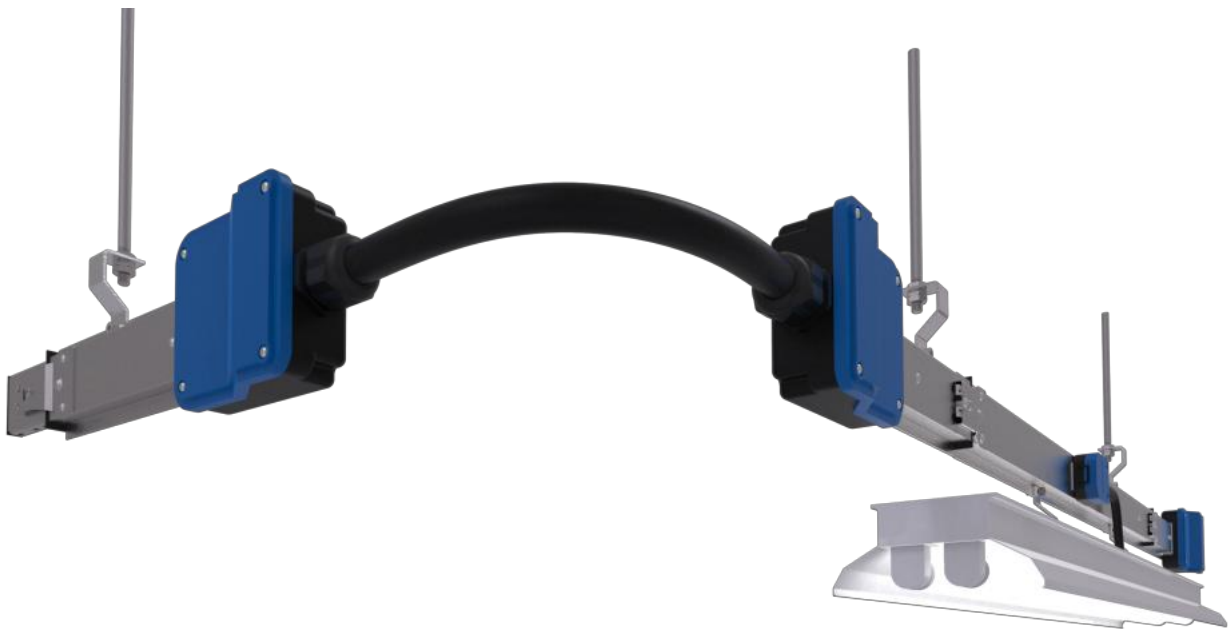


POWERDUCT

SERIES



LIGHTING BUSWAY

25A, 32A, 40A

STAY COMPETENT

	Pages
General Characteristics	1
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Directive	11
Certificates	12

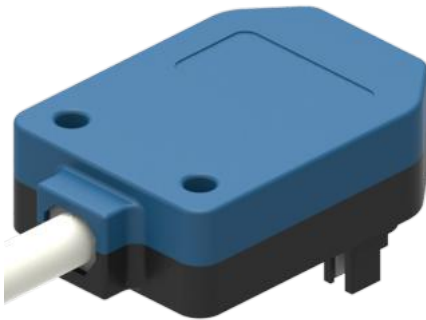
POWERDUCT Lighting Series Busbar Systems are designed, tested and manufactured using the latest technologies as per IEC 61439-6.

Tap-off Plugs

Arrangement of POWERDUCT PL Series Busbar systems are designed with different contacts to prevent incorrect assembly.

Safety

Earth contacts of the tap-off plug make first during assembly and the contacts break last during disassembly.



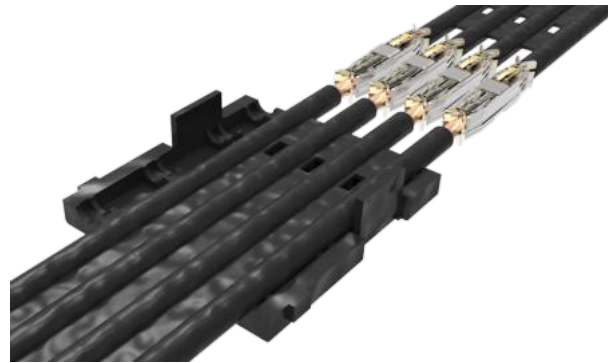
4 Plug-in Point are provided on Standard 3m Length

A total of 4 plug-in point of the single busbars and 8 plug-in point of the double busbar are provided as standard.

