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Line accessories and pole hardware

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Line and Earthing Clamps

A comprehensive range of both Aluminium and Copper Line Earthing clamps are available. Each clamp is available in several connection formats. All clamps have been tested to relevant short time current ratings as stated. Test reports available on request.

Type - LLC100

- Brass Body - Stainless steel spindle
- Accepts conductors - 4.8 up to 19.0mm Diameter
- Spring Loaded lower jaw for positive pressure
- Split bolt lead attachment - up to 8.3mm diameter
- Short time current rating - min 12kA for 0.8 sec
- Available in the following formats
 - LLC100D** - Tee Spindle - 6mm - Brass Body
 - LLC100DT** - As above but tin plated
 - LLC100R** - 32mm Brass Ring - Brass Body
 - LLC100RT** - As above but tin plated
 - LLC100H** - Insulated Moulded Handle - Brass Body
 - LLC100HT** - As above but tin plated



Type LLC100D



Type LLC100RT

Type - LLC8F

- Aluminium Alloy Body - Stainless steel hardware
- Accepts conductors - 5.1 up to 21.0mm Diameter
- Comes supplied with Tin Plated Ferrule
- Attaches to all standard sticks
- M12 Lug attachment for Earth lead takeoff



Type LLC8F

Type - LLC13

- Aluminium Alloy Body - Stainless steel spindle
- Accepts conductors - 5 up to 35mm Diameter
- 2 bolt lug attachment - M10
- Short time current rating - min 40kA for 1 sec
- Available in the following formats
 - LLC13** - 32mm Brass ring
 - LLC13S** - Tee Spindle - 6mm
 - LLC13H** - Insulated Moulded Handle



Type LLC13H

Line and Earthing Clamps (Cont'd)

Type - LLC14

- Aluminium Alloy Body - Stainless steel spindle
- Accepts conductors - 5 up to 40mm Diameter
- Also accepts Busbar in two orientations
Horizontal - 40 x 35mm
Vertical - 7 x 50mm
- Single lug attachment hole - M12
- Short time current rating - min 31.5kA for 1 sec
- Available in the following formats
LLC14A - Blank Spindle
LLC14R3 - 32mm Brass ring
LLC14T - Tee Spindle - 6mm
LLC14H - Insulated Moulded Handle



Type LLC14R3

Type - LLC9

- Cast Gunmetal Body - Tin Plated - Stainless steel spindle
- Accepts conductors and busbars - 12 up to 90mm Diameter
- Single lug attachment hole - M12
- Available in the following formats
LLC9 - Tee Spindle - 3mm
LLC9A - Tee Spindle - 6mm
LLC9B - 32mm Brass Ring



Type LLC9

Type - L4A202

- Cast Gunmetal Body - Tin Plated - Stainless steel spindle
- Accepts conductors and busbars - 10 up to 50mm Diameter
- Spring tensioned main jaw - constant force
- Single lug attachment hole - M12
- Short time current rating - min 37.3kA for 0.5 sec
- Available in the following formats
L4A202W - Tee Spindle - 3mm
L4A202WP - Blank Spindle



Type L4A202

Type - 9320822

- Aluminium Alloy Body - Stainless steel spindle
- Accepts conductors and busbars - 5 up to 32 mm Diameter
- Snap action main jaw - constant force
- Double lug attachment holes - M12
- Short time current rating - min 29.7kA for 0.5 sec
- Available in the following formats
9320822 - 32mm Brass ring
LLC200H - Insulated Moulded Handle



Type 9320822

Insulated Earthing Sticks

A comprehensive range of insulated earthing sticks are available, for both permanent attachment or temporary/removable attachment, to all types of earthing clamps.

Where a permanent attachment is required to create a rigid earthing stick assembly or 3 phase earthing set, the earth clamps are pinned or screwed to attaching fixtures to join the insulated stick to the earthing head. Where there is a need to temporarily connect an earth stick to an earth clamp, a series of standard earth sticks and attachment devices are available. All Earth sticks are provided with warning labels which include recommended voltage rating clearances, and handling warning. All Earth sticks are rated at 100kV per foot (305mm).

