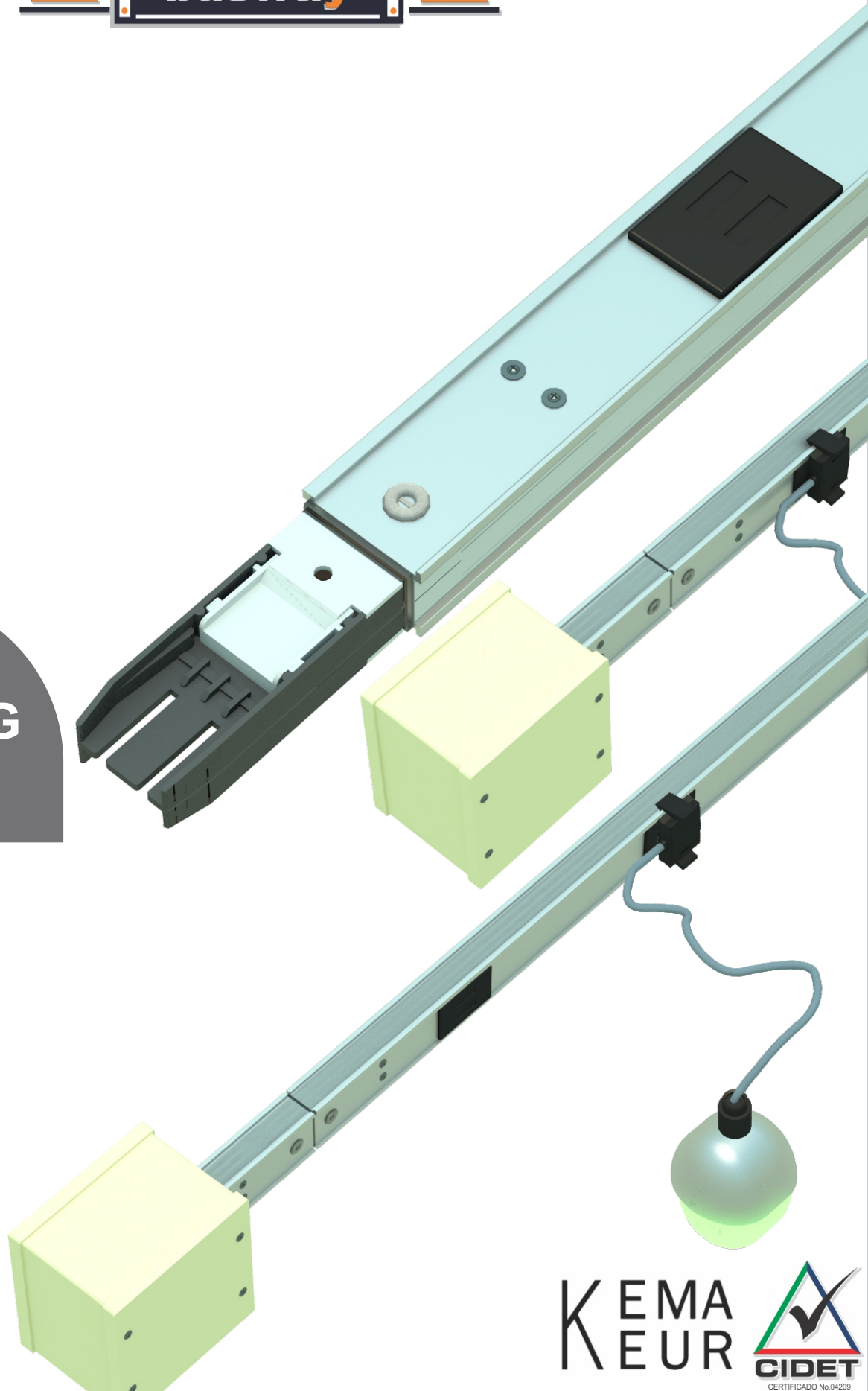


**Serie
WavePro LTG
Iluminación**



**KEMA
KEUR**



SERIE ILUMINACIÓN



25 amp - 80 amp 3 y 6 circuitos / IP54 - 55

WavePro LTG system complies with:

IEC 60947.2 - 1997
IEC 60439.1 - 2004
IEC 60439.2 - 2000
IEC 60529
JB/T9662 - 1999

CIDET
KEMA
SA 8000
ISO 9001
ISO 14001
OHSAS 18001



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System Overview



WavePro LTG is a modularised busway to distribute electric power for lighting system by simply plugging connection, which is able to provide sufficient power branches as necessary and protection as well as to mechanically support the weight load of lighting fixture neath.