**For non-standard, please contact our technical office

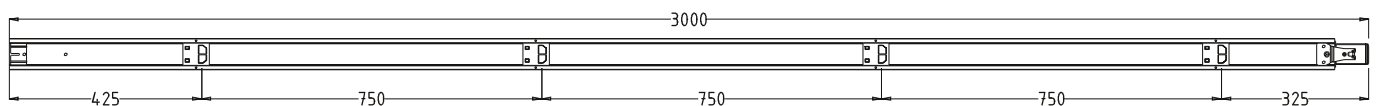
Full Insulation

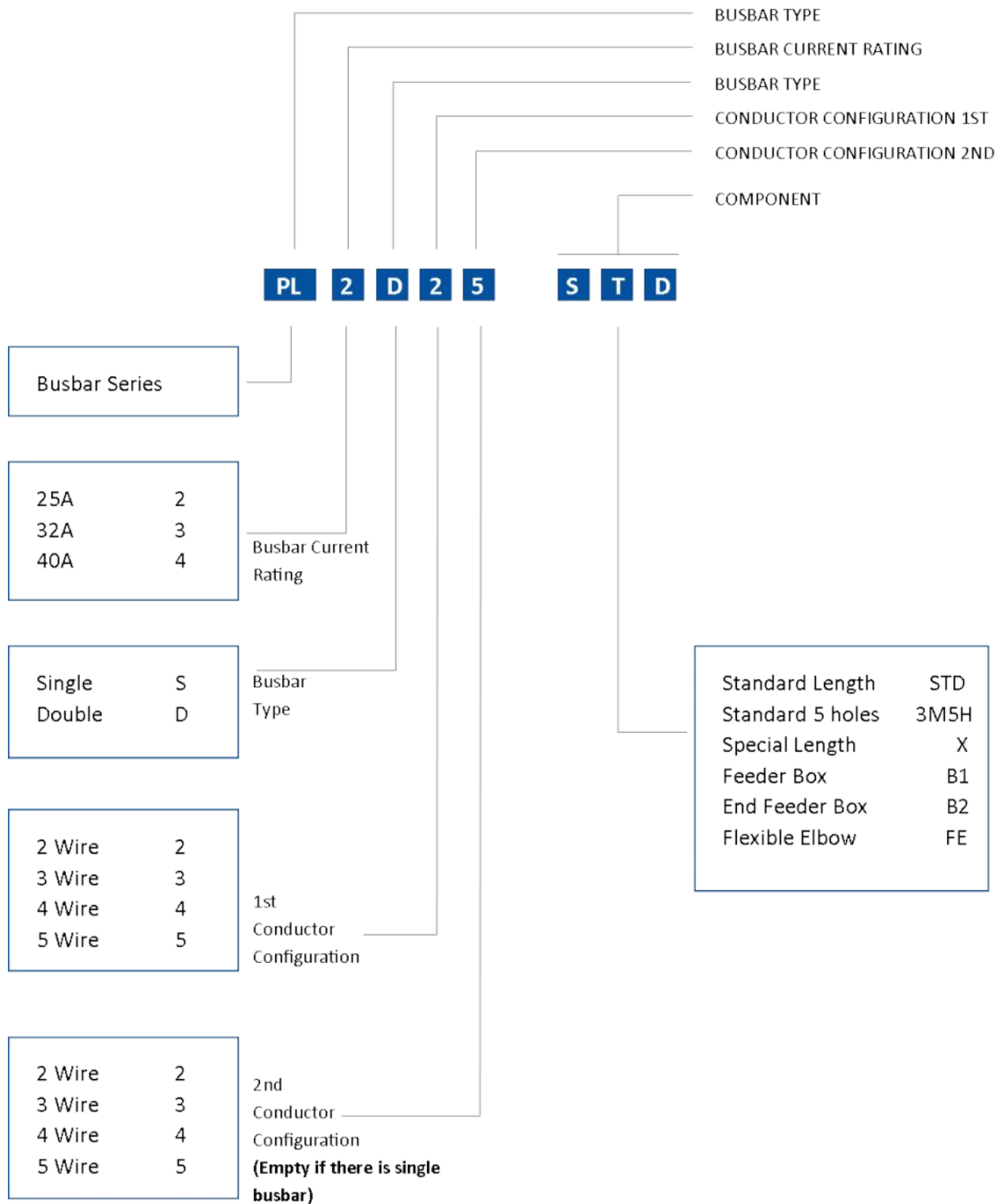
The busbar conductors are coated in flameproof Insulation material. Total security regarding human safety is provided even when the body is severely damaged due to external heavy impacts that may occur.



