

EARTHING & LIGHTNING PROTECTION SYSTEM

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108 SURGE PROTECTION DEVICES



EARTHING

GENERAL INTRODUCTION



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EARTHING

GENERAL INTRODUCTION

An earthing system is a need in any electrical system to protect from the adverse effects of lightning, Leakage currents, insulation failures, short circuiting and other faults. A reliable earthing system with short, direct and low resistive path ensures protecting people, equipment, structure and environment by dissipating fault currents that are of high magnitude and impulsive rise times.

Earthing systems are designed as per the requirement of electrical systems and applications, though the principle remains the same, conductors, devices, type of connections varies for different applications such as power stations, overhead transmission systems, consumer power networks.



EARTHING

GENERAL INTRODUCTION

An Efficient Earthing System Protects From

- Injuries and fatalities to people.
- Damages to the structure and environment.
- Failures in the power system.
- Interferences and noises in electronic systems
- Shutdowns and long downtimes, etc.,



EARTHING

GENERAL INTRODUCTION

Definitions

- **Earth**

Earth is an equipotential conductive mass, conventionally assumed that its potential is Zero (Negligible).

- **Earthing**

Earthing or Grounding is connecting an electrical network, equipment or structure to earth incidentally or intentionally, directly or through a conducting medium.

- **Conductors**

An electrical conductor is a medium in which electrical charge flows, usually electrons when there is a potential difference.

- **Leakage current**

Current that could flow from any conductive part or the surface of non-conductive parts to ground if a conductive path is available.

- **Short Circuit**

A short circuit is simply a low resistance connection between the two conductors supplying electrical power to any circuit, this results in excessive current flow in the power source through the 'short,' and may even cause the power source to be destroyed.

- **Impedance**

The effective resistance of an electric circuit or component to alternating current, arising from the combined effects of ohmic resistance and reactance. Resistivity of soil, reactance of conductor and connection forms the impedance of an earthing network.

Key Factors Driving the Efficiency

The effectiveness of the earthing system relies on various factors including but not limited to Soil resistivity, type and shape of conductors, type of electrodes and efficiency of connections. The system design and selection of components are essential in achieving the shortest, direct and low impedance path to dissipate the energy to the ground.

Our Solution

Bahra Earthing Systems offers a comprehensive solution with design, technical support at the site for Soil Resistivity testing and selection of components that suits for the applications. The earthing components are designed and engineered to withstand harsh environmental conditions and fault conditions in the electrical networks and are tested to the stringent BS, IEC and UL standards.

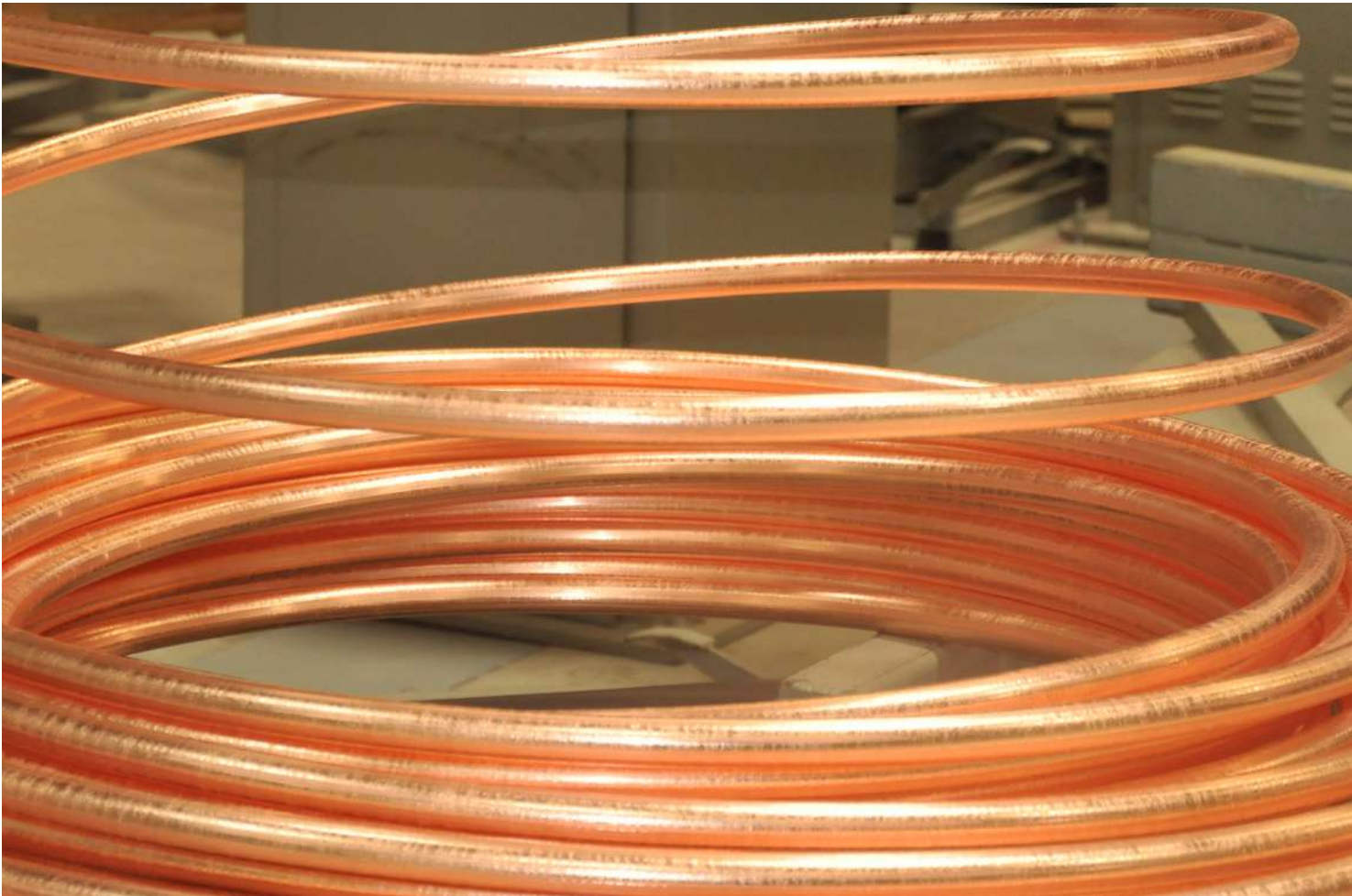
Copper Bonded Earth Rods:

Threaded Rods:

It is important that the earth electrode should be corrosion resistant and less reactive to the conductors used ensuring longer life and low maintenance. Bahra Threaded Copper bonded earth rods are made by molecularly bonding 99.9% pure electrolytic copper on a high tensile steel rod.

The copper bonded rod features high tensile strength comparing to solid copper earth rods and can be deep driven to the ground with less wear to the rods. Even at severe conditions the bonded copper does not crack or tear, the adhesion of copper is ensured by a thin layer of nickel beneath the copper.

The threads are formed by a cold rolling process which ensures strength and eliminating the risk of chipping of threads while driving the rod deep into the ground. Threading is done after the copper coating as per the standard requirements, and this also ensures thread diameter of the rods to match couplers and other accessories. Cold Rolled threads are better than the cut threads as stress is evenly distributed in the cold rolled threading process.



EARTH ELECTRODES

Copper Bonded Earth Rod:

All Bahra copper bonded rods are coated with a minimum thickness of 10 mils or 254 microns as per the UL standards. (1 mil = 0.001 inch/ 25.4 microns).

Part No	Length	Thread Diameter	Rod Diameter
RT001	1200 mm	1/2"	12.7 mm
RT002	1500 mm	1/2"	12.7 mm
RT003	1800 mm	1/2"	12.7 mm
RT004	2400 mm	1/2"	12.7 mm
RT005	3000 mm	1/2"	12.7 mm
RT011	1200 mm	5/8"	14.2 mm
RT012	1500 mm	5/8"	14.2 mm
RT013	1800 mm	5/8"	14.2 mm
RT014	2400 mm	5/8"	14.2 mm
RT015	3000 mm	5/8"	14.2 mm
RT021	1200 mm	3/4"	17.2 mm
RT022	1500 mm	3/4"	17.2 mm
RT023	1800 mm	3/4"	17.2 mm
RT024	2400 mm	3/4"	17.2 mm
RT025	3000 mm	3/4"	17.2 mm

Complies BS EN 50164, UL 467, IEC 62561.



EARTHING

EARTH ELECTRODES

Accessories:

Couplers:

Earth Rod Couplers are designed for coupling two or more threaded copper bonded earth rods or to couple with a driving stud during installation. They ensure continual contact between the rods and are used to aid deep rod driving.

Part no.	Type
CT12	1/2" Coupling
CT58	5/8 " Coupling
CT34	3/4 " Coupling



Driving stud:

Driving Studs made from high tensile steel are designed for driving threaded copper bonded rods by hand tools or power hammer. These reusable studs are fixed on the top of the rod with the help of the coupler.

Part no.	Type
DT12	1/2" Driving Stud
DT58	5/8 " Driving Stud
DT34	3/4 " Driving Stud



Complies BS EN 50164, IEC 62561, UL467



Solid Copper and Stainless Steel Earth Rods:

Solid Copper Earth Rod:

Bahra Solid copper rods are highly conductive, hard drawn from 99.99% pure copper cathodes. They are ideally used in conditions where soils are with high salt and moisture content.