WavePro LTG is constructed with a high-quality extruded aluminum alloy housing with characteristics of light weight, compact size, high mechanical strength. WavePro LTG utilizes high-quality copper as bus conductors and Al housing to ground; copper conductors are enclosed with a environmental friendly low-smoke, halogen-free and flame retardant insulation.



WavePro LTG can be customized with multi-number of outlets per actual application, which is exible for installation and power distribution to be adapted any complex situations.

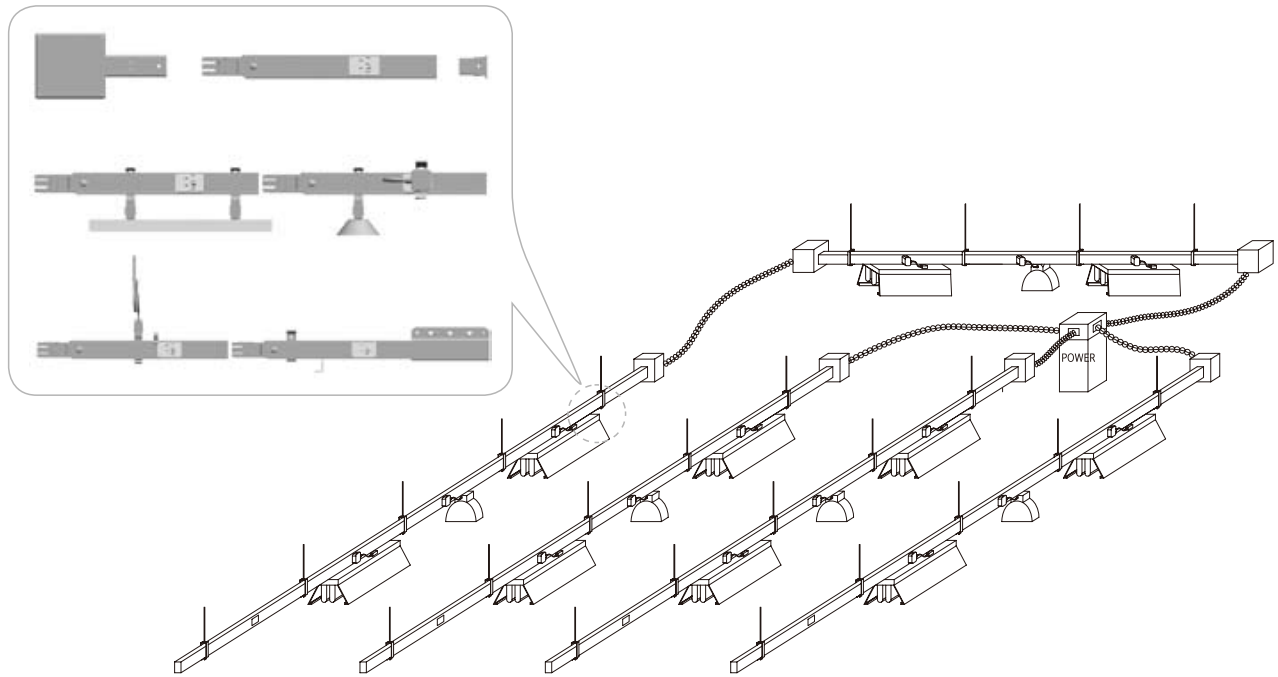


WavePro LTG can be installed vertically as well as horizontally onto the truss, ceiling, wall and floor, which is very popular to energize such middle to large commercial lighting and low load situations as: airports, subway stations, workshops, exhibition halls, warehouses, shopping malls.



WavePro LTG mainly consists of straight lengths, feed units, terminal units, flexible elbows, tap-off units and accessories such as cable clamps, various x brackets. All units and accessories are standardized and modularized during design ing and producing in order to achieve installation and application easiness.

WavePro LTG



Features & Advantages



Compact and flexible

WavePro LTG lighting busway will save space due to compact housing with size of 48×32mm compared with cables
Various functional units can be applied to any corner, bypass obstacles, as well as change its height by using flexible elbows, which makes flexible to be adapt to any construction space



Safe and reliable plug unit

WavePro LTG plug unit uses flame-retarded ABS plastic body with compact design, light weight, high strength, long life and excellent insulation
The silver-plated spring stabs provide reliable electrical connection; longer grounding pin design makes contact first but leave last compared with phases pins to avoid shocking
The clamps beside the plug unit can lock onto busway trunk and ensure reliable electrical contact and higher protective degree

