

## Standards



Intertek

ASTA approved to BS EN 60439-2 and IEC 439-2  
Manufactured within an approved ISO 9001 : 2008 facility  
Assessed Quality Assurance Certificate No. 10679  
Electrak fully complies with the requirements of BS 7671 : 2008  
(IEE Wiring Regulations)

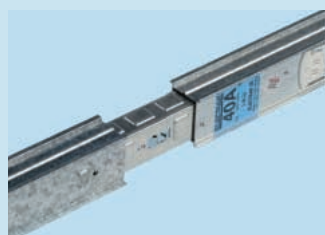
## Buscom trunking options

• L	• L2	• L2	• L3
• N	• L1	• N2	• L1
PE	• N	• L1	• L1
••	PE	• N1	• N
••	••	PE	PE
••	••	••	••

•• Communication bus

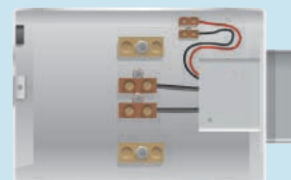
Electrak buscom trunking can be used with Electrak's cost effective lighting control system, Lightrak KNX, or any other systems using control protocols such as KNX, Lonworks, DALI, etc.  
Electrak's overhead trunking couples high quality engineering with rigidity of design, and provides power for a variety of applications including lighting, heating and ventilation. The robust easy fix modular system permits loads to be suspended directly from the trunking using Electrak's various fixing brackets  
Push fit connection keeps installation costs to a minimum

## Track lengths simply push fit together



## Feed units

25 A rated - max. conductor size 6 mm<sup>2</sup>  
40 A rated - max. conductor size 16 mm<sup>2</sup>  
Double sided trunking feed units have power cable terminals on both sides.  
IP 4X galvanised steel  
IP 54 ABS



2 pole + earth + comms  
Comm's bus  
Max. conductor size 1.5 mm<sup>2</sup>  
Red +  
Black -

Electrical test data	25 A	40 A	UOM
Derating factor for Electrak 32 single sided	–	0.8	–
Derating factor for Electrak 32 double sided	0.8	0.7	–
Derating factor for Electrak 33 double sided	–	0.8	–
Rated operational voltage (U <sub>e</sub> )	230/400	230/400	V~
Rated insulation voltage (U <sub>i</sub> )	500	500	V~
Frequency (f)	50/60	50/60	Hz
Rated impulse withstand voltage	4.0	4.0	KV
Busbar resistance (R <sub>20</sub> )	3.9	2.7	mΩ/m
Resistance (R <sub>1</sub> )	4.2	3.0	mΩ/m
Impedance (Z <sub>1</sub> )	4.8	3.4	mΩ/m
Reactance (X <sub>1</sub> )	2.5	1.6	mΩ/m
Protective conductor	1.5	1.5	mΩ/m

Volt drops	25 A	40 A	UOM
Live and neutral : busbars	9.0	6.0	mV/A/m
(R <sub>1</sub> +R <sub>2</sub> ) Feed unit	3.0	2.4	mV/A
Tap-off 0.8 m	22.0	22.0	mV/A
Tap-off 2.0 m	52.0	52.0	mV/A
Flexible length assembly 0.5 m	5.0	3.5	mV/A
Flexible length assembly 2 m	20.0	14.0	mV/A

Earth fault loop	25 A	40 A	UOM
Impedance : busbar	4.5	3.0	mΩ/m
Earth housing	1.5	1.5	mΩ/m
Feed unit	2.4	2.4	mΩ
Tap-off 0.8m	23.0	23.0	mΩ
Tap-off 2.0m	53.0	53.0	mΩ
Flexible length assembly 0.5 m	2.5	1.75	mV/A
Flexible length assembly 2 m	10.0	7.0	mV/A
Rated conditional short-circuit current (I <sub>cc</sub> )	16.0	16.0	KA
Rated short time withstand current (I <sub>cw</sub> ) at 1 sec	0.65	1.0	KA
Rated peak short-circuit current (I <sub>pk</sub> )	0.975	1.5	KA
Ambient temperature	35.0	35.0	°C