Tin plating is also done to reduce the risk of oxidation and to increase the life of the rod. Physical connection to the rod can be done by mechanical clamps, compression or BahraWeld exothermic welding system.

Part No.	Diameter	Length
RT121I	15 mm	1200 mm
RT122I	15 mm	1500 mm
RT123I	15 mm	1800 mm
RT124I	15 mm	2400 mm
RT125I	15 mm	3000 mm
RT171I	20 mm	1200 mm
RT172I	20 mm	1500 mm
RT173I	20 mm	1800 mm
RT174I	20 mm	2400 mm
RT175I	20 mm	3000 mm

Complies BS EN 50164, IEC 62561, UL467

Solid Copper Earth Electrodes Externally threaded:

Part No	Length	Thread Diameter	Rod Diameter
RTE121E	1200mm	5/8"	14.2mm
RTE122E	1500mm	5/8"	14.2mm
RTE123E	1800mm	5/8"	14.2mm
RTE124E	2400mm	5/8"	14.2mm
RTE125E	3000mm	3/4"	14.2mm
RTE171E	1200mm	3/4"	17.2mm
RTE172E	1500mm	3/4"	17.2mm
RTE173E	1800mm	3/4"	17.2mm
RTE174E	2400mm	3/4"	17.2mm
RTE175E	3000mm	3/4"	17.2mm



Stainless Steel Earth Rod:

Stainless steel rods are used to overcome galvanic corrosion which can be caused by dissimilar metals or components having different electronegativity buried on adjacent sides.

Bahra recommends stainless steel rods with high resistance to corrosion and anodic to solid copper rods which likely react hostile with the buried metals.

Part No.	Diameter	Length
RT211	16 mm	1200 mm
RT212	16 mm	1500 mm
RT215	16 mm	3000 mm
RT222	20 mm	1500 mm
RT225	20 mm	3000 mm

Accessories for Internal Threaded Rods:

Driving stud:

Reusable, High tensile strength, Common for copper/ SS rods.

Part No.	Type
DT34I	15 mm & 20 mm hardened steel driving stud

Coupling dowel:

Brass/ Optional phosphor bronze/ Steel

Part No.	Type
CD01I	Coupling dowel for 15 mm and 20 mm copper rod
CD02I	Coupling dowel for 16 mm and 20 mm stainless steel rod

Steel spike:

Made from High Tensile strength steel, Common for copper/ SS rods.

Part No.	Type
DS34I	15 mm & 20 mm hardened steel spike



Concrete Inspection Pit:

Bahra concrete earth inspection pits are tested as per IEC 62561-5 withstanding 3500 kg load tests, Stainless Steel 304 hooks by default in all the concrete inspection pits ensure less corrosion, durability and low maintenance.



Part No	Description	Weight per Unit	Dimension
PTC01	Concrete inspection pit	32 Kg	320x320x190mm

Complies BS EN 50164-5 & IEC 62561-5

Accessories:

5 Hole and 7 Hole Earth Bar:

Part No	Description
EB005	5 holes earth bar
EB007	7 holes earth bar



Complies BS EN 50164-5 & IEC 62561-5

Inspection Pit:

Polymer Inspection Pit:

Polymer inspection pits are highly recommended for areas where higher loads are standard, with a load rating up to 5000 kg polymer lids are recommended, and for load ratings up to 1000 kg, these polymer pits can be used with concrete lids.



Part No	Description
PTP01	polymer inspection pit with grey polymer lid
PTP02	polymer inspection pit with black polymer lid
PTP03	polymer inspection pit with a concrete lid

Earth Rod Seal for Light Weight Inspection Pit:

When Earth pits are installed under the water level, Earth Rod Seal acts as a barrier from water entry into the earth pits



Testing Standard: BS 62561-5

Part No	Description	Earth Rod Size Ranges
ERS01	Single Flange Earth Rod Seal	5/8" - 3/4"
ERS02	Double Flange Earth Rod Seal	5/8" - 3/4"

Material: High Grade PVC

EARTHING

EARTH ROD ALTERNATIVES

Earth Rod Alternatives:

Solid Copper Earth Plate:

Solid Copper Earth plates fulfil the earthing requirements where driving earth rods are not ideal due to hard rocks or high resistive soils.