Tin Plated Joint Contacts

The contacts at the joining point of the busbar and the contacts of all tap-off units are tin coated. The tin coating minimizes the contact impedances, thus preventing the over-heating of the contacts in case of possible over-loads.





			PL2D24	PL3D34	PL4D44
Rated Current	I _n	A	25	32	40
Standards	IEC604391-2				
Rated Insulation Voltage	U _i	V	1000	1000	1000
Rated Frequency	f	Hz 50/60			
Protection Degree	IP55				
Short-Circuit (1sec)	I _{cw}	kA _{rms}	2.5	3	4
Short-Circuit (Peak)	I _p	kA	3.75	4.5	6
Resistance	R ₂₀	mΩ/m	5.44	4.57	3.12
Reactance	X ₁	mΩ/m	2.05	1.66	1.13
Impedance	Z	mΩ/m	6	4.86	3.32
Joule Losses At I _n	I ² R	W/m	3.4	4.45	4.64
L1,L2,L3,N (Cross Section)		mm ²	3.2	4	6
PE (Housing)		mm ²	24.75	24.75	24.75
PE (Conductor)		mm ²	3.2	4	6
Weight (4 Conductor)		kg/m	0.95	0.98	1.15
Weight (5 Conductor)		kg/m	1.05	1.1	1.27

The maximum permitted load for the support of light fittings of the system is 15 kg. concentrated or 20 kg. distributed for a recommended support span of every 2 meters without any deformation of the housing.

Voltage Drop Calculation

Voltage drop of a system can be calculated with following formula taking into account the “α” load distribution constant.

For single phase;

$$\Delta U = \alpha \cdot I \cdot 2L (R \cdot \cos \varphi + X \cdot \sin \varphi) \cdot 10^{-3} \text{ [V]}$$

For three phase;

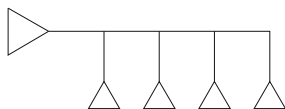
$$\Delta U = \alpha \cdot \sqrt{3} \cdot I \cdot L (R \cdot \cos \varphi + X \cdot \sin \varphi) \cdot 10^{-3} \text{ [V]}$$

ΔU = Voltage Drop [V]
I = Rated Current [A]
L = Length of line [mt]
α = Load Distribution Constant
R = Resistant [mΩm]
X = Reactance [mΩm]



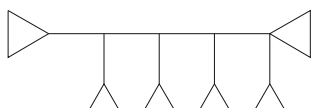
Load concentrated at the End of line.
Line fed from one end of the line.

α=1.00



Distributed load. Line fed from one end of the line.

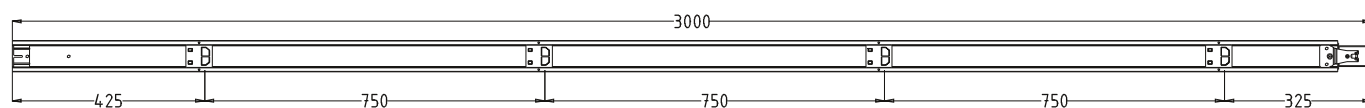
α=0.50



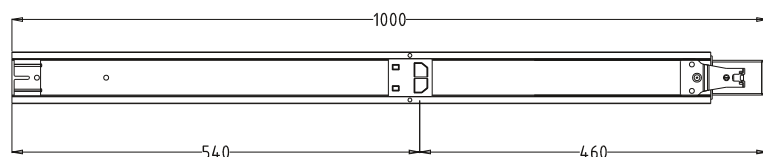
Distributed load. Line fed from both ends of the line.