Mechanical data	25 A	40 A	UOM
Number of conductors	2-10	2-10	–
Busbar conductor cross sectional area	4.0	6.0	mm <sup>2</sup>
Cable terminal capacity	6.0	16.0	mm <sup>2</sup>
Cable terminal capacity bus	1.5	1.5	mm <sup>2</sup>
Tap-off cable 16 A	1.5	1.5	mm <sup>2</sup>
Tap-off cable 13 A fused	1.5	1.5	mm <sup>2</sup>
Tap-off entry	16.0	16.0	mmØ
Feed unit entry holes power	25.0	25.0	mmØ
Feed unit entry holes bus	16.0	16.0	mmØ
IP rating (optional)	4 X (54)	4 X (54)	–

Direct protection by enclosure. Indirect protection by protective circuit

# Electrak® busbar / buscom trunking

technical data

## Communication control circuit

Type	Bus cable (LSOH)
Construction	Sheathed 0.5 mm <sup>2</sup> copper twisted pair
Insulation - conductor	Flame retardant low emission HCL
Sheath	LSOH material
Rated insulation voltage (Ui) (between power circuit and bus)	500 V
Max. bus operating voltage	50 V
Max. bus operating current	0.65 A
Max. conductor resistance (@20°C)	73.2 Ω/km
Max. mutual capacitance	100 nF/km
Material specifications	
Busbar trunking housing	Galvanised steel
Busbars	High conductivity copper
Busbar insulator	Flame retardant LSOH to BS 7211
Trunking connector / tap-off entry box / cable connector	Flame retardant polycarbonate
Tap-off housing	Flame retardant polycarbonate
Trunking connector blades / tap-off blades	Copper
Feed unit IP 4X	Galvanised steel
Feed unit IP 54	ABS
Flexible length conduit	Flame retardant LSOH nylon
Feed unit terminals / earth block	Brass
Brackets	Galvanised steel
13 A tap-off, fuse	To BS 1362, ASTA approved

## Durability

Electrak power distribution systems are well designed and extremely robust. They can be expected to stand up to all normal site conditions. Electrak has been short circuit strength tested by ASTA.

## Earth fault loop impedance

BS 7671 : 2008 IEE Wiring Regulations require accurate determination of the total earth loop impedance, which must be sufficiently low to allow the protective device to operate within the specified time, which for socket outlets is 0.4 seconds.

The values relevant to Electrak for calculating the earth fault loop impedance are shown in the electrical test data table, see opposite.

## Busbar trunking rating in ambient temperatures

Average ambient air temperature	25°C	30°C	35°C	40°C	45°C	50°C
Rating factor (K1)	1.1	1.05	1	0.95	0.90	0.85

For ambient temperatures other than 35°C apply the multiplier factor K1 to the rated current.

## Busbar trunking mechanical loading

For point loads and evenly distributed loads the maximum weight that can be supported is given below.

### Maximum loading for suspended busbar trunking

Fixing distance (m)	1.5	2	2.5	3	3.5	4
Max. point load (deflection = 1/500 x span) (Kg)	20	17	13	12	9	7
Max. distributed load (deflection = 1/500 x span) (Kg)	33	28	22	20	15	12
Max. point load (deflection = 1/350 x span) (Kg)	33	24	18	16	10	9
Max. distributed load (deflection = 1/350 x span) (Kg)	55	40	30	26	16	15