One Piece Sticks - all fitted with rubber end boots

Cat No.	Stick Length mm	End Connection Type
FOS4-1	1220	Screw - Male - 5/8" UNF
FOS6-1	1830	Screw - Male - 5/8" UNF
FOS8-1	2440	Screw - Male - 5/8" UNF
FOS10-1	3050	Screw - Male - 5/8" UNF
FOS11-1	3350	Screw - Male - 5/8" UNF
FOS12-1	3660	Screw - Male - 5/8" UNF



Type FOS6-1

Cat No.	Stick Length mm	End Connection Type
FOS4-2	1220	Bayonet - Male
FOS6-2	1830	Bayonet - Male
FOS8-2	2440	Bayonet - Male



Type FOS6-2

Cat No.	Stick Length mm	End Connection Type
FOS6-1A9	900	Universal
FOS6-1A	1830	Universal



Type FOS6-1A

Extension Sticks - to be used with One Piece Sticks

Cat No.	Stick Length mm	End Connection Type
FXS4-1	1220	Screw - Male - 5/8" UNF
FXS6-1	1830	Screw - Male - 5/8" UNF
FXS8-1	2440	Screw - Male - 5/8" UNF
FXS10-1	3050	Screw - Male - 5/8" UNF
FXS12-1	3660	Screw - Male - 5/8" UNF



Type FXS6-1

* Used with FOS#-1 Type One Piece sticks

Cat No.	Stick Length mm	End Connection Type
FEHX-2	300	LV Fuse Extractor - Pigtail
FXSX6A	1830	LV Fuse Extractor - Pigtail



Type FEHX-2

* Used with FOS#-2 Type One Piece sticks

Cat No.	Stick Length mm	End Connection Type
FXS6-1B9	900	Universal
FXS6-1A	1830	Universal



Type FXS6-1A

* Used with FOS6#-1 Type One Piece sticks

Earthing Leads

Due to the nature and variety of lead sizes, lugs and end configurations, it is not possible to list the available products in this catalogue. An inquiry sheet is located further on in this section, which allows you to specify both the earth clamps and stick requirements, as well as the lead lengths and end attachment options. Earth leads are generally designed to meet short time current rating requirements unless specified otherwise.

For further details please contact Dulmison.

Cross Section of Copper Cable mm ²	Short Time Current Rating and Duration (sec)			
	3s	2s	1s	0.5s
35	4000	4900	6900	10000
95	10800	13200	18700	26500



Earth End Clamps, Trifurcation Plates and Stakes

At the end of every earth lead, a connection must be made to either an earthed structure or earth itself. For these purposes several end configurations are available. An earth lead may be supplied with a compression lug only, if required.

Earth Clamp - LEC635R

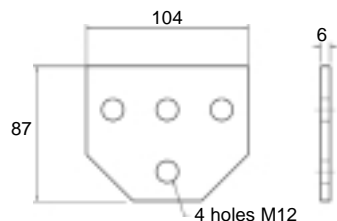
- Manufactured from brass alloy
- Self aligning jaws
- Able to be hand tightened
- Accepts round rod or bar 6 - 35mm
- Accepts flat bar up to 35mm
- Short Time Current Rating - 44kA for 0.5 Sec



Earth Stake - 791669

Earth Stake Clamp - LGES2

- Earth stake is galvanised star picket - 1700mm long
- Clamp has Gun metal body
- U Bolt and nuts - galvanised
- Accepts conductors up to 200mm²



Earth Trifurcation Plate - 22447-01

- 6mm Aluminium alloy plate
- 4 x M12 Attachment holes
- Used to connect 3 phase leads at one location before attachment to earth

Earth Stick Accessories

Earthing stick accessories are utilised, for the temporary attachment of Earth clamps, pulling fuses and carriers, as well as disconnecting dropout fuses. Accessories are typically either clamped or screwed onto earth sticks, as shown on prior pages in this section. Compatibility is as indicated.

Operating Head - Sprung Loaded

- Cast Aluminium Body
- Stainless Steel operating hook to capture brass ring on earth clamp
- Spring loaded for positive alignment
- Captures the 32mm Brass ring on all types of earth clamps.

Type LOSSC-1



Cat No.	Connection Type	Suits Stick No/s
LOSSC-1	Screw - Female - 5/8" UNF	Type FOS#-1 & Type FXS#-1
LOS23622	Universal	Type FOS#-1A & FXS#-1A

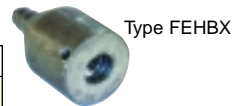


Type LOS23622

Fuse Extractor Heads

- Pigtail design.

