

Power Rail Datasheet

FEATURES

POW-R-SAFE is a safe conductor rail system especially developed to supply electrical power to overhead travelling cranes, hoists and monorails. It is designed for years of trouble free operation and ease of installation without the need of any special tools.



**GALVANISED
STEEL OR
COPPER**



ALUMINUM

- Formed in either galvanised steel, aluminum/stainless steel and copper.
- V-form groove positively guides the current pick up collector.
- Contact shoe is self lubricating of a sintered copper and graphite construction.
- Compact mounting of the conductor in a vertical or horizontal position.
- Design to comply with current safety standards, BS EN 60529, DIN 53438 and VDE 0470.

POW-R-SAFE CONDUCTOR SYSTEMS INSTALLATION INSTRUCTION



GENERAL INFORMATION

The POW-R-SAFE range of conductors are ideally suited for indoor operations. For outdoor and wet applications we recommend the use of either Aluminum/Stainless Steel or copper and for acidic environments we recommend only copper systems.

MOUNTING BRACKETS

The systems can be mounted either vertically or horizontal. However we recommend only horizontal mounting for outdoor, dusty or hazardous environments. Support brackets to be mounted parallel to the monorail or crane rail 2000mm centres (or 1333mm for vertical mounting). Support bracket hole centres to be a minimum of 50mm apart (recommend 65mm).

ASSEMBLY

Simply bolt support clips to mounting brackets and "snap-in" conductor rails, slide joint assembly in end of rail; "snap-in" the next rail and slide the two rails together and tighten the three M6 bolts. Snap over the joint cover ensuring the joint is positioned within a maximum distance of 300mm (150mm) from a mounting bracket. Repeat the above operation on each phase and continue to end of runway. Position fixed support clips in centre of runway to anchor the whole system.

EXPANSION SECTIONS

For lengths of conductor system exceeding 90 metres it is necessary to have an expansion gap. The expansions come pre-assembled from our factory in a 4 metre length. The expansion assembly is to be fitted centrally and to be fitted directly under a support bracket.

FEEDS

For "End Feeds" slide the end feed assembly on to end of rail. Feed the power cable through insulated tapered shroud and connect cable lug and push shroud firmly over the end of the exposed rail. "Line or centre feeds" are supplied factory fitted on a 4 metre length of rail and should be installed as per a standard rail. Connection of power cables as per end feed instructions. On the exposed ends of the conductor system simply push on the protected end covers.

COLLECTORS

Single arm or tandem collectors to be mounted on 25.4mm (1") square bar.

MAINTENANCE

Inspection of the current collector carbons for sign of wear is recommended 6 months following installation/commissioning and thereafter at 6 monthly intervals.

CONDUCTOR RAIL - P100Y

Formed of either galvanised steel, aluminum stainless steel or copper covered in a rigid protected PVC shroud in yellow, green and green/yellow. Supplied in 4 metre lengths



JOINT ASSEMBLIES - P100J

Joint slid on end of rail and locked into place with three hexagon screws and washers.



END COVERS - P100EC

A PVC protected cap to insulate the exposed ends of the rail.



JOINT COVERS - P100JC

PVC extrusion simply snapped over joint assembly and self locating. In both yellow and green colour.



SLIDING SUPPORT CLIPS - P100S

Spring steel construction for a quick "snap-in" operation supplied with 8mm stud nut and washer, required at 2 metre intervals.



FIXED SUPPORT CLIPS - P100SF

As sliding support clip but with cross-bolt for anchoring conductor system.



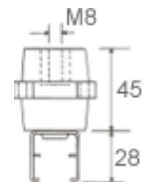
SLIDING SUPPORT CLIPS - P100SPC

Spring steel construction for a quick "snap-in" operation supplied with 8mm stud nut and washer, required at 2 metre intervals. PVC coated.



BARREL INSULATOR- P100BI

For use with P100SPC for aggressive environments



SLIDING SUPPORT CLIPS - P100P

PVC construction for a quick "snap-in" operation supplied with 8mm stud nut and washer, required at 2 metre intervals.



FIXED SUPPORT CLIPS - P100PF

PVC construction as sliding support clip but with top-bolt for anchoring conductor system.



END FEED KIT - P100EF

The end feed is simply slid onto end of rail and bolted and then insulated with protective sheath.



LINE FEED ASSEMBLIES - P100LF

Line feed is pre-assembled onto a 4 metre rail and can be fitted anywhere along the conductor system length.



EXPANSION SECTION - P100EX

Expansion gap assemblies are pre-assembled onto a 4 metre rail ready for installation. Only required for lengths exceeding 90 metres.

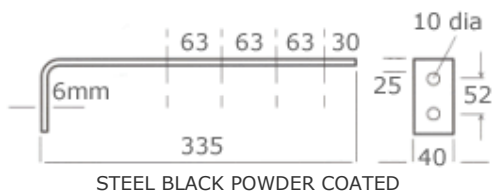


ISOLATING JOINT - P100IJ

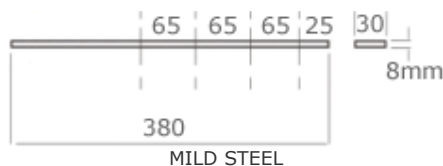
The isolating joint is made of an insulated material and is used for segmentating the power for hospital bays etc. Simply replaces standard joints.