### Maximum loading for surface mounted busbar trunking

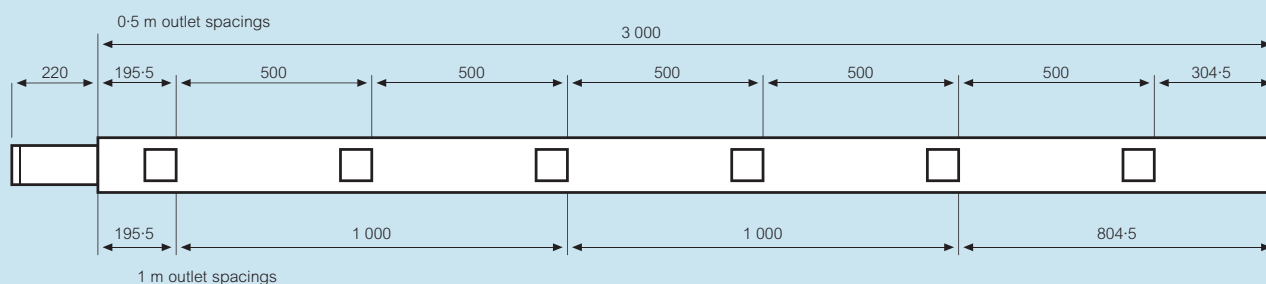
Fixing distance in metres (m)	1.5	2	2.5	3	3.5	4
Max. point load (deflection = 1/500 x span) (Kg)	10	6	4.5	4	3.5	3
Max. distributed load (deflection = 1/500 x span) (Kg)	16	10	7.5	7	6	5
Max. point load (deflection = 1/350 x span) (Kg)	13	10	7	6	5	0
Max. distributed load (deflection = 1/350 x span) (Kg)	20	16	11	10	8	0

## Notes

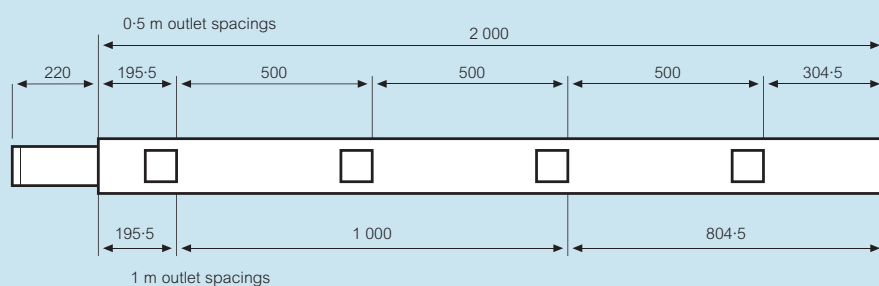
- Where trunking joints occur in the middle of the suspension span, and weight is to be suspended from that point, it is recommended to use a strengthening bracket EEC364 over the joint to stop deflection.
- If the load requirements exceed the above figures, please contact us on +44 (0) 845 600 6266. For design information and technical specification, please contact us on +44 (0) 845 600 6266. Suspension rods and fixings should be of suitable size to carry the weight of both the track and suspended load.

