

## Intertech Engineering: PowerPOINT Technical Data

### TECHNICAL DATA

#### POWERPOINT RANGE

All Powerpoint Busway systems are 125mm wide.

AMPS	Weight (kg/m)	Depth (mm)
100	3.6	45
150	3.8	45
180	4.2	45
250	5.1	65
375	6.4	65
440	7.7	110
540	9.6	110
640	10.7	110
700	12.0	110

Take-off points are spaced at 150mm as standard, 22 per standard straight length.

#### SYSTEM

Standard 3 phase, 4 wire with half or full size neutral. Half size neutral is standard. External earth bar.

#### SHORT CIRCUIT CAPACITY

100A 10kA 0.1 seconds  
250A 18kA 0.1 seconds

Fault ratings of 80kA and above are available with an optional inbuilt feed CFS unit.

#### ACCESSORIES

For all Powerpoint Busway.

Cable Feed: end or centre feed, standard cable or MI cable.

Blank End: straight or joggle

Elbow : left or right

Tee: left or right

Blanking Covers: steel or plastic

### DESIGN STANDARDS

AS 3439 – 1&2

IEC 439 – 1&2

### DEGREE OF PROTECTION

IP42 standard

IP52 with blanking covers

IP54 is available as special option

### VOLT DROP

Refer to data sheet

### ELECTROMAGNETIC PERFORMANCE

Electromagnetic radiation levels for Powerpoint busway have been accurately measured for balanced and unbalanced loads. See data sheets for results. Test certificates are available upon request.

The low EMR levels allow Powerpoint to be located close to sensitive equipment.

### PLUGS

Plug options: single or three phase to 125A per phase. Standard plugs: HRC fuse holders, MCB, MCCB, ELCB, Remote Op C/B, Pendant Sockets, Pull Cord Switch, Linder Fuse Switch Disconnecter (BS, GI, SM) or single/three phase GPO.

User specified plug fit out readily available.

For plug take off currents greater than 125A, use a special plug or fixed (bolt-in) unit.

## VOLTAGE DROP DATA

Voltage Drop Data at 50Hz – Load concentrated at end of run

AMPS	R@105°C (ohms/m)	X (ohms/m)	VOLT DROP @pf=0.6 (mV/Am)	VOLT DROP @pf=0.7 (mV/Am)	VOLT DROP @pf=0.8 (mV/Am)	VOLT DROP @pf=0.9 (mV/Am)	VOLT DROP @pf=1.0 (mV/Am)
100	1.145E-03	1.5800E-04	1.41	1.58	1.75	1.90	1.98
150	7.633E-04	1.3670E-04	0.98	1.09	1.20	1.29	1.32
180	5.727E-04	1.2303E-04	0.77	0.85	0.92	0.99	0.99
250	3.818E-04	1.0389E-04	0.54	0.59	0.64	0.67	0.66
375	2.291E-04	7.6553E-05	0.34	0.37	0.40	0.41	0.40
440	1.909E-04	7.1084E-05	0.30	0.32	0.34	0.35	0.33
540	1.432E-04	6.0194E-05	0.23	0.25	0.26	0.27	0.25
640	1.164E-04	5.1947E-05	0.19	0.21	0.22	0.22	0.20
700	9.546E-05	4.6980E-05	0.16	0.17	0.18	0.18	0.17

The figures in the above table are the worst case voltdrops, with full load concentrated at one end of the busway. With a distributed load, actual voltdrop will be significantly lower.

For example, a 250Amp Powerpoint busway with a single 250Amp, 0.8pf load at the far end of the busway has a voltdrop of 0.64mV/Am.

However, if the load is split into 4 loads of 62.5Amps each equally distributed along the busway, the effective average voltdrop would be only 0.40mV/Am.

Voltdrop calculations can be made by Intertech Engineering for a customer's specific installation.

## MAGNETIC FLUX DENSITY

### Magnetic Flux Density for Powerpoint Busway – 3 phase

	100 Amp Balanced Load	250 Amp Balanced Load		540 Amp Balanced Load	540 Amp Unbalanced Load
DISTANCE (mm)	FLUX DENSITY ( $\mu$ Tesla)	FLUX DENSITY ( $\mu$ Tesla)	DISTANCE (mm)	FLUX DENSITY ( $\mu$ Tesla)	FLUX DENSITY ( $\mu$ Tesla)
100	19.0	35.6	100	62.8	4.8
200	9.7	11.1	200	45.5	2.9
300	4.4	4.8	400	21.8	0.8
400	2.6	2.7	600	13.6	0.6
500	1.8	1.8	800	9.2	0.6
600	1.3	1.3	1000	6.7	0.5
700	1.0	1.0	1200	5.1	0.5
800	0.8	0.7	1400	3.8	0.4
900	0.8	0.6			
1000	0.7	0.5			

Data from actual test carried out at The Australian Electrical Test Centre, Adelaide

## SPECIFICATION FOR INDOOR PLUG-IN BUSWAY SYSTEMS

1. Plug-in Busways shall be designed and constructed in accordance with AS 3439 Parts 1 & 2; and IEC 439 parts 1 & 2
2. Busway configuration shall be 3 phase + neutral + external earth
3. Busway conductors and earth shall be manufactured from solid extruded copper. Phase and neutral conductors shall be air-insulated and enclosed in a steel casing.
4. Busway casings shall be steel with orange paint finish.
5. Plugs shall be designed in such a way that the earth contact is made first and breaks last upon insertion and removal.
6. Plugs shall be designed so that it is only possible to insert the plug into the busway with the correct contact orientation.
7. A solid copper earth bar shall be attached to the outside of the busway casing so that the plug earth contact is clearly visible when made.
8. Plug-in points shall be provided at intervals of 150mm or greater as required. Plug contacts shall be silver plated. Plugs shall be interchangeable between all Plug-in busway sizes.
9. Short circuit capacity may be set by inbuilt feed combined fuse switch units as required.
10. Plug-in Busway must be capable of operating in both a horizontal and vertical planes.

For more Information contact Intertech;

Ph: +61 3 8770 5500

Fax: +61 3 9773 5666

Email: [sales@intertech-eng.com.au](mailto:sales@intertech-eng.com.au)