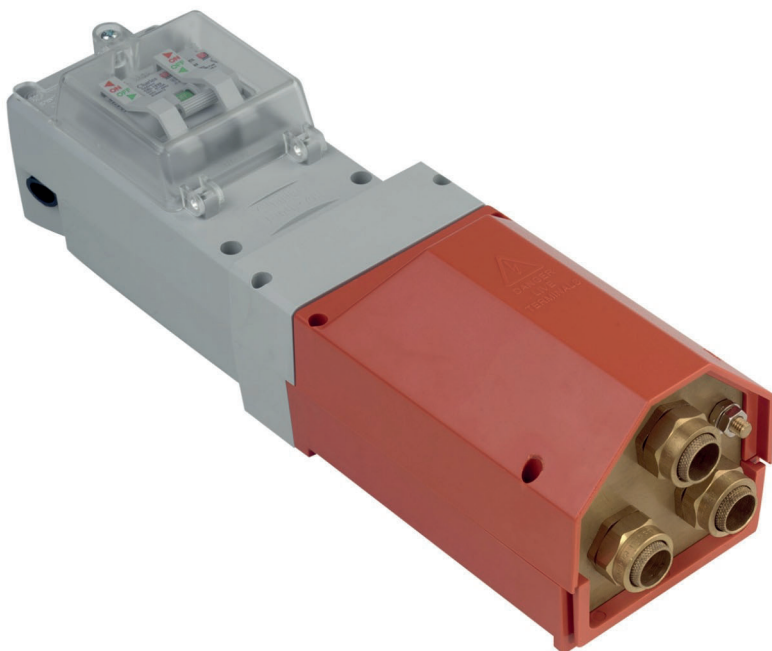


Isolator and Cut-Out


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 founder member of the Highway Electrical Manufacturers & Suppliers Association (HEMSA) and an active member of the Highways Electrical Association (HEA). We are also a Premiere Member and supporter of the Institution of Lighting Professionals (ILP).

Charles Endirect offers a comprehensive range of Lockable Safety Isolators (LSI) and Fuse Disconnect (FD) Cut-outs 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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www.charlesendirect.com

You can follow us on:



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 four different sized models from 1 to 4 module widths, i.e., L1, L2, L3 and L4.

L1	L2	L3	L4
H135mm, W40mm, D92mm	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 options, please ask for further details.

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



L1 Isolator

The L1 is a single module enclosure which can be fitted with a fuse carrier, double pole switch or MCB and is supplied fitted with a 20mm coned grommet for incoming cable. This single module enclosure can be supplied with pre-wired incoming tails.

Dimensions(mm): H135mm, W40mm, D92mm

Shown here with CEL1232 double pole switch fitted = L1/S

Gland Plates

There is no gland plate option

Extension Boxes

There is no extension box option

Terminal Racks

There is no terminal rack option



L1 Isolator

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. 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 2 x 20mm ferrules |

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

Extension Boxes

- | | |
|----|---------------------------------|
| X6 | Dimensions(mm): H95 x W57 x D57 |
|----|---------------------------------|

Gland Plates to fit direct to X6 Extension Box

The X6 will accept plastic, brass or brass ferrule plate – see list of gland plates to fit L2 as above.

Terminal Racks fitted in Extension Boxes

- | | |
|-----|--|
| TR1 | 1 live, 1 neutral and 1 earth BB terminating blocks fitted in a X6 extension box |
|-----|--|



L2 Isolator



X6 Extension box

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.

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
P4	Brass with 2 x 25mm ferrules
P6	Brass with 3 x 20mm ferrules
P14	Brass with 1 x 20mm hole and 1 x 25mm ferrule

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

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

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 Racks 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
TR14	1 earth BB termination block 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, 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 hole
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

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 D99
X21 = X2+X1	Dimensions(mm): H209 x W96 x D69
X35 = X3+X5	Dimensions(mm): H209 x W96 x D99

Gland Plates to fit Direct to X1, X2, X21 Extension Boxes

The X1, X2, 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 25mm holes
H8	Brass with 2 x 25mm and 1 x 20mm holes
H10	Brass with 4 x 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 holes 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

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

Terminal Racks Fitted with Stud Arrangement

TR18	1 live, 1 neutral and 1 earth in stud arrangement fitted in X71
TR19	1 live, 1 neutral and 1 earth in stud arrangement fitted in X85
TR20	3 live, 1 neutral in stud arrangement fitted in X71
TR21	3 live, 1 neutral in stud arrangement fitted in X85
TR25	2 live, 2 neutral, 2 earth in stud arrangement fitted in X8A5