Aluminum alloy housing



WavePro LTG uses full aluminum alloy housing, lightweight, high strength, with up to protection degree of IP54
 WavePro LTG housing has excellent anti-corrosion, both electrical and thermal conductivity and housing has at least 50% equivalent grounding capacity
 WavePro LTG uses weak magnetic materials which minimizes magnetic hysteresis loss, enhance energy transferring efficiency and reduce the voltage drop of the system

Safe insulating material



WavePro LTG Lighting busway uses environmental-friendly and halogen-free flame retardant materials, with low-smoke
 Supportive insulating parts are able to withstand pressure of glow wire at 960°C; Non-supportive insulating parts are able to withstand the pressure of glow wire at 650°C

Easy installation



Each other connection between trunk units, feed units, terminal units, flexible elbows, joints just need "insertion" action to achieve the correct installation, electrically and mechanically
 There is a feature to prevent wrong insertion ensuring right connection with each other

Certification



Electrical Characteristics

Basic Electrical Characteristics

Rated Current (A)	Rated Voltage (V AC)	Rated Insulation Voltage (V AC)	Frequency (Hz)	Short Circuit Withstand Current (t=1s) (kA)	Degree of Protection	Number of Wire	Material of Conductor	Cross Section of Conductor □ L1, L2, L3, N □ □ mm ² □
25	415	690	50/60	0.69	IP40 / IP42 / IP43 / IP54	4	Cu	4
40	415	690	50/60	0.94		4	Cu	6
2×25	415	690	50/60	0.69		4	Cu	2×4
2×40	415	690	50/60	0.94		4	Cu	2×6

Tab. 4-1

Conduct Electrical Characteristics

Degree of Current	Single Phase Conductor	Protective Conductor	Voltage Drop				
	Mean resistance at an ambient temperature of 20□ (R20)	Mean resistance at an ambient temperature of 20□	Voltage drop of single phase (The three-phases network voltage drop is obtained by multiplying 0.866) V/100m/A				
A	10-εΩ/m	10-εΩ/m	Power factor CosΦ=0.6	Power factor CosΦ=0.7	Power factor CosΦ=0.8	Power factor CosΦ=0.9	Power factor CosΦ=1.0
25	4609.3	301.3	0.50	0.58	0.66	0.73	0.80
40	3072.8	301.3	0.34	0.39	0.44	0.49	0.53

Tab. 4-2

Application Effect of Ambient Temperature

Ambient Temperature (□)	Factor
35	1
40	0.95
45	0.90
50	0.85
55	0.80
60	0.75

Tab. 4-3

Within the ambient temperature of 35□ , WavePro LTG Lighting busway can continuously operate at rated current while the maximum housing temperature rise will not exceed 55K.

If the busway is continuously operated at higher ambient temperature, it should be derated first, i.e. the busway current-carrying capacity=rated current × de-rating factor. (As shown in Tab. 4-3).

Weight of Busway

Type	Weight (kg/m)
25A	0.9
40 A	1.0
25 A +40 A	1.2
25 A ×2	1.1
40 A ×2	1.3

Tab. 4-4

Components Features

Straight Length



Fig. 5-1

Straight Length are basic for lighting busway and they are functional with just direct insertion "head" to "tail" simply.

Aluminum alloy housing (size of 48×32mm), acting as PE, has good mechanical strength but lighter weight and highly aesthetic appearance

Standard straight trunk is as long as 2m or 3m, while outlets' spacing is 0.5m or 1 meter. Non-standard lengths can be customized

Protection degree up to IP54

Fire retarded insulations are in line with the performance of GB and IEC standards (IEC 60695-2-1)

-Supportive insulating parts are able to withstand the pressure of glow wire at 960□

-Non-supportive insulating parts are able to withstand the pressure of glow wire at 650□

Span of Installation (m)	Concentrated Load (kg)	Average Load (kg)
2.0	18	27
2.5	14	24
3.0	12	18

Tab. 5-1



Fig. 5-2

Feed Unit

Feed unit is start unit for power supply to the lighting busway; the installation between a feed unit and a straight length is similar to two straight lengths connection each other, inserting joint into housing and pressing buttons in position to lock.



Fig. 5-3

End Cover

End cover (or terminal unit) completes the end of the lighting busway. The installation is similar to straight length.