α=0.25

3m Straight Length

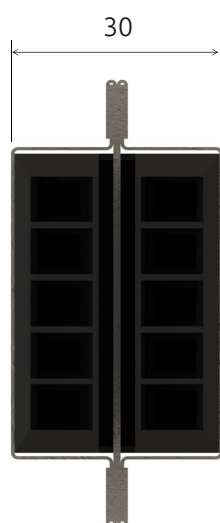


1m Straight Length

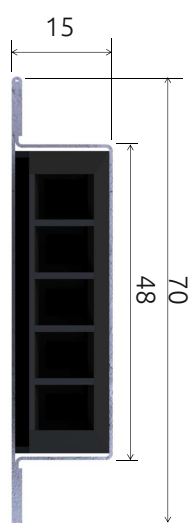


Double

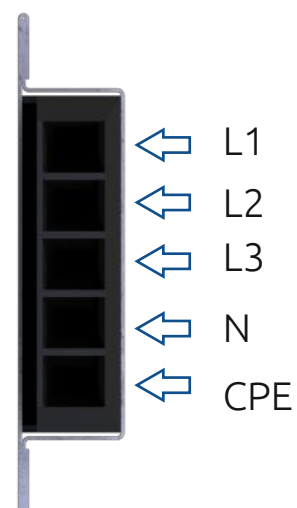
Single

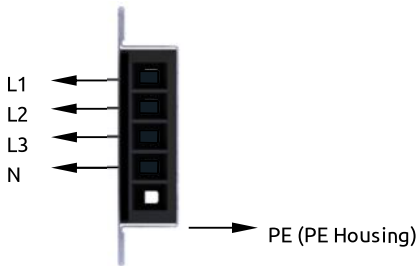


Double

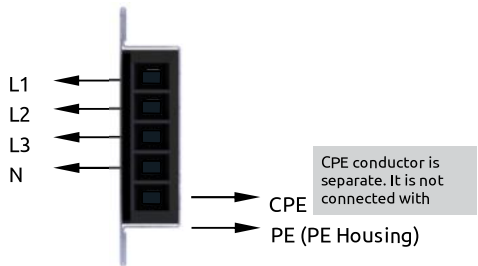


Single

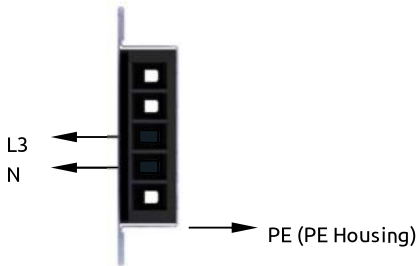




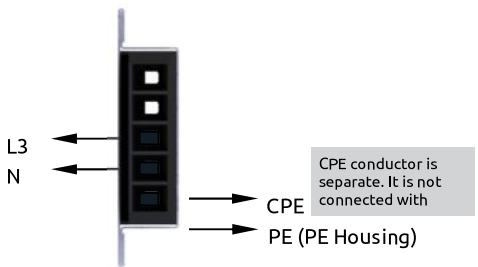
Current (A)	Description	System Conf.
25	PL 2S4 1x25 A Busbar	4
32	PL 3S4 1x32 A Busbar	4
40	PL 4S4 1x40 A Busbar	4



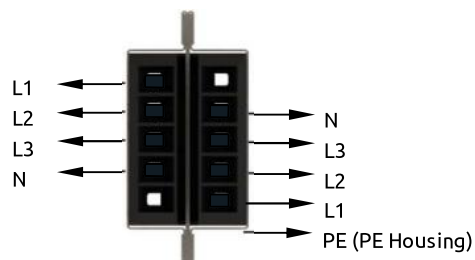
Current (A)	Description	System Conf.
25	PL 2S5 1x25 A Busbar	5
32	PL 3S5 1x32 A Busbar	5
40	PL 4S5 1x40 A Busbar	5