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 2 x Double Insulated (DI) Tails	Out Going 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 - 6.0mm	DI Tails x 2	1 x Up		L2/SF/A1	142 x 57 x 82
Pre-fitted incoming tails					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 Ferrules	L3/S2F/M3 (1D) L3/S2F/P4 (1D)	154 x 79 x 82
2.5mm - 6.0mm	DI Tail + 1 x 6mm Fused Downward Spur	2 x Up 1 x Down	BW20 CW20(CEL) Ferrules	L4/S3FNE/E3(1D) L4/S3FNE/F12(1D)	168 x 95 x 90
2.5mm - 6.0mm	DI Tails + 2 x 6mm Fused Downward Spur	1 x Up 2 x Down	BW/CW20 Ferrules	L4/S3F/TR12/H6 L4/S3F/TR12/J7	312 x 95 x 90

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 Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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	168 x 95 x 90 290 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	312 x 95 x 90
			CET	L4/S3FNE/TR4/D3	312 x 95 x 90

Isolators - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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/S3FNE/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 82
			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/D3(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/X0/D6	

Isolators - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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.	Single + 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. 4C.(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 Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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	BW/CW20	L3/S2F/TR9/X0/E6	290 x 95 x 82
		1 x Down	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	BW/CW20	L4/S3FN/TR24/E3	312 x 95 x 90
		1 x Down	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	BW/CW20	L4/S3FN/TR24/E6	312 x 95 x 90
		1 x Down	Ferrules	L4/S3FN/TR24/F6	
			CET	L4/S3FN/TR24/D6	

Isolators - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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/D3	
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/D3	
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/D3	
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/D3	312 x 95 x 90
			CET (Looped)	L4/S2F/TR10/G6	312 x 95 x 99
16.00mm. 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/D3	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 Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going 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					
<i>*Units for 25mm cable where TR4 used - it is possible to substitute TR7 where more space is required.</i>					
Incoming Cable Size	Incoming Cable Configuration	Out Going Fused	Glands	LSI Order Reference	Dimensions H x W x D (mm)
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	BW/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/G7	
25.00mm. 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	
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/S3FN/TR8/J7	
			CET	L4/S3FN/TR8/G7	
25.00mm. 3C.	Single or Looped + 1 x 10mm Fused Downward Spur	1 x Up	BW/CW25	L4/S2F/TR10/H8	312 x 95 x 99
			Ferrules	L4/S2F/TR10/J7	312 x 95 x 99
		1 x Down	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	BW/CW25	L4/S3FN/TR10/H8	312 x 95 x 99
			Ferrules	L4/S3FN/TR10/J7	312 x 95 x 99
		1 x Down	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 your 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, timeclocks and contactors.

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/RCB016/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 with 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 circuits. For incoming DNO supply.
L4/Festive 3	2 x 4 module enclosures with 16A RCBO protection to Festive lighting circuit switched through a contactor 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 3 C SWA cable, with 6mm spur

Cut-out Range

The Charles Endirect range of 25A Fuse Disconnecter Cut-outs has been designed for strength, durability and ease of installation and to meet the full requirements of BS 7654:2010. The range features a secure and quick release carrier to provide safe and easy access to fuses and outgoing terminals.

Three sizes are available – miniature HLX25, standard FD150 and universal FD200 series, all of which are double pole with the FD200 series having capacity for 2 fuses with a 3 phase option. All the Cut-outs accept fuses to IEC269-1 and BS88 pt 1 – AC19 Tag Type (LST).

See Appendix for Selection Charts.

HLX25	FD150	FD200
H85mm x W59mm x D63mm	H150mm, W69mm, D56mm	H150mm, W85mm, D62mm
		

HLX25 Miniature Cut-out

The HLX25 Miniature Double Pole Cut-out will accept a single or looped max 6mm² SWA cable. Single fuse normally used within bollards. Can be fitted with a X6 extension box.

Gland Plates

There is no gland plate option

Extension Boxes

X6 Dimensions(mm): H85 x W59 x D63

Use of X6 extension box will allow for use of L2 gland plates.

Terminal Racks Fitted in Extension Box

TR1A 1 live, 1 earth and 1 neutral BB termination blocks fitted in X6



HLX25 Cut-out

FD150 Cut-out

The FD150 Cut-out has been designed for strength, durability and ease of installation. The quick release fuse carrier provides safe and easy access to fuses and outgoing terminals. Fuse carrier accepts fuses to IEC269-1 and BS88: Part 1, AC 16 tag type (LST).

This Double Pole, Single Fuse Cut-out will accept the CEL range of extension boxes and gland plates providing the facility to terminate SWA cable up to 25mm².

See Selection chart for detailed references.