Cat No.	Connection Type	Suits Stick No/s
FEHBX	Screw - Female - 5/8" UNF	Type FOS#-1 & Type FXS#-1
5455-10PTU	Universal	Type FOS#-1A & FXS#-1A



Type FEHBX

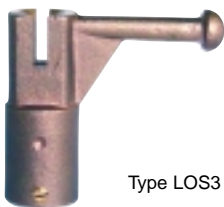


Type 5455-10PTU

Dropout Fuse / Tee Spindle heads

- Suitable for HXO drop out fuses
- Cast Aluminium or Gun Metal bodies
- 10mm locating spigot
- LOS4 supplied with retention latch and cord
- LOS6A - angled head -

Cat No.	Connection Type	Suit Tee Spindle Size	Suits Stick No/s
LOS3	Female - 5/8" UNF	3mm	Type FOS#-1 & Type FXS#-1
LOS3M12	Female - 5/8" UNF	6mm	Type FOS#-1 & Type FXS#-1
LOS4	Female - 5/8" UNF	3mm	Type FOS#-1 & Type FXS#-1
LOS4M12	Female - 5/8" UNF	6mm	Type FOS#-1 & Type FXS#-1
LOS6A	Female - 5/8" UNF	Not applicable	Type FOS#-1 & Type FXS#-1



Type LOS3



Type LOS4

Aircraft Warning Markers

Aircraft warning markers are most commonly utilised as a visual indicator of a power line, adjacent to airports, across river crossings, and on mining sites. All markers are manufactured from UV Stabilised homogenous materials (not coated). Markers are intended for use in accordance with CAA, FAA and Standards Australia requirements. Markers are available in 4 colours, so as to ensure that a colour is selected that does not blend with adjacent or line of sight countryside. These aircraft warning markers should not be installed on energised power lines above 150kV, please consult Dulmison for more information.

- Polyethylene Sphere
- 300mm Diameter or 600mm Diameter
- Sphere attached to conductor using Heliformed® fittings
- Heliformed® fittings are supplied with fitting

UFO3 - 300mm Diameter

Cat No.	Conductor Application Range mm
UFO3060*	6.00 - 7.99
UFO3080*	8.00 - 9.99
UFO3100*	10.00 - 11.99
UFO3120*	12.00 - 13.99
UFO3140*	14.00 - 15.99
UFO3160*	16.00 - 18.99
UFO3190*	19.00 - 22.49
UFO3225*	22.50 - 26.49

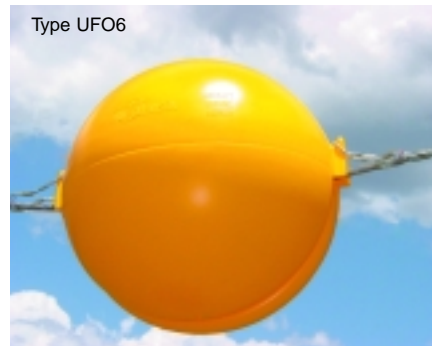
* Add suffix for colour -
W = White
Y = Yellow
R = Red
O = Orange



UFO6 - 600mm Diameter

Cat No.	Conductor Application Range mm
UFO6060*	6.00 - 7.99
UFO6080*	8.00 - 9.99
UFO6100*	10.00 - 11.99
UFO6120*	12.00 - 13.99
UFO6140*	14.00 - 15.99
UFO6160*	16.00 - 17.99
UFO6180*	18.00 - 19.99
UFO6200*	20.00 - 21.99
UFO6220*	22.00 - 23.99
UFO6240*	24.00 - 25.99
UFO6260*	26.00 - 27.99
UFO6280*	28.00 - 29.99
UFO6300*	30.00 - 31.99
UFO6320*	32.00 - 33.99

* Add suffix for colour -
W = White
Y = Yellow
R = Red
O = Orange



Line Stringing Roller - for Cross Arm Mounting

- Suitable for all types of bare conductors
- Range of application up to 33mm diameter
- Single screw clamping to cross arms
- Swinging top bar, for easy insertion of conductors
- Galvanised frame.