# ■ Fixing dimensions

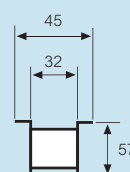
## Busbar trunking 3 m



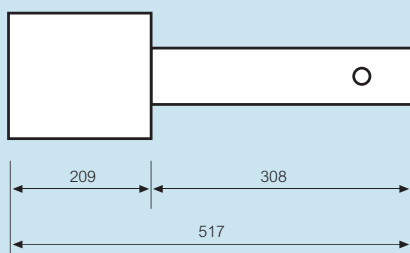
## Busbar trunking 2 m



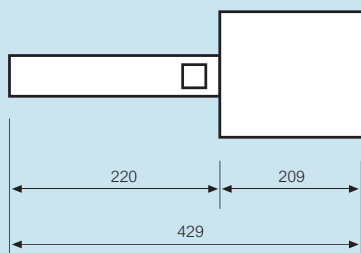
## Busbar trunking End view



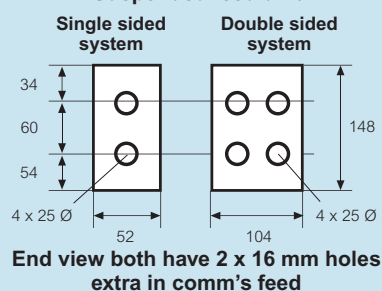
## Feed unit – left



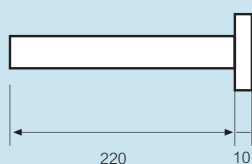
## Feed unit – right



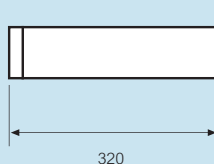
## Suspended feed unit



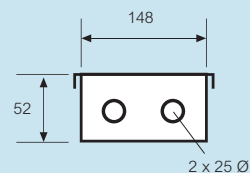
## End stop – right



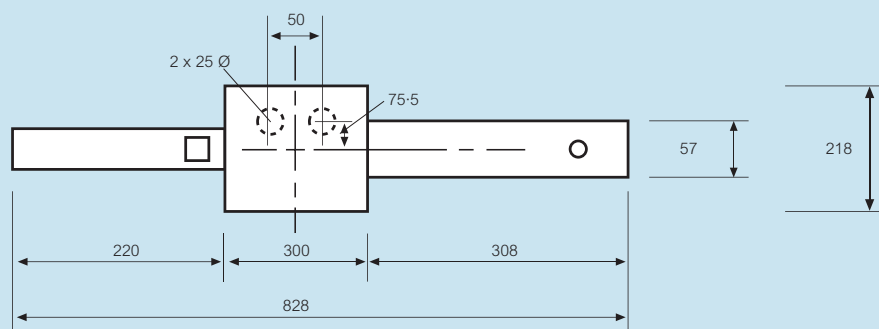
## End stop – left



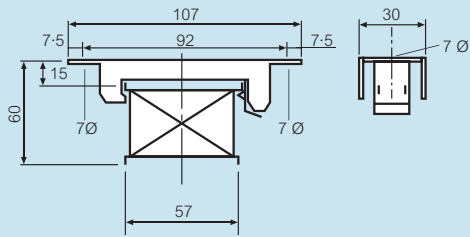
## Surface feed unit – end view



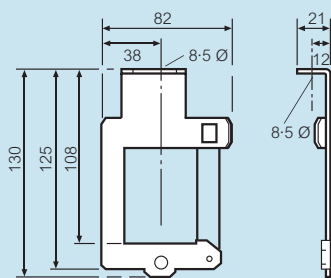
## Centre feed – front view



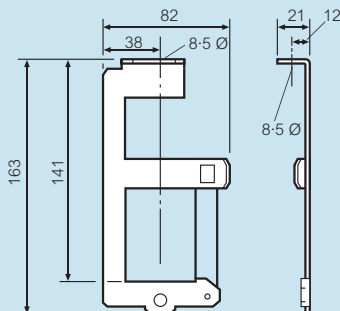
**Cat. No. EEA304 Surface trunking fixing bracket with trunking clipped in**



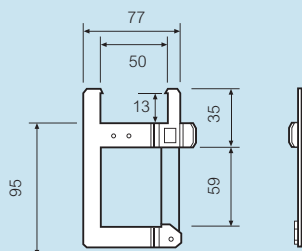
**Cat. No. EEA308 Suspended trunking fixing bracket**



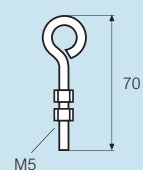
**Cat. No. EEA312 Suspended trunking fixing bracket cable duct stirrup**



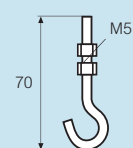
**Cat. No. EEC352 Cable duct fixing bracket**