Dimensions(mm): H150 x W69 x D56

Gland Plates to fit direct to FD150 Cut-out

V3	Plastic with 2 x 20mm holes
W3	Brass with 2 x 20mm holes
Y3	Brass with 2 x 20mm ferrules

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

Extension Boxes

X0A	dimensions: H40mm x W96mm x D69mm This extension box takes the base of the unit to the same width as L4 Isolator and can facilitate the use of the range of Terminal Racks
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Gland Plates to fit direct to FD150/X0A

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 hole
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

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



FD200 Cut-out

The FD200 Series Cut-out has been designed for strength, durability and ease of installation. The quick release fuse carrier provides safe and easy access to fuses and outgoing terminals. Fuse carrier accepts fuses to IEC269-1 and BS88 Part 1, AC 16 tag type (LST).

This Double Pole Cut-out will accept the CEL range of extension boxes and gland plates providing the facility to terminate SWA cable up to 25mm². Available in single fuse, twin fuse and 3 phase options.

(See Selection chart for detailed references)

Dimensions(mm): H150 x W85 x D62

FD211	Single Fuse Cut-out
FD221	Twin Fuse Cut-out
FD231	Twin fuse Cut-out (1 Upward circuit and 1 downward circuit)
FD211TP	Single Fuse Cut-out for Three Phase



FD200

Gland Plates to fit direct to FD200 Range of Cut-outs

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
P4	Brass with 2 x 25mm ferrules
P6	Brass with 1 x 25mm, 1 x 20mm ferrule
P14	Brass with 1 x 20mm hole and 1 x 25mm ferrule

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

Extension Boxes

X4	Dimensions: H100mm x W79mm x D57mm
X0	Dimensions: H36mm x W96mm x D69mm This extension box takes the base of the unit to the same width as L4 Isolator and can facilitate the use of the range of Terminal Racks

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 FD200 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 Racks

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
TR13	1 earth BB termination block fitted in X02
TR14	1 earth BB termination block fitted in X4
TR15	1 live, 1 neutral and 1 earth BB termination blocks fitted in X4
TR16	1 earth BB termination block fitted in X03

Cut-out Selection Charts

Cut-outs - Electricity Board Supply						
Incoming Cable Size (mm)	Incoming Cable 2 x Double Insulated (DI) Tails	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
2.5mm 6.0mm	DI Tails x 2	1 x Up		FD211/K3	FD150/V3	HLX25 (no earth)
2.5mm 6.0mm	DI Tails x 2	2 x Up		FD221/K3		
2.5mm 6.0mm	DI Tails + 1 x 6mm Fused Downward Spur	1 x Up 1 x Down	BW/CW20 Ferrules	FD231/TR13/E3 FD231/TR13/F12		

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

Cut-outs - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
2.5mm. 4.0mm. 3C.	Single	1 x Up	BW/CW20 Ferrules CET		FD150/W3 FD150/Y3 FD150/V3	HLX25/TR1A/B1 HLX25/TR1A/C2 HLX25/TR1A/A1
2.5mm. 4.0mm. 3C.	Single or Two Looped	1 x Up	BW/CW20 Ferrules CET		FD150/W3 FD150/Y3 FD150/V3	
2.5mm. 4.0mm. 3C.	Three Looped (Two Looped + Unfused Spur)	1 x Up	BW/CW20 Ferrules CET	FD211/X0/E6 FD211/X0/F6 FD211/X0/D6		
2.5mm. 4.0mm. 3C.	Single or Two Looped	2 x Up	BW/CW20 Ferrules CET	FD221/M3 FD221/P4 FD221/K3		
2.5mm. 4.0mm. 3C.	Three Looped (Two Looped + Unfused Spur)	2 x Up	BW/CW20 Ferrules CET	FD221/X0/E6 FD221/X0/F6 FD221/X0/D6		