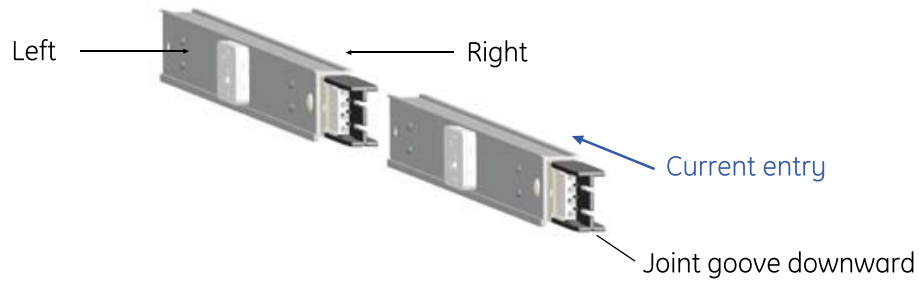
Fig. 5-4

Flexible Elbow

Flexible elbow consists of two feed units which are connected through a flexible tube. you can change the direction or height of the busway, or bypassing an obstacle by using the flexible length, the installation method is the same as joining two straight length. There are 0.5m, 1m in two standard lengths, while the non-standard lengths can be customized.

Specifications & Data

Straight Length



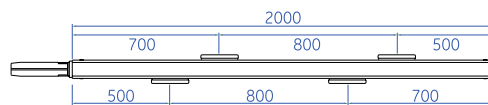
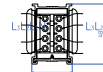
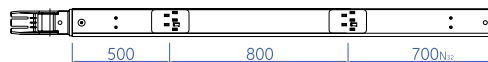
2m Single-circuit, dual-circuit dimension & layout of sockets

2m Single-cir cuit



Unit: mmTab. 6-1

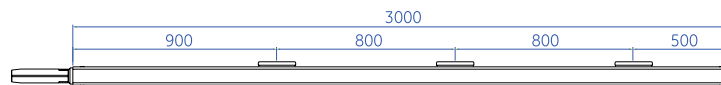
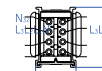
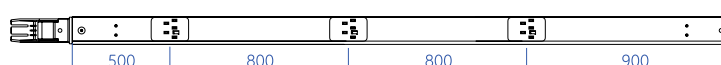
22m Dual-cir cuit



33m Single-cir cuit



43m Dual-cir cuit



Straight length

For the single-circuit busway, the unit with standard length of 2m has maximum 2 sockets, while the 3m has maximum 3 sockets

For the dual-circuit busway, the unit with standard length of 2m has maximum 4 (2 for each side) sockets, while the 3m has maximum 6 sockets (3 for each side)

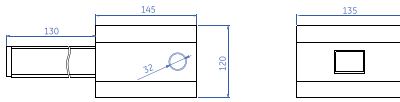
More sockets are available for customized applications

Num	Cat. #	Number of Outlet	Rated Current (A)	Degree of Protection	Measures (m)
1	WPLTGBT2E0IP54-20	Left 2	25	IP54	2
2	WPLTGBF2F1IP54-20	Left2Right1	40×2		2
3	WPLTGBT3E0IP54-30	Left3	25		3
4	WPLTGBT3T3IP54-30	Left3Right3	25×2		3

Please refer to Catalogue Numbering System for more.

Feed Unit

Feed unit has insulation shield (dual-circuit line busway has separate two circuits)
 Three sides of the feed unit have sockets and drop-out holes which is in the right and left and the end sides
 Special sealed connector is selected to connect the exible length
 Used to connect 2.5mm² -10mm² cable



Cat. #	Type	Number of Outlet	Rated Current (A)	Degree of Protection	Length (m)
WPLTGFT2E0IP54-20	Feed Unit	Left2	25	IP54	2
WPLTGFF2F1IP54-20	Feed Unit	Left2Right1	40×2		2
WPLTGFT3E0IP54-30	Feed Unit	Left3	25		3
WPLTGFT3T3IP54-30	Feed Unit	Left3Right3	25×2		3

Tab. 7-1

Please refer to

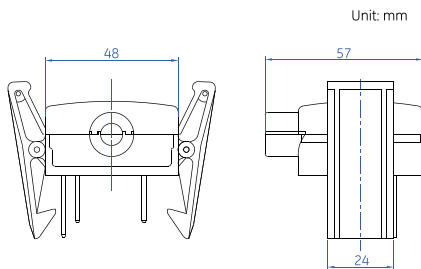
Tap-off Unit (Plug)

Tap-off unit has 3 wires. It can be converted into L1, N, PE or L2, N, PE or L3, N, PE
 Flammability property meeting IEC60332-1
 Cable length and type can be nominated by the purchaser