Part No	Size	Total Surface Area	Weight per Unit
RAP15600	600 x 600 x 1.5 mm	0.72 m2	5.00 Kg
RAP15900	900 x 900 x 1.5 mm	1.63 m2	11.21 Kg
RAP03600	600 x 600 x 3 mm	0.73 m2	9.74 Kg
RAP04700	700 x 700 x 4mm	0.99 m2	17.46 Kg
RAP03900	900 x 900 x 3 mm	1.63 m2	21.74 Kg

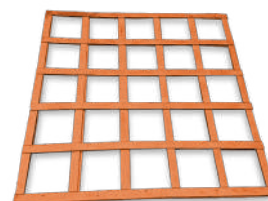
Stainless Steel Earth Plate:

Part No	Size	Total Surface Area	Weight per Unit
RAPS15600	600 x 600 x 1.5 mm	0.72 sq. mm	5.00 Kg
RAPS15900	900 x 900 x 1.5 mm	1.63 sq. mm	11.21 Kg
RAPS03600	600 x 600 x 3 mm	0.73 sq. mm	9.74 Kg
RAPS03900	900 x 900 x 3 mm	1.63 sq. mm	21.74 Kg



Copper Earth Lattice/ Mesh/ Mat:

Copper earth lattice/Mesh/Mat are manufactured from high conductivity copper tapes as per IEC 62561-1, it is recommended in areas where step & touch potential hazards are high.



Part No	Size	Total Surface Area	Weight per Unit
RAL6006003	600 x 600 x 3 mm	0.31 m2	3.98 Kg
RAL9009003	900 x 900 x 3 mm	0.65 m2	7.20 Kg

Stainless Steel Earth Lattice:

Part No	Size	Total Surface Area	Weight per Unit
RALS6006003	600 x 600 x 3 mm	0.31 sq. mm	3.98 Kg
RALS9009003	900 x 900 x 3 mm	0.65 sq. mm	7.20 Kg



Backfill Compounds:

BahraCEM – Conductance Enhancement Mix:

For earthing systems to be effective, it is important that the electrical path for dissipation is with lower resistance. BahraCEM is advanced enhancement compound which have very high effect by reducing the resistivity less than 0.5 ohm. It comes with optionally premixed cement forming high strength electrically conductive concrete to last life time with no required maintenance.



Part No	Description	Weight per Unit
BCEM-01	BCEM	25 Kg
BCEM-02	BCEM (supplied with cement)	25 Kg

Bahra Bentonite Moisture-Retaining Clay:

Bentonite is a natural mineral mined from the earth, and it is an economical backfill compound for earth rods. The property of bentonite to absorb water more than ten times of its volume and to retain it for a longer time helps in maintaining lower soil resistivity. Bahra bentonites are first-grade bentonites developed for earthing applications.



Part No	Description	Weight per Unit
BENTP	Bentonite Powder	22.5 Kg / 50 Lbs



Accessories

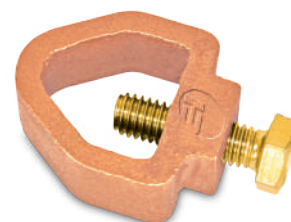
All earthing accessories or mechanical connection components are made from a special copper alloy that features high mechanical strength and high conductivity. For some parts considering their applications, forging process is used to increase the mechanical strength assuring extra heavy duty performance. Fasteners used in all the fittings are only made from solid copper alloys (Special Grade Brass / Phosphor Bronze / pure copper) and are not made from commercial copper/brass plated steel.

BS EN 50164, IEC 62561 & UL 467 are the primary standards corresponding to accessories, and test reports can be provided on special request.

Rods And Rebar Clamps:

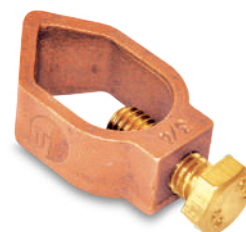
Rod to Tape Clamp(Type A):

Part No	Max. Rod diameter	Max. conductor
CRTA02	16 mm	30 x 2 mm
CRTA02	20 mm	30 x 2 mm
CRTA03	16 mm	40 x 12 mm
CRTA04	16 mm	51 x 8 mm
CRTA05	20 mm	51 x 12 mm
CRTA06	12.7 mm	26 x 20 mm
CRTA06	16 mm	26 x 18 mm
CRTA06	25 mm	26 x 10 mm



Rod To Conductor Clamp (Type G):

Part No	Rod diameter	Max. conductor
CRCG02	12.5 mm	16-50 mm ²
CRCG03	16 mm	5.2-33.6 mm ²
CRCG04	16 mm	16-70 mm ²
CRCG06	20 mm	35-95 mm ²
CRCG07	25 mm	70-150 mm ²



BS EN 50164, IEC 62561.

U Bolt Clamps:

The U Bolt clamps can be used for Flat Tapes, Cables, Earth Rods and Rebars.