Cut-outs - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
6.00mm. 3C.	Single	1 x Up	BW/CW20		FD150/W3	HLX25/TR1A/B1
			Ferrules		FD150/Y3	HLX25/TR1A/C2
			CET		FD150/V3	HLX25/TR1A/A1
6.00mm. 3C.	Single	2 x Up	BW/CW20	FD221/M3		
			Ferrules	FD221/P4		
			CET	FD221/K3		
6.00mm. 3C.	Single or Two Looped	1 X Up	BW/CW20		FD150/W3	
			Ferrules		FD150/Y3	HLX25/TR1A/C3
			CET		FD150/V3	
6.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	1 x Up	BW/CW20	FD211/X0/E6		
			Ferrules	FD211/X0/F6		
			CET	FD211/X0/D6		
6.00mm. 3C.	Single or Two Looped	2 x Up	BW/CW20	FD221/M3		
			Ferrules	FD221/P4		
			CET	FD221/K3		
6.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	2 x Up	BW/CW20	FD221/X0/E6		
			Ferrules	FD221/X0/F6		
			CET	FD221/X0/D6		
6.00mm. 3C.	Single + 1 x 6mm Fused Downward Spur	1 x Up 1 x Down	BW/CW20	FD231/TR13/E3		
			Ferrules	FD231/TR13/F4		
			CET	FD231/TR13/D3		
6.00mm. 3C.	Single or Looped + 1 x 6mm Fused Downward Spur	1 x Up 1 x Down	BW/CW20	FD231/TR13/E6		
			Ferrules	FD231/TR13/F6		
			CET	FD231/TR13/D6		
6.00mm. 4C.(TP&N)	Single or Two Looped	1 x Up (230V)	BW/CW20	FD211/X0/TR5/E3		
			Ferrules	FD211/X0/TR5/F4		
			CET	FD211/X0/TR5/D3		

Cut-outs - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
10.00mm. 3C.	Single	1 x Up	BW/CW20		FD150/W3	
			Ferrules		FD150/Y3	HLX25/TR1A/C2
			CET		FD150/V3	
10.00mm. 3C.	Single	2 x Up	BW/CW20	FD221/M3		
			Ferrules	FD221/P4		
			CET	FD221/K3		
10.00mm. 3C.	Single or Two Looped	1 x Up	BW/CW20		FD150/W3	
			Ferrules		FD150/Y3	HLX25/TR1A/C3
			CET		FD150/V3	
10.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	1 x Up	BW/CW20	FD211/X0/TR8A/E6		
			Ferrules	FD211/X0/TR8A/F6		
			CET	FD211/X0/TR8A/D6		
10.00mm. 3C.	Single or Two Looped	2 x Up	BW/CW20	FD221/M3		
			Ferrules	FD221/P4		
			CET	FD221/K3		
10.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	2 x Up	BW/CW20	FD221/X0/TR8A/E6		
			Ferrules	FD221/X0/TR8A/F6		
			CET	FD221/X0/TR8A/D6		
10.00mm. 3C.	Single or Looped + 1 x 10mm Fused Downward Spur	1 x Up 1 x Down	BW/CW20	FD231/TR13/E6		
			Ferrules	FD231/TR13/F6		
			CET	FD231/TR13/D6		
10.00mm. 4C.(TP&N)	Single or Two Looped	1 x Up (230V)	BW/CW20	FD211/X0/TR5/E4		
			Ferrules	FD211/X0/TR5/F4		
			CET	FD211/X0/TR5/D4		

Cut-outs - Private Network Supply

Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
16.00mm. 3C.	Single or Two Looped	1 x Up	BW/CW25	FD211/X01/E4		
			Ferrules	FD211/X4/P4*	LIM ITED SPACE OPTION (250x987x63)	
			Ferrules	FD211/X01/F4		
			CET	FD211/X4/K3	LIM ITED SPACE OPTION (250x987x63)	
			CET	FD211/X01/D3		
16.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	1 x Up	BW/CW25	FD211/X0/TR8/H7		
			Ferrules	FD211/X0/TR8/J7		
			CET	FD211/X0/TR8/G6		
16.00mm. 3C.	Single or Two Looped	2 x Up	BW/CW25	FD221/X01/E4		
			Ferrules	FD221/X4/P4*	LIM ITED SPACE OPTION (160x92x63)	
			Ferrules	FD221/X01/F4		
			CET	FD221/X4/K3	LIM ITED SPACE OPTION (160x92x63)	
			CET	FD221/X01/D3		
16.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	2 x Up	BW/CW25	FD221/X0/TR8/H7		
			Ferrules	FD221/X0/TR8/J7		
			CET	FD221/X0/TR8/G7		
16.00mm. 3C.	Single or Looped + 1 x 10mm Fused Downward Spur	1 x Up 1 x Down	BW/CW25	FD231/TR16/H8		
			Ferrules	FD231/TR16/J7		
			CET	FD231/TR13/D6		
16.00mm. 4C.(TP&N)	Single or Two Looped	1 x Up (230V)	BW/CW25	FD211/X0/TR5/E4		
			Ferrules	FD211/X0/TR5/F4		
			CET	FD211/X0/TR5/D4		