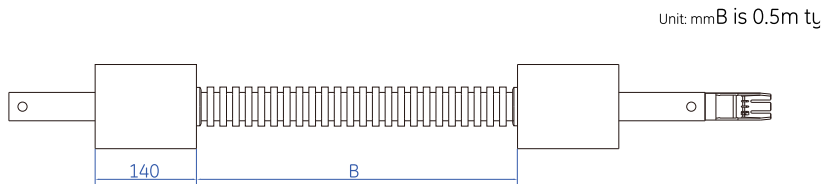
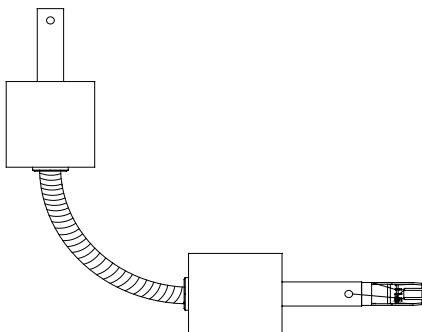
Cat.#	Type	Degree of Current (A)	Phase	Degree of Protection	Length (m)
WPLTGP10L1IP54-10	Feed Unit	10	L1	IP54	1
WPLTGP16L2IP54-20	Feed Unit	16	L2		2

Tab. 7-2

Please refer to Catalogue Numbering System for more.



Flexible Elbow

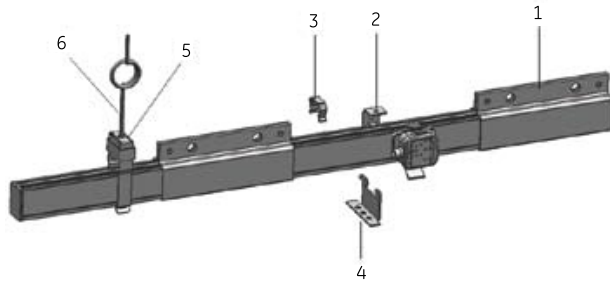


Cat.#	Number of Outlets	Rated Current (A)	Degree of Protection	Length (m)
WPLTGEE0T0IP54-05	0	25	IP54	0.5
WPLTGET0E0IP54-10	0	25		1
WPLTGEE0F0IP54-05	0	40		0.5
WPLTGEF0E0IP54-10	0	40		1

Tab. 7-3

Please refer to Catalogue Numbering System for more .Unit: mm

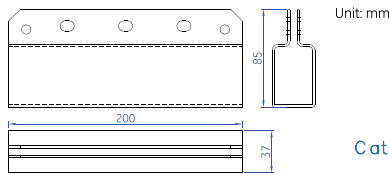
Accessories



Code	Description
1	Fixing Bracket
2	Snap Clamp
3	Cable Clamp
4	Fixing Clamp
5	Suspension Bracket
6	Mouse Hook

Fixing Bracket

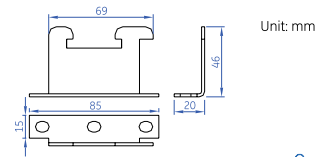
Fixing bracket is used to suspend the lighting busway and fixtures wire cable or chain, it can also be used to support the joint area to improve mechanical strength.



Cat.#:WPLTGAHGB

Fixing Clamp

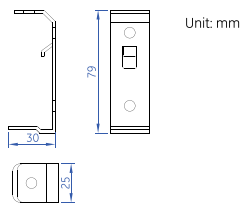
Fixing clamp is used to fix and support the busway when the lighting busway is installed under the floor.



Cat.#:WPLTGAFXS

Snap Clamp

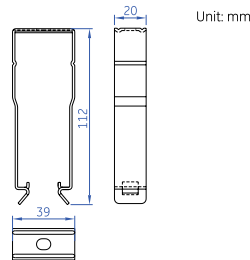
Snap clamp is used to suspend the straight length or for the installation of the lighting fixtures (balanced load). It can be used to fix the selected straight length.



Cat.#:WPLTGACLP

Suspension Bracket

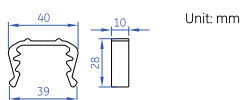
Suspension bracket is used to suspend and fix the busway when the lighting busway is installed under the ceiling.



Cat.#:WPLTGAFXB

Cable Clamp

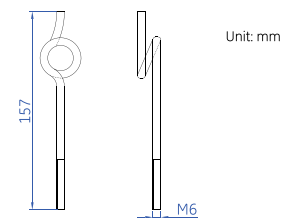
Cable can be fixed on a straight length by using cable clamp to simplify the line strike and save space.



Cat.#:WPLTGACBC

Mouse Hook

Mouse hook is used in conjunction with the suspension bracket to fix the lighting busway on the buildings.



Cat.#:WPLTGAMHK

Application & Installation

Straight Length & Feed Unit



Fig. 9-1

The installation of two straight lengths is illustrated as below. Each length of the system plugs into the adjacent length with just a push, fitting the electrical and mechanical joint together. Ensure the joint is pushed fully together leaving no gap.

