate



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