Cat No.	Cross arm size mm	Roller Material
LSR4	75 - 100	High Durability Nylon
LSR5	100 - 125	High Durability Nylon
LSR6	125 - 150	High Durability Nylon
LSR4A	75 - 100	Aluminium Alloy
LSR5A	100 - 125	Aluminium Alloy
LSR6A	125 - 150	Aluminium Alloy



Type LSR

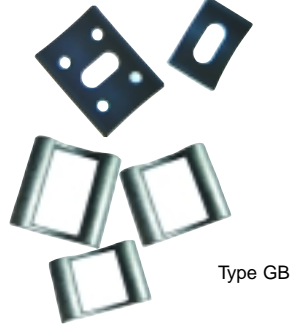
Gain Blocks - Cross Arm Mounting Blocks

- Available in two materials
- Cast high strength Aluminium Alloy
- UV Stabilized and reinforced polymer
- Aluminium block incorporates cross arm locating groove
- Polymer blocks available in 4 sizes

Cat No.	Cross arm size mm	Block Material
GBP75	75	Reinforced Polymer
GBP100	100	Reinforced Polymer
GBP125	125	Reinforced Polymer
GBP150	150	Reinforced Polymer
GB100	100	Aluminium Alloy
GB125	125	Aluminium Alloy
GB150	150	Aluminium Alloy



Type GBP



Type GB

Pole Step - PS16250A

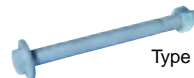
- High Strength Steel - Galvanised
- 16mm Dia x 250mm Long
- Forged foot retention at end
- Driven directly into timber poles



Type PS16250A

Step Bolt - SB16180

- For concrete poles
- 16mm Dia x 180mm Long



Type SB16180

Cross Arm Braces

- High Strength Steel - Galvanised
- 6mm Thick material



Type XABRA

Cat No.	Hole Centres mm	Brace width mm
XABRA03	863	40
XABRA04	800	50
XABRA05	500	50
XABRA06	1000	50

Hook Bolts

- Shaped Locating plate to lock onto pole
- Supplied with Nut and washer

Cat No. 16mm Dia.	Cat No. 20mm Dia.	Mounting Length mm	Thread Length mm
IBH16250	IBH20250	250	150
IBH16300	IBH20300	300	150
IBH16325	IBH20325	325	150
IBH16350	IBH20350*	350	150
IBH16400	IBH20400	400	150
IBH16450	IBH20450*	450	150

* Long Hook - 200mm available

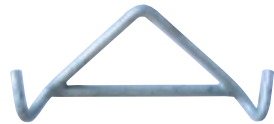


Type IBH

Double Suspension Clamp Bracket

- Use when line deviations exceed 30 degrees
- Two suspension clamps fitted to reduce lead in and exit angles
- For IBSL suspensions clamps, use IBYB12A only

Cat No.	Diameter of Material	Hanging Depth mm	Hook Centres	Min. Failing Load kN
IBYB12	16	106	174	12
IBYB12A	16	125	300	12
IBYB24	20	100	200	24

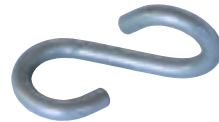


Type IBYB12A

Mechanical Weak Link

- Will withstand normal loading, but will fail under impact loads
- Eliminates damage to suspension fitting and cables

Cat No.	Diameter of Material	Total Length mm	Material Type	Min. Failing Load kN
IBWL02	6	81	S/Steel	2
IBWL04	10	100	Galv Steel	4
IBWL08	12	100	Galv Steel	8



Type IBWL08

Eye Nut

- Screwed onto threaded device to produce Eye attachment

Cat No.	Thread Size	Thread Length mm	Material Type	Dia. of Eye Material
EN16	M16	30	Galv Steel	12
EN20	M20	40	Galv Steel	16
EN2020	M20	40	Galv Steel	20
EN24	M24	45	Galv Steel	20

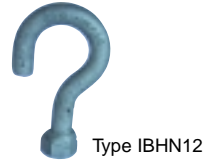


Type EN16

Hook Nut

- Screwed onto threaded device to produce Hook attachment

Cat No.	Thread Size	Dia. of Eye Material	Material Type	Failing Load kN
IBHN12	M16	16	Galv Steel	12
IBHN24	M20	20	Galv Steel	24