Cut-outs - Private Network Supply						
Incoming Cable Size (mm)	Incoming Cable Configuration	Out Going Fused Circuits	Glands, ferrules, CET's	Cut Out Order Reference		
				FD200	FD150	HLX25
25.00mm. 3C.	Single or Two Looped	1 x Up	BW/CW25	FD211/X0/TR4/E4		
			Ferrules	FD211/X0/TR4/F4		
			CET	FD211/X0/TR4/D4		
25.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	1 x Up	BW/CW25	FD211/X0/TR8/H7		
			Ferrules	FD211/X0/TR8/J7		
			CET	FD211/X0/TR8/G7		
25.00mm. 3C.	Single or Two Looped	2 x Up	BW/CW25	FD221/X0/TR4/E4		
			Ferrules	FD221/X0/TR4/F4		
			CET	FD221/X0/TR4/D4		
25.00mm. 3C.	Three Looped (Two Looped + Unfused Spur)	2 x Up	BW/CW25	FD221/X0/TR8/H7		
			Ferrules	FD221/X0/TR8/J7		
			CET	FD221/X0/TR8/G7		
25.00mm. 3C.	Single or Looped + 1 x 10mm Fused Downward Spur	1 x Up 1 x Down	BW/CW25	FD231/X0/TR10/H8		
			Ferrules	FD231/X0/TR10/J7		
			CET	FD231/X0/TR10/G8		
25.00mm. 4C.(TP&N)	Single or Two Looped	1 x Up (230V)	BW/CW32	FD211/X0/TR6/H27		
			Ferrules	FD211/X0/TR5/F23		
			CET	FD211/X0/TR5/D4		

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sales@charlesendirect.com or call (+44) 01963 828 400

Extension Boxes

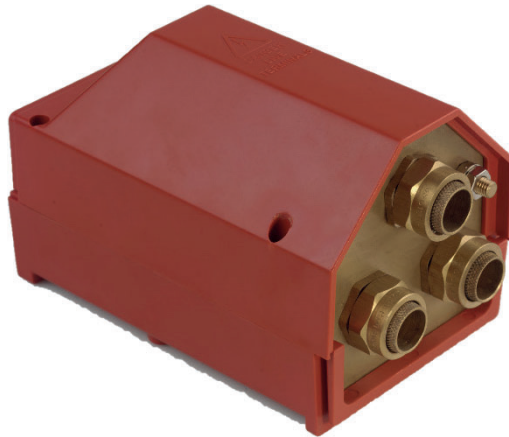
Extension boxes are available to fit onto Isolators and Cut-outs to provide more versatility, ease of termination and quick installation.

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 (35mm² circular) Steel Wire Armoured (SWA) cables.

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



X7 Extension box







X3 Extension box

Extension Box Options

Reference	Description	Dimensions (mm)	Image (not to scale)
X0	Spreader box to fit under L3 and FD200 to accept larger extension boxes	H36 x W96 x D69	
X0A	Spreader box to fit under FD150 to accept larger extension boxes	H40 x W96 x D69	
X1	Fits onto X0 , L4 and will accept larger boxes	H65 x W96 x D69	
X2	Fits onto X0 , L4 and will accept larger extension boxes.	H144 x W96 x D69	
X3	Fits onto X0 , L4 and will accept larger extension boxes	H144 x W96 x D99	
X4	Fits L3 and FD200	H100 x W79 x D57	
X5	Fits onto bottom of X3 to facilitate larger cables	H65 x W96 x D99	

Extension Box Options

Reference	Description	Dimensions (mm)	Image (not to scale)
X6	Fits onto L2 and HLX25	H95 x W57 x D57	
X7	Fits onto X0 , L4 and will accept larger extension boxes, Same as X2 but fitted with stud terminals	H144 x W96 x D69	
X8	Fits onto X0 , L4 and will accept larger extension boxes, same as X3 but fitted with stud terminals	H144 x W96 x D99	
X9	Fits onto FD200 to accept X3 or X9	H36 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 25mm 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 ferrule
		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	P6	Brass with 3 x 20mm ferrules
		P14	Brass with 1 x 20mm hole and 1 x 25mm ferrule
M3	Brass with 2 x 20mm holes		
To fit X6			
A1	Plastic with 1 x 20mm hole	C2	Brass with 1 x 25mm ferrule
A2	Plastic with 1 x 25mm hole	C3	Brass with 2 x 20mm ferrules
B1	Brass with 1 x 20mm hole		