U Bolt Rod Clamp (Type E): (Single plated Horizontal type)

Part No	Rod / rebar diameter		Hole centres
CRTE01	5/8"	16 mm	37 mm
CRTE02	3/4"	20 mm	37 mm
CRTE03	1"	25 mm	37 mm
CRTE04	1 1/2"	38 mm	54 mm
CRTE05	2"	50 mm	64 mm



U Bolt Rod to Tape Clamp (Type E): (Double plated vertical type)

Part No	Rod/Rebar Diameter	Hole Centers	Copper Tape Size
CRTU02	14-25 mm	37 mm	25x3 mm
CRTU03	14-25 mm	37 mm	50x6 mm
CRTU04	25-38 mm	54 mm	25x3 mm
CRTU05	50 mm	64 mm	25x3 mm
CRTU07	14-25 mm	37 mm	30x4 mm



These Clamps are to ensure the connection between rebar or earth rods with copper tapes (vertical connection).

"U" Bolt Rod to Cable Clamp (type GUV): (Double Plated Vertical Type)

Part No	Rod / rebar diameter	Conductor range
CRCU01	14-25 mm	16-70 mm ²
CRCU02	14-25 mm	50-150 mm ²
CRCU03	14-25 mm	150-500 mm ²



Complies with IEC 62561

'U' Bolt Rod to 3 parallel Cable Clamp (Type V): (Double Plated Vertical Type)

Part No	Rod / rebar diameter	Conductor range
CRCU01-3R	14-25 mm	16-70 mm ²
CRCU02-3R	14-25 mm	50-150 mm ²
CRCU03-3R	14-25 mm	150-500 mm ²



These clamps are to ensure the connection between rebar or earth rod with cables (Vertical Connection).

Rod To Cable Lug Clamp (Type B):

Part No	Rod diameter		Rod type	Bolt size
CRCB01	3/8"	9.5 mm	Copper bond	M8
CRCB02	5/8"	16 mm	Copper bond	M10
CRCB03	5/8"	15 mm	Solid copper	M10
CRCB04	3/4"	20 mm	Copper bond	M10
CRCB05	3/4"	20 mm	Solid copper	M10

Rebar clamp:

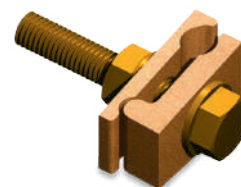
Part No	Conductor diameter	Rebar diameter	Conductor material
CRCR01	8 mm	8-18 mm	Copper
CRCR02	8 mm	18-38 mm	Copper



Tower Earth Clamp:

Tower earth clamps are served as a bond to copper cable or wire or steel structure.

Part No	Conductor range	Channel thickness	Bolt size	Conductor material
CTE01	16-70 mm ²	10 mm	M10	Copper
CTE02	70-120 mm ²	10 mm	M12	Copper
CTE03	25-50 mm ²	10 mm	M10	Copper
CTE04	25-50 mm ²	10 mm	M10	Aluminium
CTE05	120-185 mm ²	10 mm	M12	Copper
CTE06	185-240 mm ²	10 mm	M12	Copper



Pipe Clamp :

Pipe clamps are used over metal pipes to connect to earthing conductors.

Part No	Pipe diameter		Conductor range
CPC1325	1/2" – 1"	13-25 mm	25-95 mm ²
CPC3250	1 1/4" – 2"	32-50 mm	25-95 mm ²
CPC6590	2 1/2" – 3 1/2"	65-90 mm	25-95 mm ²
CPC100125	4" – 5"	100-125 mm	25-95 mm ²
CPC150	6"	150 mm	25-95 mm ²
CPC200	8"	200 mm	25-95 mm ²
CPC250	10"	250 mm	25-95 mm ²
CPC300	12"	300 mm	25-95 mm ²



EARTHING

ACCESSORIES

Earth Points :

Earth points are used when a steel rebar needs to be grounded or connected to the down conductor. They are used with U-bolt clamps that are connected to the rebar with a conductor. Another end of the conductor is exothermically welded to an earth point which is connected to a tape or down conductor.

Earth points are also available with standard, and customised pre-welded tails (Bahra Green Yellow PVC earthing cable).

Single Hole Earth Point

Part No	Hole size	Length
EP1N08	M8 x 15 mm	80 mm
EP1N10	M10 x 15 mm	80 mm
EP1N12	M12 x 15 mm	80 mm
EP1N16	M16 x 15 mm	80 mm



Single Hole Earth Point with Single Pre-Welded Tail

Part No	Description
EP1T08	EP1N08 earth point with pre-welded 500mm earth cable
EP1T10	EP1N10 earth point with pre-welded 500mm earth cable
EP1T12	EP1N12 earth point with pre-welded 500mm earth cable
EP1T16	EP1N16 earth point with pre-welded 500mm earth cable

Two Hole Earth Point

Part No	Hole size	Length
EP2N01	M8 x 12 mm	80 mm
for connection of 25 mm x 3 mm copper tape or 70 mm ² stranded copper cable.		
EP2N02	M12 x 15 mm	80 mm
for connection of 25 mm x 3 mm copper tape or 8 mm ² diameter solid circular copper.		