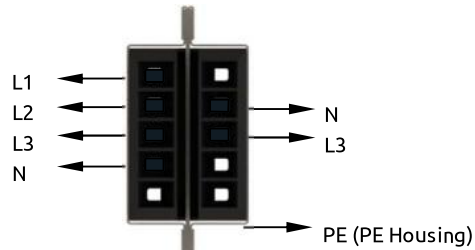
Current (A)	Description	System Conf.
25	PL 2S2 1x25 A Busbar	2
32	PL 3S2 1x32 A Busbar	2
40	PL 4S2 1x40 A Busbar	2



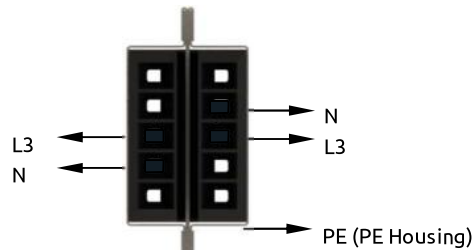
Current (A)	Description	System Conf.
25	PL 2S3 1x25 A Busbar	3
32	PL 3S3 1x32 A Busbar	3
40	PL 4S3 1x40 A Busbar	3



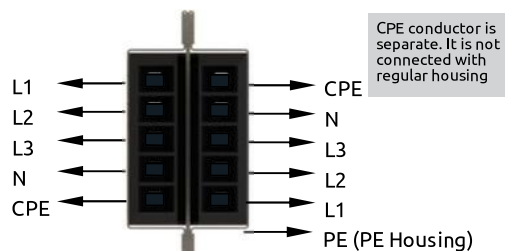
Current (A)	Description	System Conf.
25	PL 2D44 2x25 A Busbar	4+4
32	PL 3D44 2x32 A Busbar	4+4
40	PL 4D44 2x40 A Busbar	4+4



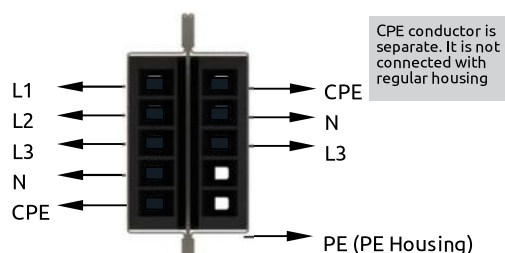
Current (A)	Description	System Conf.
25	PL 2D42 2x25 A Busbar	4+2
32	PL 3D42 2x32 A Busbar	4+2
40	PL 4D42 2x40 A Busbar	4+2



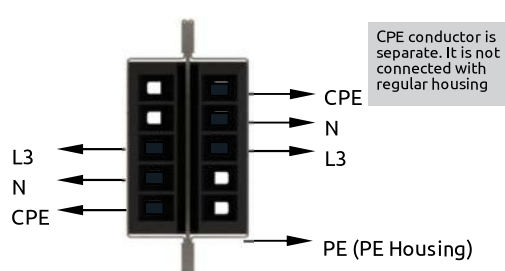
Current (A)	Description	System Conf.
25	PL 2D22 2x25 A Busbar	2+2
32	PL 3D22 2x32 A Busbar	2+2
40	PL 4D22 2x40 A Busbar	2+2



Current (A)	Description	System Conf.
25	PL 2D55 2x25 A Busbar	5+5
32	PL 3D55 2x32 A Busbar	5+5
40	PL 4D55 2x40 A Busbar	5+5

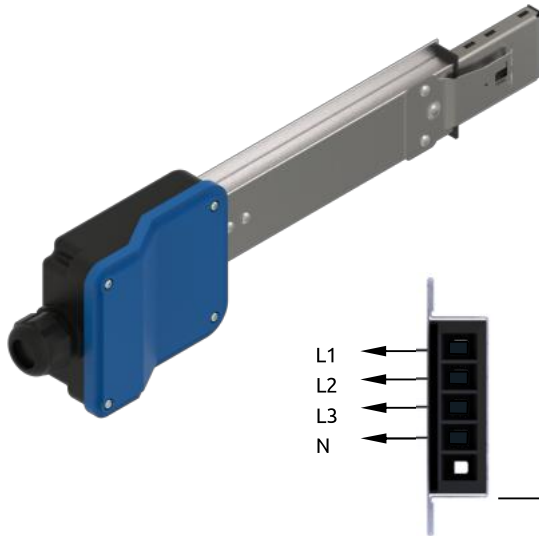


Current (A)	Description	System Conf.
25	PL 2D53 2x25 A Busbar	5+3
32	PL 3D53 2x32 A Busbar	5+3
40	PL 4D53 2x40 A Busbar	5+3