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, X6, TR1</i>	
A2 Gland Plate	Plastic with 1 x 25mm hole, complete with rubber grommet <i>Fits L2, X6, TR1</i>	
B1 Gland Plate	Brass with 1 x 20mm hole, complete with rubber grommet <i>Fits L2, X6, TR1</i>	
C2 Gland Plate	Brass gland plate with 1 x 25mm ferrule complete with 1 x jubilee clip and cable shroud <i>Fits L2, X6, TR1</i>	
C3 Gland Plate	Brass gland plate with 2 x 20mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits L2, X6, TR1</i>	
D3 Gland Plate	Plastic gland plate with 2 x 20mm holes complete with 2 x grommets <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
D4 Gland Plate	Plastic gland plate with 2 x 25mm holes complete with 2 x grommet <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
D6 Gland Plate	Plastic gland plate with 3 x 20mm holes complete with 3 x grommets <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
E3 Gland Plate	Brass gland plate with 2 x 20mm holes complete with 1 x grommet <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
E4 Gland Plate	Brass gland plate with 2 x 25mm holes complete with 1 x grommet <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, 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, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR2</i>	
E6 Gland Plate	Brass gland plate with 3 x 20mm holes complete with 2 x grommets <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
F4 Gland Plate	Brass gland plate with 2 x 25mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR13, TR17, TR18, TR20, TR23, TR24</i>	
F6 Gland Plate	Brass gland plate with 3 x 20mm ferrules complete with 3 x jubilee clips and 3 x cable shrouds <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, TR23, TR24</i>	
F12 Gland Plate	Brass gland plate with 1 x 25mm hole and 1 x 25mm ferrule complete with 1 x grommet, 1 x jubilee clip and 1 x cable shroud <i>Fits L4, X0, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, 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, X0A, X1, X2, X7, TR4, TR5, TR7, TR13, TR17, TR18, TR20, 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 TR6, TR8, TR10, TR11, TR12, TR16, TR19, TR21, TR25</i>	
G7 Gland Plate	Plastic gland plate with 3 x 25mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9 TR6, TR8, TR10, TR11, TR12, TR16, TR19, TR21, TR25</i>	
G27 Gland Plate	Plastic gland plate with 2 x 35mm holes complete with 1 x grommets <i>Fits X3, X5, X8, X9 TR6, TR8, TR10, TR11, TR12, TR16, TR19, TR21, TR25</i>	
H6 Gland Plate	Brass gland plate with 3 x 20mm holes complete with 2 x grommets <i>Fits X3, X5, X8, X9 TR6, TR8, TR10, TR11, TR12, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</i>	
H8 Gland Plate	Brass gland plate with 1 x 20mm hole and 2 x 25mm holes complete with 3 x grommets <i>Fits X3, X5, X8, X9</i> <i>TR6, TR8, TR10, TR11, TR12, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</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, TR16, TR19, TR21, TR25</i>	
J30 Gland Plate	Brass gland plate with 3 x 35mm ferrules 1 x 20mm 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, TR16, TR19, TR21, TR25</i>	
K3 Gland Plate	Plastic gland plate with 2 x 20mm holes complete with 2 x grommets <i>Fits L3, FD200, X4</i> <i>TR2, TR9, TR14, 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, FD200, X4 TR2, TR9, TR14, TR15</i>	
M3 Gland Plate	Brass gland plate with 2 x 20mm holes complete with 1 x grommet <i>Fits L3, FD200, X4 TR2, TR9, TR14, 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, FD200, X4 TR2, TR9, TR14, TR15</i>	
P6 Gland Plate	Brass gland plate with 3 x 20mm ferrules complete with 3 x jubilee clips and 3 x cable shrouds <i>Fits L3, FD200, X4 TR2, TR9, TR14, 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, FD200, X4 TR2, TR9, TR14, TR15</i>	
V3 Gland Plate	Plastic gland plate with 2 x 20mm holes complete with 2 x grommet <i>Fits FD150</i>	
W3 Gland Plate	Brass gland plate with 2 x 20mm holes complete with 1 x grommet <i>Fits FD150</i>	
Y3 Gland Plate	Brass gland plate with 2 x 20mm ferrules complete with 2 x jubilee clips and 2 x cable shrouds <i>Fits FD150</i>	

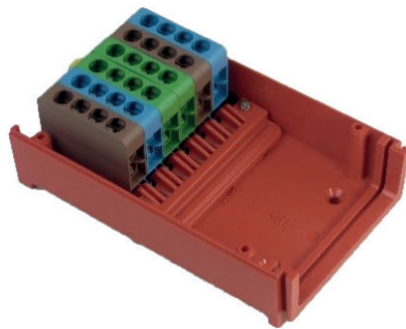


For Stand-off Gland Plates – see Earthing and Accessories section

Terminal Racks (TR**) with termination blocks






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

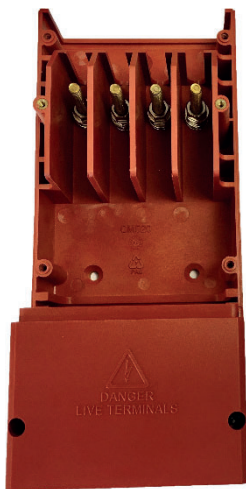
There is a wide range of termination block arrangements in the extension boxes to facilitate the termination and looping of larger cables. These are Terminal Racks. For detailed applications of the TR's please refer to the Charles Endirect *Lockable Safety Isolator and Cut-out Selection Charts*.