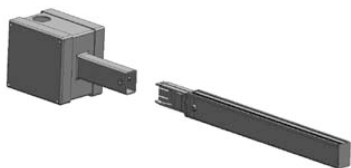


Fig. 9-2

The installation of the feed unit and straight length is the same as the installation of two straight lengths. The Feed unit plugs into the adjacent length with a push, fitting the electrical and mechanical joint together. Ensure the joint is pushed fully together leaving no gap.

Lighting Busway Typical Installation

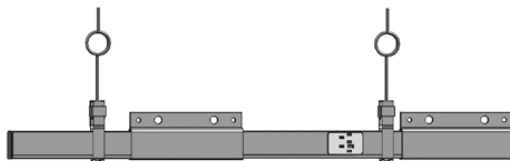


Fig. 9-3

The lighting busway will be fixed on the construction. Appropriate support accessories are to be selected for the installation. Fig. 9-3 shows the lighting busway's installation on the beam.

Other Installation Examples

1. Suspension Installation

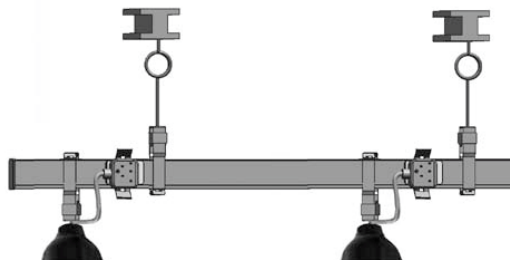


Fig. 9-4

2. Side Installation

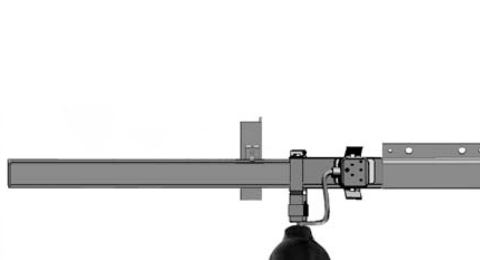


Fig. 9-5

Please refer to the installation instructions for details of the installation.

Start Notice

Determine how the Busway is to be installed to make sure right phase sequence throughout the system.
The Busway housing consists of two parts: "Π" part and "└" part (Fig. 10-1). Correct installation should be as right to meet claimed IP42/43/ IP54 protective grade: the hatch of the "Π" part should be oriented to downward (Fig 10-1), the outlet (if have) at side of housing.



Fig.10-1

Installation Requirements

Please select appropriate accessories in accordance with the actual situation and installation drawings, and ensure the installation of the lighting busway, the mounting brackets and other accessories being in line with the bus strike. Installation space required please refer the following requirements.

The installation distance between any straight lengths is not more than 3 m, the specific spacing requirements of installation should be illustrated in the installation drawings in accordance with the conditions and circumstances at the scene.
(Concrete spacing and load-bearing of installation, please see the table below)

The mounting brackets should be set up at both ends of the joint, while the maximum spacing should not exceed 1 m

Span of Installation (m)	Concentrated Load (kg)	Average Load (kg)
2.0	18	27
2.5	14	24
3.0	12	18

Tab.10-1

Ordering Information

Lighting Busway Technical Agreement

Project Name: _____
 Product Type: _____
 Quantity: _____
 Busway Arrange Drawing: _____

Project No: _____
 WavePro LTG: _____
 Connecting Drawing: _____
 BOM: _____

Item	WavePro LT Busway Technical Data				
Standard	■ GB 7251.1&2-2006			■ IEC-60439-1&2	
Service Condition					
Relative humidity not exceed 90% at +20□					
Altitude (m)	■ <2000				
Max. Ambient temperature□ □	■ 40				
Min. Ambient temperature□ □	■ -5				
Average Ambient teperature□	■ 35				
Power Source					
Rated Voltage (V)	□ 415				
Rated Frequency (Hz)	□ 50		□ 60		
Phase	□ 3				
Busway Utility Data					
Rated Current (A)	□ 25	□ 40	□ 20×2	□ 40×2	□ 25+40
Number of Phase	□ 3P5W L1,L2,L3,N100%,PE50%(housing grounding)				
Protection Degree	□ IP40	□ IP42	□ IP43	□ IP54	
Short-time Withstand Current (kA/1s)	□ 0.69 (25A circuit) □ 0.94 (40A circuit)				
Phase Sequence	□ L1,L2,L3, N,PE(From Top to Bottom) □ Other				
Packing	Phase Color: □ GB Standard □ IEC Standard				
Transportation					
Special Claim					








* The detailed busway catalogue & quantity see attachment.