Current (A)	Description	System Conf.
25	PL 2D33 2x25 A Busbar	3+3
32	PL 3D33 2x32 A Busbar	3+3
40	PL 4D33 2x40 A Busbar	3+3

Feeder Box (B1)



Current (A)	Description	Busbars
25	PL 2S4 - B1	PL 2S2 - PL 2S3
	Feeder Box	PL 2S4 - PL 2S5
32	PL 3S4 - B1	PL 3S2 - PL 3S3
	Feeder Box	PL 3S4 - PL 3S5
40	PL 4S4 - B1	PL 4S2 - PL 4S3
	Feeder Box	PL 4S4 - PL 4S5

*With PE Conductor and M25 Gland as standard.

End Feeder Box (B2)



Current (A)	Description	Busbars
25	PL 2S4 - B2	PL 2S2 - PL 2S3
	End Feeder Box	PL 2S4 - PL 2S5
32	PL 3S4 - B2	PL 3S2 - PL 3S3
	End Feeder Box	PL 3S4 - PL 3S5
40	PL 4S4 - B2	PL 4S2 - PL 4S3
	End Feeder Box	PL 4S4 - PL 4S5

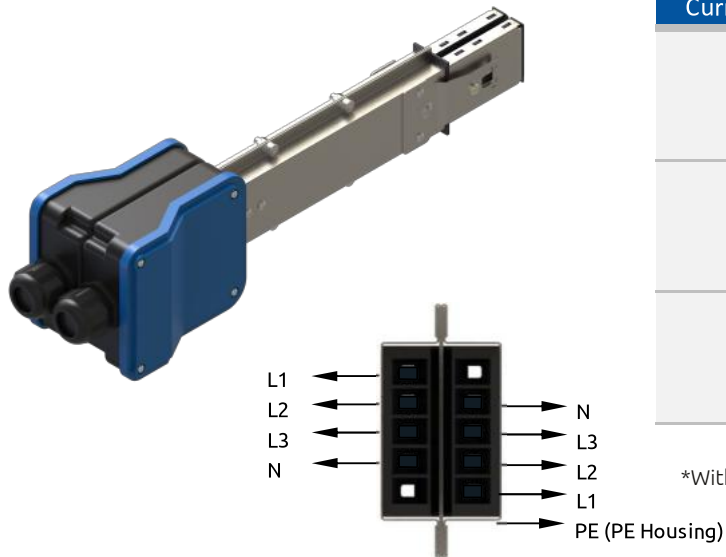
*With PE Conductor and M25 Gland as standard.

Flexible Elbow (FE)



Current (A)	Description	Busbars
25	PL 2S4 - FE	PL 2S2 - PL 2S3
	Flexible Elbow	PL 2S4 - PL 2S5
32	PL 3S4 - FE	PL 3S2 - PL 3S3
	Flexible Elbow	PL 3S4 - PL 3S5
40	PL 4S4 - FE	PL 4S2 - PL 4S3
	Flexible Elbow	PL 4S4 - PL 4S5