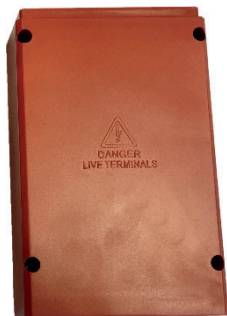
Description and use		Cable type and direction indicators		
STANDARD Terminals	Used with Isolator / Cut-out	LIVE	NEUTRAL	EARTH
		↑ = incoming cable	↓ = outgoing cable	↔ = link cable
TR1 in X6 Extension Box <i>Dims: H95 x W57 x D57</i>	Fits L2 isolator			
TR1A in X6 Extension Box <i>Dims: H95 x W57 x D57</i>	Fits HLX25			
TR2 in X4 Extension Box <i>Dims: H100 x W79 x D57</i>	Fits both L3 isolator and FD200 Cut-out			
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 X2 Extension Box <i>Dims: H144 x W96 x D69</i>	Fits L4 isolator			
TR9 in X4 Extension Box <i>Dims: H100 x W79 x D57</i>	Fits L3 isolator and FD200 range of cut-outs			
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			
TR13 in X02 Extension Box <i>Dims: H180 x W96 x D69</i>	Fits FD200 range of Cut-outs			
TR14 in X4 Extension Box <i>Dims: H100 x W79 x D57</i>	Fits FD200 range of Cut-outs			
TR15 in X4 Extension Box <i>Dims: H100 x W79 x D57</i>	Fits L3 isolator and FD200 range of cut-outs			
TR16 in X03 Extension Box <i>Dims: H180 x W96 x D99</i>	Fits FD200 range of Cut-outs			
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			

Terminal Rack Options - Stud Arrangements

STUD arrangement	Used with Isolator / Cut-out	LIVE	NEUTRAL	EARTH
		↑ = incoming cable ↓ = outgoing cable	↓ = outgoing cable	↔ = link cable
TR18 in X71 Extension Box <i>Dims: H209 x W96 x 699</i>	Fits L4 isolator			
TR19 in X85 Extension Box <i>Dims: H209 x W96 x D99</i>	Fits L4 isolator			
TR20 in X71 Extension Box <i>Dims: H209 x W 96x D69</i>	Fits L4 isolator			
TR21 in X85 Extension Box <i>Dims: H209 x W96 x D99</i>	Fits L4 isolator			
TR25 in X8A5 Extension Box <i>Dims: H209 x W96 x D99</i>	Fits L4 isolator			



TR18 stud arrangement



TR21 stud arrangement

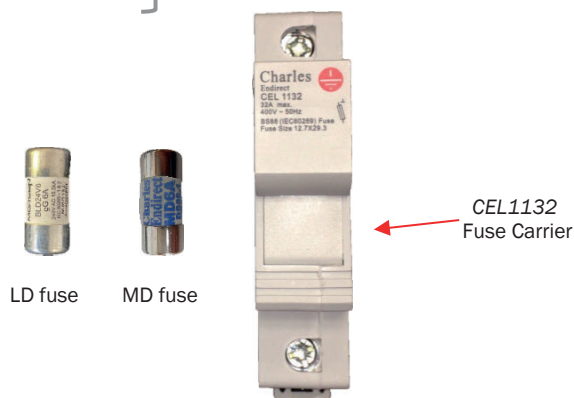


Earthing and Earthing Accessories

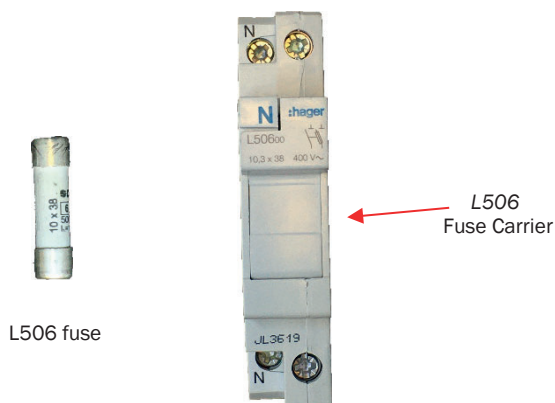
Fuses for Isolators

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

LD for 230V } these are available in ratings 4, 6, 10, 16 and 25 amp.
MD for 415V }



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



Fuses for Cut-outs

CEL Cut-outs accept tag-type BS88/IEC 60269-1 LST fuses which are held by independent fixing screws in the fuse carrier. These fuses are available in ratings: 4, 6, 10, 16 and 25 amp.