Two Hole Earth Point with Single Pre-Welded Tail

Part No	Description
EP2T01	EP2N01 earth point with pre-welded 500mm earth cable
EP2T02	EP2N02 earth point with pre-welded 500mm earth cable



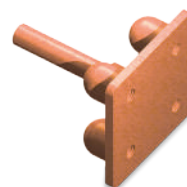
Two Hole Earth Point with Double Pre-Welded Tail

Part No	Description
EP22T01	EP2T01 earth point with pre-welded 2x500mm earth cable
EP22T02	EP2T02 earth point with pre-welded 2x500mm earth cable



Four Hole Earth Point

Part No	Hole size	Length
EP4U01	M8 x 14 mm	75 mm



Four Hole Earth Point with Single Pre-Welded Tail

Part No	Description
EP4T01	EP4U01 earth point with pre-welded 500mm earth cable
EP4T012	Earth Point with Pre-welded 1000mm earth cable

Four Hole Earth Point with Double Pre-Welded Tail

Part No	Description
EP42T01	EP4U01 earth point with pre-welded 2x500mm earth cable

Type H High Strength Splitbolt Connector :

Part No	Conductor range				Dimension
	Min		Max		
	Min	Max	Min	Max	
CSB01	4 mm2	10 mm2	2.5 mm2	10 mm2	4.1 mm
CSB02	10 mm2	16 mm2	2.5 mm2	16 mm2	5.5 mm
CSB03	16 mm2	25 mm2	4 mm2	25 mm2	6.9 mm
CSB04	25 mm2	35 mm2	4 mm2	35 mm2	8.4 mm
CSB05	35 mm2	50 mm2	4 mm2	50 mm2	9.7 mm
CSB06	35 mm2	70 mm2	4 mm2	70 mm2	11.2 mm
CSB07	50 mm2	95 mm2	4 mm2	95 mm2	13.6 mm
CSB08	50 mm2	120 mm2	6 mm2	120 mm2	14.7 mm
CSB09	95 mm2	185 mm2	6 mm2	185 mm2	18.2 mm



EARTHING

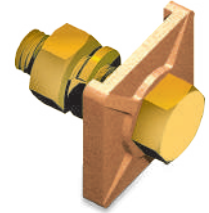
ACCESSORIES

Bonds:

B Bond:

A bonding tool to connect tape to steel structure.

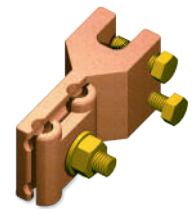
Part No	Maximum Tape width	Bolt size	Conductor material
CBB01	26 mm	M10	Copper
CBB02	26 mm	M10	Aluminium
CBB03	31 mm	M10	Copper



Metalwork Bond:

Bonds steel structures up to 12.8 mm.

Part No	Maximum Tape width	Bolt size	Conductor material
CMB01	26 mm	M10	Copper
CMB02	26 mm	M10	Aluminium
CMB03	31 mm	M10	Copper



RWP Bond:

A bonding tool to bond tape to rainwater pipes, handrails, etc.

Part No	Maximum tape width	Bolt size	Conductor material
CRB01	26 mm	M10	Copper
CRB02	26 mm	M10	Aluminium



Watermain Bond:

A bonding tool to bond tape to rainwater pipes, handrails, etc.

Part No	Maximum tape width	Conductor material	Weight per unit
CWB01	26 mm	Copper	0.26 Kg



Pipe Bond:

A bonding tool to bond duct and large diameter pipes.

Part No	Conductor diameter	Pipe diameter	Conductor material	Weight per unit
CWP01	8 mm	50-200 mm	Copper	0.46 Kg
CWP02	8 mm	50-200 mm	Aluminium	0.25 Kg



Static Discharging Receptacles:

A static discharging point for aircrafts stations Fuel stations, etc. in open areas.

Testing Standard: BS 7430

Part No	Material Used
SDR01	Copper



Flexible Braids

These items are used for bonding metallic items such as metal doors, fences, hand rails, etc.

Standards: BS EN 50164-2: 2009 & BS 7430

Flat:

Part No Copper	Part No Tinned	Size W x H	Length	Hole dia
FFB01	FFT01	10 x 2 mm	100 mm	6 mm
FFB02	FFT02	10 x 2 mm	200 mm	6 mm
FFB03	FFT03	10 x 2 mm	300 mm	6 mm
FFB04	FFT04	12 x 2 mm	100 mm	6 mm
FFB05	FFT05	12 x 2 mm	200 mm	6 mm
FFB06	FFT06	12 x 2 mm	300 mm	6 mm
FFB07	FFT07	19 x 2.5 mm	100 mm	10 mm
FFB08	FFT08	19 x 2.5 mm	200 mm	10 mm
FFB09	FFT09	19 x 2.5 mm	300 mm	10 mm
FFB10	FFT10	25 x 3 mm	100 mm	10 mm
FFB11	FFT11	25 x 3 mm	200 mm	10 mm
FFB12	FFT12	25 x 3 mm	400 mm	10 mm
FFB13	FFT13	25 x 3 mm	200 mm	11 mm
FFB14	FFT14	25 x 3 mm	300 mm	11 mm
FFB15	FFT15	25 x 3 mm	400 mm	11 mm
FFB16	FFT16	30 x 4.5 mm	200 mm	10 mm
FFB17	FFT17	30 x 4.5 mm	400 mm	10 mm
FFB18	FFT18	32 x 5 mm	200 mm	10 mm
FFB19	FFT19	32 x 5 mm	400 mm	10 mm



Flexible Braids

These items are used for bonding metallic items such as metal doors, fences, hand rails, etc.

Standards: BS EN 50164-2: 2009 & BS 7430

Circular:

Part No	Cross Section	Length	Hole dia
CFB01	4	100 mm	6 mm
CFB02	4	200 mm	6 mm
CFB03	4	300 mm	6 mm
CFB04	6	100 mm	6 mm
CFB05	6	200 mm	6 mm
CFB06	6	300 mm	6 mm
CFB07	10	100 mm	6 mm
CFB08	10	200 mm	6 mm
CFB09	10	300 mm	6 mm
CFB10	16	100 mm	6 mm
CFB11	16	200 mm	6 mm
CFB12	16	300 mm	6 mm
CFB13	16	100 mm	10 mm
CFB14	16	200 mm	10 mm
CFB15	16	300 mm	10 mm
CFB16	25	200 mm	10 mm
CFB17	25	400 mm	10 mm
CFB18	35	200 mm	10 mm
CFB19	35	400 mm	10 mm
CFB20	50	200 mm	10 mm
CFB21	50	400 mm	10 mm
CFB22	70	200 mm	10 mm
CFB23	70	400 mm	10 mm



For Tinned Flat Flexible braid, replace third digit "B" with "T"

EARTHING

EARTH BARS

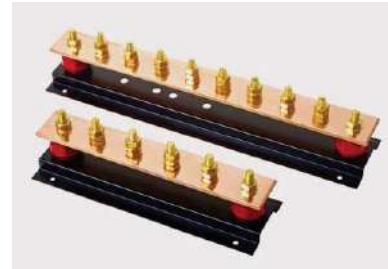
Earth Bar:

Various type of Earth Bars are available in our product range. There are shown in below.

Earth Bar without Disconnecting Link :

Copper Earth Bar:

Part No	Description	Length
EBC06	6 way	400mm
EBC08	8 way	500mm
EBC10	10 way	650mm
EBC12	12 way	750mm
EBC14	14 way	850mm
EBC16	16 way	950mm
EBC18	18 way	1050mm
EBC20	20 way	1200mm
EBC22	22 way	1300mm
EBC24	24 way	1400mm
EBC26	26 way	1500mm
EBC28	28 way	1650mm
EBC30	30 way	1750mm



Tinned Copper Earth Bar:

Part No	Description	Length
EBT06	6 way	400mm
EBT08	8 way	500mm
EBT10	10 way	650mm
EBT12	12 way	750mm
EBT14	14 way	850mm
EBT16	16 way	950mm
EBT18	18 way	1050mm
EBT20	20 way	1200mm
EBT22	22 way	1300mm
EBT24	24 way	1400mm
EBT26	26 way	1500mm
EBT28	28 way	1650mm
EBT30	30 way	1750mm



Standard Width x Height : 90 mm x 96 mm

Busbar Dimensions: 50 x 6mm

Complies with IEC 62561, UL 467

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Earth Bar:

Earth Bar with Single Disconnecting Link:

Copper Earth Bar:

Part No	Description	Length
EBCS06	6 way	475 mm
EBCS08	8 way	575 mm
EBCS10	10 way	725 mm
EBCS12	12 way	825 mm
EBCS14	14 way	925 mm
EBCS16	16 way	1025 mm
EBCS18	18 way	1125 mm
EBCS20	20 way	1275 mm
EBCS22	22 way	1375 mm
EBCS24	24 way	1475 mm
EBCS26	26 way	1575 mm
EBCS28	28 way	1725 mm
EBCS30	30 way	1825 mm



Tinned Copper Earth Bar:

Part No	Description	Length
EBTS06	6 way	475 mm
EBTS08	8 way	575 mm
EBTS10	10 way	725 mm
EBTS12	12 way	825 mm
EBTS14	14 way	925 mm
EBTS16	16 way	1025 mm
EBTS18	18 way	1125 mm
EBTS20	20 way	1275 mm
EBTS22	22 way	1375 mm
EBTS24	24 way	1475 mm
EBTS26	26 way	1575 mm
EBTS28	28 way	1725 mm
EBTS30	30 way	1825 mm