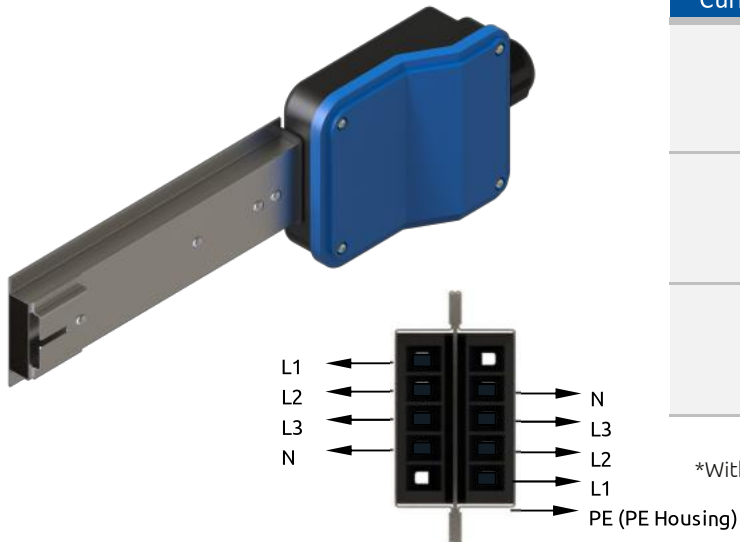
Feeder Box (B1)



Current (A)	Description	Busbars
25	PL 2D44 - B1 Feeder Box	PL 2D55 - PL 2D53
		PL 2D33 - PL 2D44
		PL 2D42 - PL 2D22
32	PL 3D44 - B1 Feeder Box	PL 3D55 - PL 3D53
		PL 3D33 - PL 3D44
		PL 3D42 - PL 3D22
40	PL 4D44 - B1 Feeder Box	PL 4D55 - PL 4D53
		PL 4D33 - PL 4D44
		PL 4D42 - PL 4D22

*With PE Conductor and M25 Gland as standard.

End Feeder Box (B2)



Current (A)	Description	Busbars
25	PL 2D44 - B2 End Feeder Box	PL 2D55 - PL 2D53
		PL 2D33 - PL 2D44
		PL 2D42 - PL 2D22
32	PL 3D44 - B2 End Feeder Box	PL 3D55 - PL 3D53
		PL 3D33 - PL 3D44
		PL 3D42 - PL 3D22
40	PL 4D44 - B2 End Feeder Box	PL 4D55 - PL 4D53
		PL 4D33 - PL 4D44
		PL 4D42 - PL 4D22

*With PE Conductor and M25 Gland as standard.

Flexible Elbow (FE)



Current (A)	Description	Busbars
25	PL 2D44 - FE Flexible Elbow	PL 2D55 - PL 2D53
		PL 2D33 - PL 2D44
		PL 2D42 - PL 2D22
32	PL 3D44 - FE Flexible Elbow	PL 3D55 - PL 3D53
		PL 3D33 - PL 3D44
		PL 3D42 - PL 3D22
40	PL 4D44 - FE Flexible Elbow	PL 4D55 - PL 4D53
		PL 4D33 - PL 4D44
		PL 4D42 - PL 4D22

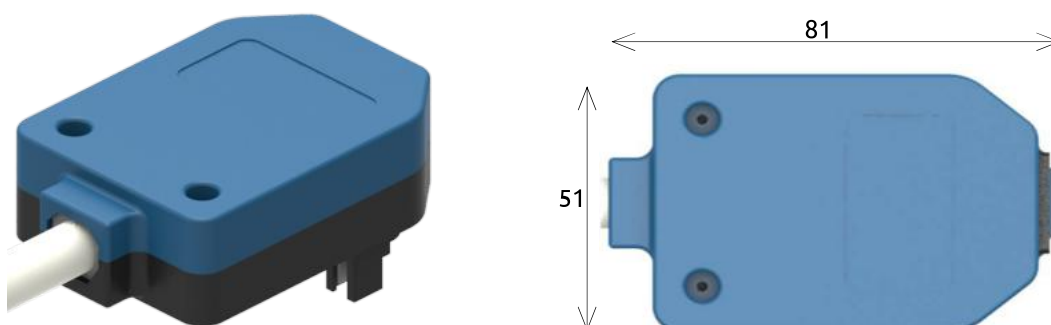
PL 10FD

Current (A)	Description			Cable Length	Phase	Properties
10	PL 10FD	Tap Off Plug	L1	1m. TTR Cable *	L1, N, PE	
	PL 10FD	Tap Off Plug	L2	1m. TTR Cable *	L2, N, PE	
	PL 10FD	Tap Off Plug	L3	1m. TTR Cable *	L3, N, PE	