Hook Bracket

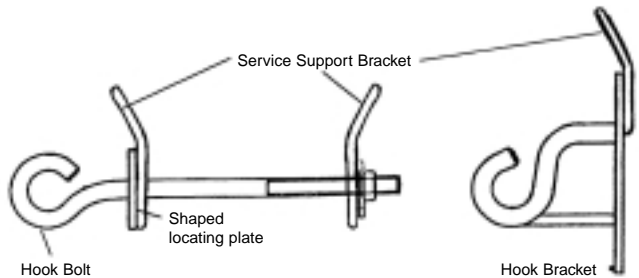
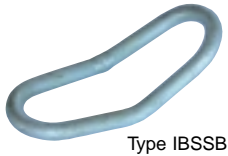
- Designed for Façade mounted strain clamps
- Can be strapped to concrete poles with Stainless Steel strap
- Used as temporary hook, for attachment of stringing rollers

Cat No.	Mounting Centres	Dia. of Eye Material	Material Type	Failing Load kN
IBHB12	150	16	Galv Steel	12
IBHB24	150	20	Galv Steel	24



Service Support Bracket - Cat No. IBSSB

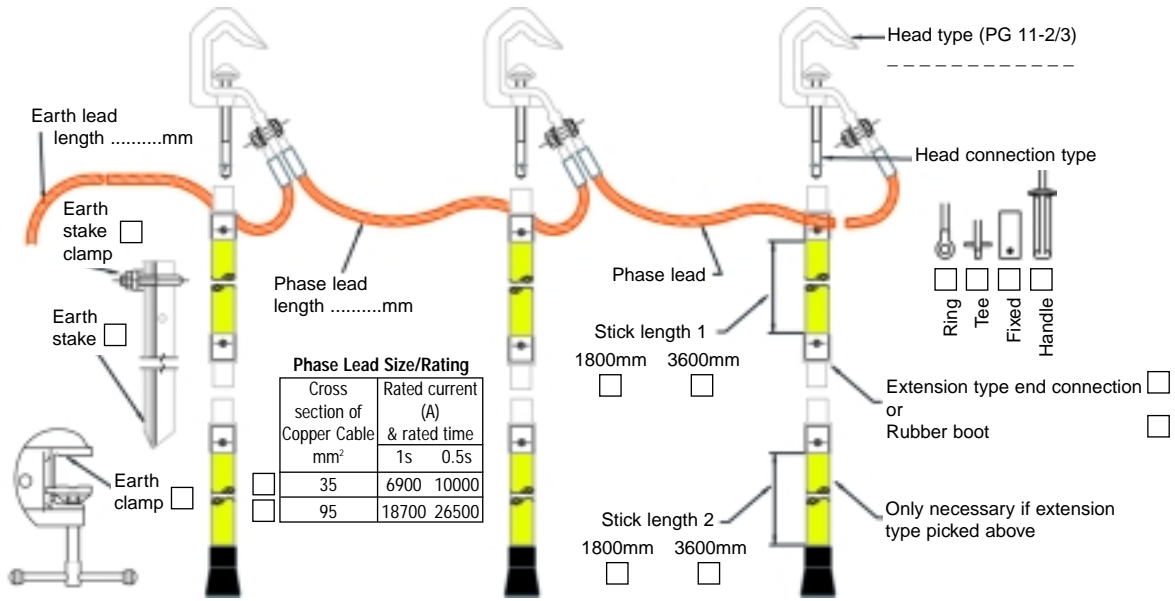
- Used as a service strain clamp attachment point
- Used in conjunction with hook bolts or hook brackets
- Galvanised Steel



Type IBSSB application

Earth Set
Order/Inquiry Information Sheet

Number of Phases (1 or 3)
 Are earth sticks required? No Yes No. required



Phase Lead Size/Rating

Cross section of Copper Cable mm ²	Rated current (A)	
	1s	0.5s
<input type="checkbox"/> 35	6900	10000
<input type="checkbox"/> 95	18700	26500

Tick boxes and fill in details where appropriate

Please copy this sheet, fill in the relevant details and forward to the Dulmison sales office in your region.

Company

Contact Name

Phone No.

Fax/email