Standard Width x Height : 90 mm x 96 mm

Busbar Dimensions: 50 x 6mm

Complies with IEC 62561, UL 467

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Earth Bar With Twin Disconnecting Link:

Copper Earth Bar

Part No	Description	Length
EBCT06	6 way	550 mm
EBCT08	8 way	650 mm
EBCT10	10 way	800 mm
EBCT12	12 way	900 mm
EBCT14	14 way	1000 mm
EBCT16	16 way	1100 mm
EBCT18	18 way	1200 mm
EBCT20	20 way	1350 mm
EBCT22	22 way	1450 mm
EBCT24	24 way	1550 mm
EBCT26	26 way	1650 mm
EBCT28	28 way	1800 mm
EBCT30	30 way	1900 mm



Tinned Copper Earth Bar

Part No	Description	Length
EBTT06	6 way	550 mm
EBTT08	8 way	650 mm
EBTT10	10 way	800 mm
EBTT12	12 way	900 mm
EBTT14	14 way	1000 mm
EBTT16	16 way	1100 mm
EBTT18	18 way	1200 mm
EBTT20	20 way	1350 mm
EBTT22	22 way	1450 mm
EBTT24	24 way	1550 mm
EBTT26	26 way	1650 mm
EBTT28	28 way	1800 mm
EBTT30	30 way	1900 mm



Standard Width x Height : 90 mm x 96 mm

Busbar Dimensions: 50 x 6mm

Complies with IEC 62561, UL 467

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Earth Bar Accessories :

Disconnecting Links

Part No	Description	Length	Width	Height
EBCAD	Disconnecting Link	125 mm	90 mm	90 mm
EBTAD	Tinned Disconnecting Link	125 mm	90 mm	90 mm

Complies with IEC 62561, UL 467



Telecomm Earth Bar

It serves as a common grounding point for Extra Low Voltage system.

Part No	Description	Length	Width
EBELV01	Sub ELV Earth Bar	305 mm	51 mm
EBELV02	Main ELV Earth Bar	305 mm	102mm

*And Available Customized Earthbars
Complies with IEC 62561, UL 467



Earth Insulator

Part No	Length	Outer dia	Inner Dia
EI01	51 mm	32 mm	27 mm



Earth Boss

Manufactured to provide a secure earth connection point on a steel structure. Use denso tape and wrap the connection.

Part No	Length	Dia
EBOX01	25 mm	25 mm
EBOX02	30 mm	30 mm
EBOX03	30 mm	40 mm
EBOX04	30 mm	50 mm
EBOX05	40 mm	30 mm
EBOX06	40 mm	40 mm
EBOX07	40 mm	50 mm
EBOX08	50 mm	30 mm
EBOX09	50 mm	40 mm
EBOX10	50 mm	50 mm



For Steel, Use replace the third digit "X" with "S" For Stainless Steel, Use replace the third digit "X" with "U"

EARTHING

EARTH BARS

C Shaped Connector:

C shape connectors are specially designed to connect the two parallel cables.

Copper :

Part No	Conductor range (Main)	Conductor range (Tap)
CC101510	10 mm ²	1.5-10 mm ²
CC161516	16 mm ²	1.5-16 mm ²
CC16251510	25-16 mm ²	10-1.5 mm ²
CC251625	25 mm ²	25-16 mm ²
CC351516	35 mm ²	16-1.5 mm ²
CC352535	35 mm ²	35-25 mm ²
CC50425	50 mm ²	25-4 mm ²
CC503550	50 mm ²	50-35 mm ²
CC701525	70 mm ²	25-1.5 mm ²
CC5070435	70-50 mm ²	35-4 mm ²
CC50703570	70-50 mm ²	70-35 mm ²
CC95435	95 mm ²	35-4 mm ²
CC953570	95 mm ²	70-35 mm ²
CC957095	95 mm ²	95-70 mm ²
CC12025120	120 mm ²	120-25 mm ²
CC15025120	150 mm ²	120-25 mm ²
CC15070150	150 mm ²	150-70 mm ²
CC1851695	185 mm ²	95-16 mm ²
CC120185	185-120 mm ²	185-120 mm ²
CC15024095120	240-150 mm ²	120-95 mm ²
CC240150	150-240 mm ²	150-240 mm ²
CC240185	185-240 mm ²	185-240 mm ²
CC240240	240-240 mm ²	240-240 mm ²
CC300120	120-300 mm ²	120-300 mm ²
CC300300	300-300 mm ²	300-300 mm ²



Note: For Tinned Items the code shall be started with "CT".