Product Code	Outlet	Current (A)	IP Protection	Length (m)	Product Description
Elbow					
WPLTGEE0I0IP54-20	0	25	IP54	2	2m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction,25A circuit on right side,no socket)
WPLTGEE0I0IP54-30	0	25	IP54	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction,25A circuit on right side,no socket)
WPLTGEE0I0IP54-20	0	25	IP54	2	2m, IP54, Elbow(with one input and one output terminal box)(along current direction, 25A circuit on left side, no socket; along current direction, no circuit on right side,no socket)
WPLTGEE0I0IP54-30	0	25	IP54	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, 25A circuit on left side, no socket; along current direction, no circuit on right side,no socket)
WPLTGEE0I0IP55-30	0	25	IP55	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction,25A circuit on right side,no socket)
WPLTGEE0I0IP54-20	0	40	IP54	2	2m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
WPLTGEE0I0IP54-30	0	40	IP54	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
WPLTGEE0I0IP54-20	0	40	IP54	2	2m, IP54, Elbow(with one input and one output terminal box)(along current direction, 40A circuit on left side, no socket; along current direction, no circuit on right side,no socket)
WPLTGEE0I0IP54-30	0	40	IP54	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, 40A circuit on left side, no socket; along current direction, no circuit on right side,no socket)
WPLTGEE0I0IP55-30	0	40	IP55	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, no circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
WPLTGEE0I0IP54-20	0	40+40	IP54	2	2m, IP54, Elbow(with one input and one output terminal box)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
WPLTGEE0I0IP54-30	0	40+40	IP54	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
WPLTGEE0I0IP55-30	0	40+40	IP55	3	3m, IP54, Elbow(with one input and one output terminal box)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side,no socket)
Feeder					
WPLTGFEO0I0IP54-20	0	25	IP54	2	2m, IP54, Feeder box(with exible tube)(along current direction, no circuit on left side, no socket; along current direction, 25A circuit on right side, no socket)
WPLTGFEO0I0IP54-30	0	25	IP54	3	3m, IP54, Feeder box(with exible tube)(along current direction, no circuit on left side, no socket; along current direction, 25A circuit on right side, no socket)
WPLTGFEO0I0IP54-20	0	25	IP54	2	2m, IP54, Feeder box(with exible tube)(along current direction, 25A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP54-30	0	25	IP54	3	3m, IP54, Feeder box(with exible tube)(along current direction, 25A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP55-20	0	25	IP55	2	2m, IP54, Feeder box(with exible tube)(along current direction, 25A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP54-20	0	40	IP54	2	2m, IP54, Feeder box(with exible tube)(along current direction, no circuit on left side, no socket; along current direction, 40A circuit on right side, no socket)
WPLTGFEO0I0IP54-30	0	40	IP54	3	3m, IP54, Feeder box(with exible tube)(along current direction, no circuit on left side, no socket; along current direction, 40A circuit on right side, no socket)
WPLTGFEO0I0IP54-20	0	40	IP54	2	2m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP54-30	0	40	IP54	3	3m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP55-20	0	40	IP55	2	2m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, no circuit on right side, no socket)
WPLTGFEO0I0IP54-20	0	40+40	IP54	2	2m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side, no socket)
WPLTGFEO0I0IP54-30	0	40+40	IP54	3	3m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side, no socket)
WPLTGFEO0I0IP55-20	0	40+40	IP55	2	2m, IP54, Feeder box(with exible tube)(along current direction, 40A circuit on left side, no socket; along current direction, 40A circuit on right side, no socket)

Product Code	Outlet (A)	IP Protection	Length (m)	Phase	Product Description
Plug					
WPLTGP10L1IP54-10	10	IP54	1	L1	phase L1 (phase A) output10APlug
WPLTGP10L1IP54-20	10	IP54	2	L1	phase L1 (phase A) output10APlug
WPLTGP10L2IP54-10	10	IP54	1	L2	phase L2 (phase B) output10APlug
WPLTGP10L2IP54-20	10	IP54	2	L2	phase L2 (phase B) output10APlug
WPLTGP10L3IP54-10	10	IP54	1	L3	phase L3 (phase C) output10APlug
WPLTGP10L3IP54-20	10	IP54	2	L3	phase L3 (phase C) output10APlug
WPLTGP16L1IP54-10	16	IP54	1	L1	phase L1 (phase A) output16APlug
WPLTGP16L1IP54-20	16	IP54	2	L1	phase L1 (phase A) output16APlug
WPLTGP16L2IP54-10	16	IP54	1	L2	phase L2 (phase B) output16APlug
WPLTGP16L2IP54-20	16	IP54	2	L2	phase L2 (phase B) output16APlug
WPLTGP16L3IP54-10	16	IP54	1	L3	phase L3 (phase C) output16APlug
WPLTGP16L3IP54-20	16	IP54	2	L3	phase L3 (phase C) output16APlug