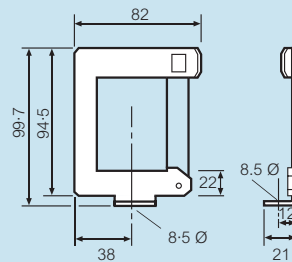
**Cat. No. EEB344 Closed ring hook**



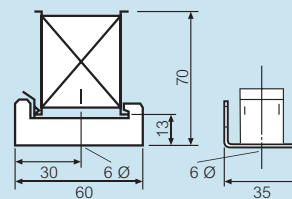
**Cat. No. EEB340 Open hook**



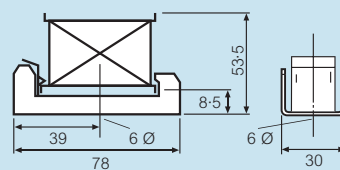
**Cat. No. EEA324 Luminaire suspended fixing bracket**



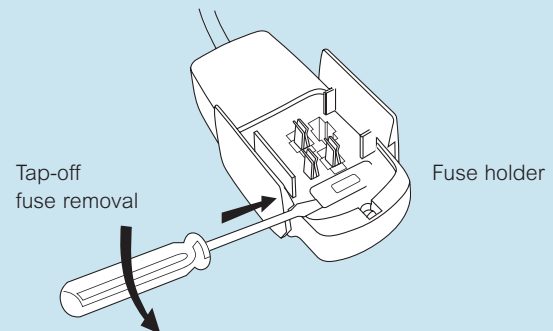
**Cat. No. EEA328 Luminaire 45 mm edge suspension fixing bracket**



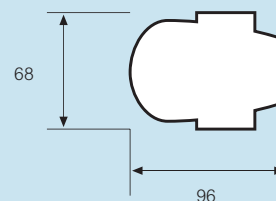
**Cat. No. EEA332 Luminaire 57 mm edge suspension fixing bracket**



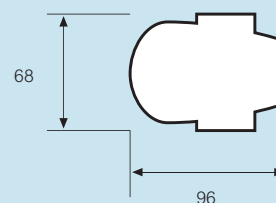
**Fused tap-off**



**Pre-wired tap-offs – 33 mm deep**



**Rewirable and phase selection tap-offs – 35 mm deep**



## ■ Design and installation

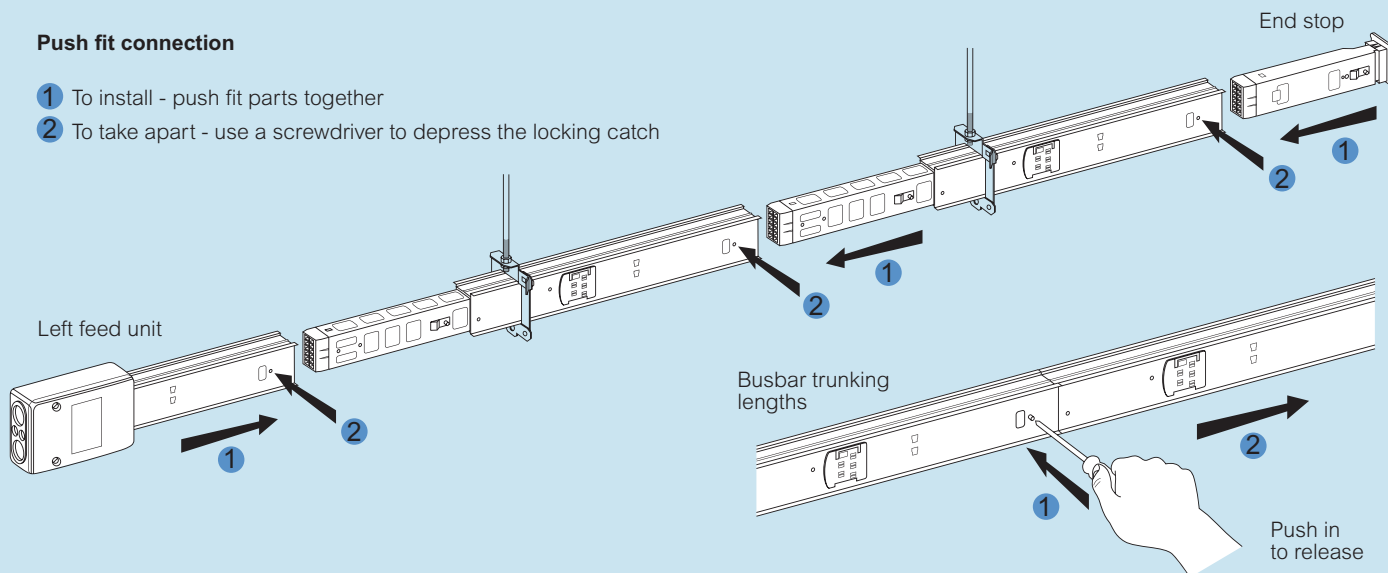
Electrak's busbar trunking system comprises continuous lengths of galvanised steel trunking in either a natural or painted finish available in 2 m and 3 m lengths with an integral connector and pitched tap-off outlets on one or both sides