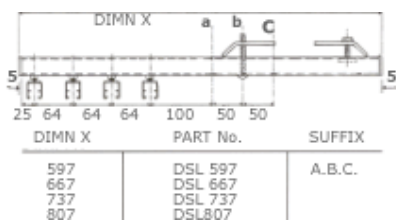
L-SHAPED WEB BRACKETS - P100L4



WELD ON BRACKETS - P100S4



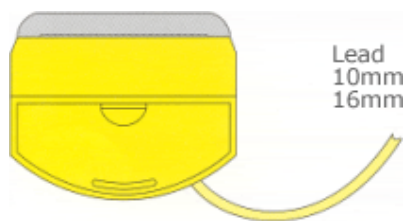
DSL TYPE BRACKETS



COLLECTOR MOUNTING BRACKET - P100MB



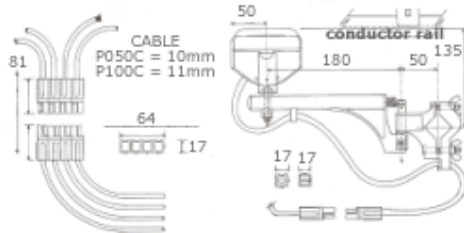
50 & 100AMP HEAD YELLOW



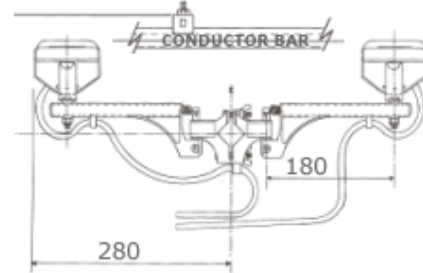
50AMP HEAD GREEN



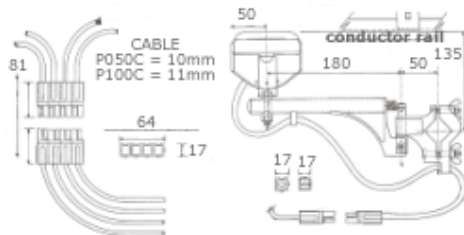
P050C - 50AMP COLLECTOR



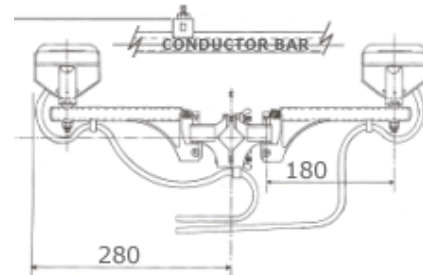
P100CT - 100AMP TANDEM COLLECTOR



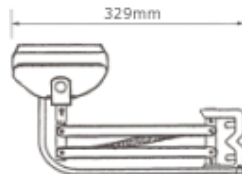
P0100C - 100AMP COLLECTOR



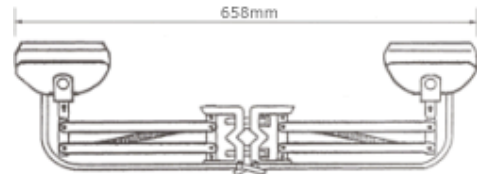
P200CT - 200AMP TANDEM COLLECTOR



P100AL - ALUMINIUM LONG ARM

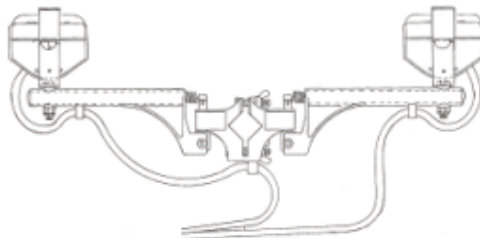


P200ALT - TANDEM ALUMINIUM LONG ARM



ALUMINIUM PANTOGRAPH COLLECTOR

P100ETG - EARTH COLLECTOR



CONNECTORS



Connectors not supplied as standard on collectors.
They must be ordered separately if required.

TECHNICAL DATA

CONDUCTOR RAIL	GALVANISED STEEL		ALUMINUM STAINLESS STEEL	COPPER	
	100	200	220	320	500
Nominal Current (Amps)	100	200	220	320	500
Cross Sectional Area	85mm ²	102mm ²	113mm ²	85mm ²	102mm ²
Max Ambient Temp. 100% Duty	25degC	25degC	25degC	25degC	25degC
Resistance R (DC) @ 20degC	0.00158	0.00132	0.00027	0.00020	0.000166
Impedance Z (AC) @ 20degC	0.00160	0.00135	0.00029	0.00023	0.000202
Rail Length	4000mm	4000mm	4000mm	4000mm	4000mm
Support Centres (Horizontal)	2000mm	2000mm	2000mm	2000mm	2000mm
(Vertical)	1333mm	1333mm	1333mm	1333mm	1333mm

RAIL COVER	STANDARD	HIGH TEMPERATURE
Material	High Impact PVC	RE 295. PVCu
Dielectric Strength	15KV/mm	20KV/mm
Max. Working Temperature	70degC	105degC
Colour	Yellow/Green	Black