Product Code	Product Description
Accessory	
WPLTGAHGB	Fixing Bracket
WPLTGACLP	Snap Clamp
WPLTGACBC	Cable Clamp
WPLTGAFXS	Fixing Clamp
WPLTGAFXB	Suspension Bracket
WPLTGAMHK	Mouse Hook

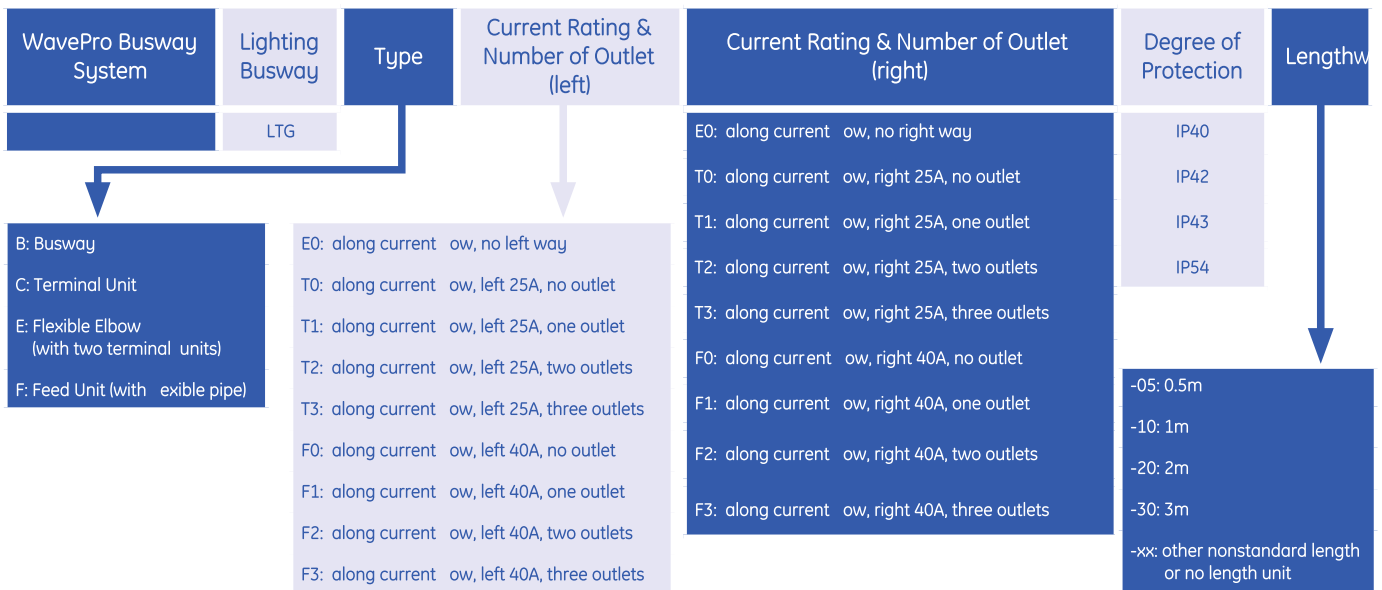
Acsesories list

Item	Description	Spec	Unit	
LB (Lighting Busway)				
Lighting Busway		Electroducto de Iluminación L=3000mm Cu_3P4W_Housing as 50% PE_40A	section	
Outlet		Apertura instalada en cada barra	nos	
Feed unit		Caja para alimentacion	nos	
Plug		Salida a luminaria 6 o 10 amperios	nos	
End cover		Tapa final	nos	
Suspension bracket		Soporte	nos	
Fixing bracket		Tapa de union	nos	
Cable clamp		Soporte de cable	nos	

Catalogue Numbering System

WavePro LTG lighting busway can be ordered by catalogue number, please contact GE engineer to place order in accordance with below catalog numbering system.

Trunking System



WavePro Busway System	Lighting Busway	Type	Current Rating	Phase	Degree of Protection	Cable LengthwP
	LTG	P Tap-off Unit (Plug)	10: 10A 16: 16A	L1: L1 or A Phase L2: L2 or B Phase L3: L3 or C Phase	IP40 IP42 IP43 IP54	-10 1m -20 2m -xx: other nonstandard length

WavePro Busway System	Lighting Busway	Type	Component ^{WP}
	LTG	A: Accessory	HGB (Fixing Bracket) CLP (Snap Clamp) CBC (Cable Clamp) FXS (Fixing Clamp) FXB (Suspension Bracket) MHK (Mouse Hook)

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