PL 10FD - CPE

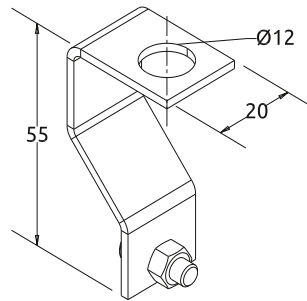
Current (A)	Description			Cable Length	Phase	Properties
10	PL 10FD-CPE	Tap Off Plug	L1	1m. TTR Cable *	L1, N, CPE	
	PL 10FD-CPE	Tap Off Plug	L2	1m. TTR Cable *	L2, N, CPE	
	PL 10FD-CPE	Tap Off Plug	L3	1m. TTR Cable *	L3, N, CPE	

*Plug with different cable length available upon request

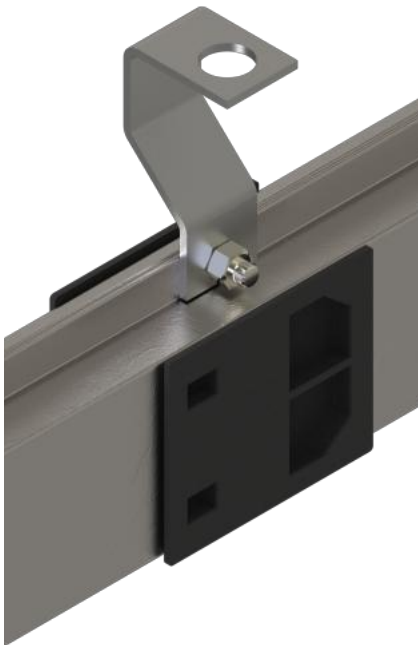


Universal Fixing Unit

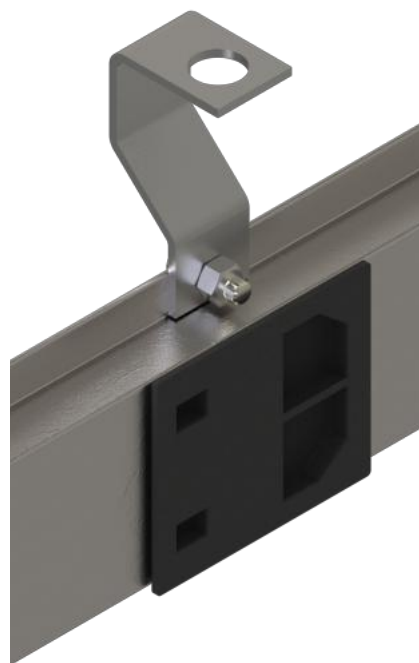
Description	
PL - TP - U	Universal lighting fixture fixing unit.



It is used to fix the line against a wall or to the floor or to the ceiling (by threaded rod or by wall plug). It can be used to suspend lamp from the line, too. Suggested distance between brackets: max. 3 m.



Double



Single

EC DECLARATION OF CONFORMITY

According to EC - Directive

2006/95/EC "Low - Voltage - Directive"

Product Group Powerduct PL Series Busway System**Manufacturer** Power Plug Busduct Sdn Bhd (Company No. : 545918-D)
No. 17, Jalan SiLC 1/4, Kawasan Perindustrian SiLC,
79200 Iskandar Puteri, Johor, Malaysia.

This is to attest, under our sole responsibility, that the aforementioned products conforms with the regulations and guidelines of the following standards.

Standard : IEC 61439-6**Type Test :**

- | | |
|--|---|
| 1. Temperature-rise limits | 7. Degree of Protection |
| 2. Dielectric Properties | 8. Insulation Material Thermal Strength |
| 3. Short Circuit Resistance | 9. Electrical Characteristics |
| 4. The effectiveness of the Protective Circuit | 10. Structural Strength |
| 5. Clearances and Creepage distance | 11. Crushing Resistance |
| 6. Mechanical Operation | |

Date

21 February 2014

Power Plug Busduct Sdn Bhd**Power Plug Busduct Sdn Bhd**

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Publish in year 2019

** Technical details and dimensions for the products are subject to
continuing revision and engineering update without notice.