Cable Glands

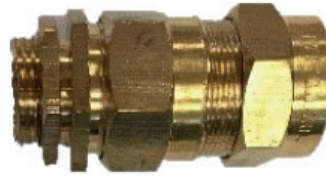
We offer a range of cable glands to suit most standard sizes of cable and connection requirements, including provision for making electrical connection to the armour sheath of the cable.

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.

PG GLAND	3 x DOUBLE INSULATED TAILS				
	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 cables 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

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

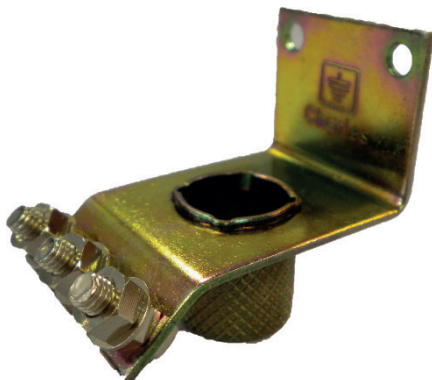
- Allows easy and effective connection and termination of SWA cable
- Inherently strong and simple design
- Exceeds BSI (Cable gland) torque test
- Main terminal components are all zinc plated solid brass to prevent corrosion
- No loose fitting or easily omitted strands
- Single or multiple earth take-off 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**

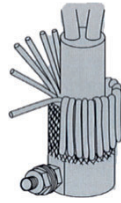


CET 003/- - comes in various sizes, designed to be used with armours **bent back**

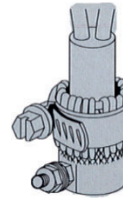


CET 003/- -R - comes in various sizes, designed to be used with armours **splayed**

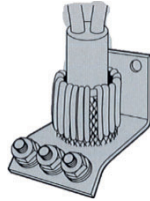
CETs for accepting **bent back** armours



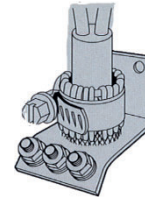
CET **002** with cable inserted and armours **bent back**



CET **002** with cable inserted, armours **bent back**, and Jubilee Clip fitted



CET **003** with cable inserted and armours **bent back**

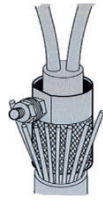


CET **003** with cable inserted, armours **bent back**, and Jubilee Clip fitted

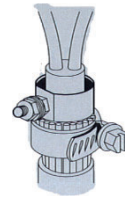
Table of Maximum Cable Sizes Accepted for each - **Bent back** armours

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

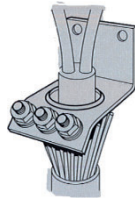
CETs for accepting **splayed** armours



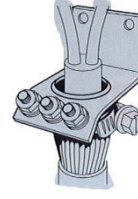
CET **002** with cable inserted, armour **splayed**



CET **002** with cable inserted, armour **splayed**, and Jubilee Clip fitted



CET **003** with cable inserted, armours **splayed**



CET **003** with cable inserted, armours **splayed**, and Jubilee Clip fitted

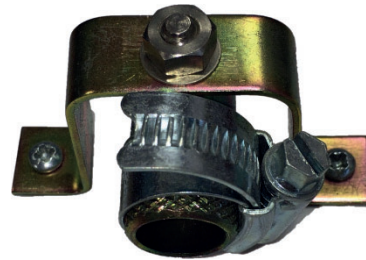
Table of Maximum Cable Sizes Accepted for each - **Splayed** armours

CET RANGE SELECTION CHART – ARMOURS 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 003/10R	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 003/16	CET 002/10 or CET 003/16R	CET 002/36 or CET 003/16R
25	CET 003/16 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	CET 002/70

CET Accessories



Single Saddle – used to fix CET 002/- - to back board, comes with fixing screws.



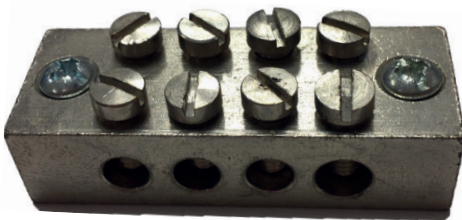
Single Saddle – used to fix CET 002/- - to back board, comes with fixing screws. In this image shown fitted with **CET 002/- -**



Double/Triple Saddle – used 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/- -**



EB42– double pinch solid brass earth block for use on backboard – provides three holes at 16mm²²



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

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




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