Each trunking run commences with a feed unit for electrical cable termination. The connection between the trunking, the feed unit and subsequent trunking lengths is push fit and requires no tools to terminate the connection or ensure good earthing. Each complete track run is finished with an end stop. Flexible lengths can be used to overcome obstructions or used as corners where required

The trunking system is available with IP 4X or IP 54 ingress protection, fully factory tested and ASTA approved to BS EN 60439-2 : 2008

### Push fit connection

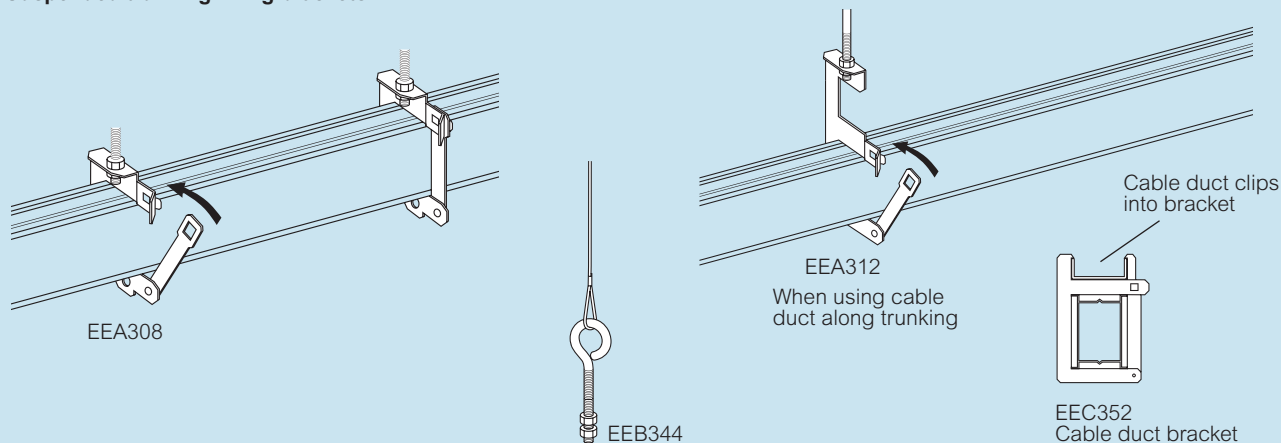
- 1 To install - push fit parts together
- 2 To take apart - use a screwdriver to depress the locking catch



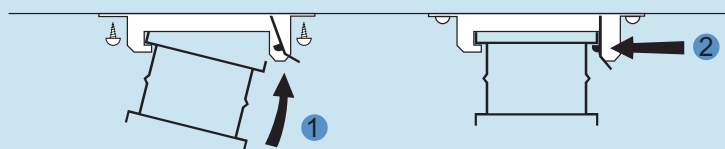
### Considerations before installation

Calculate the distance between fixing brackets - the maximum fixing distance should not exceed 4 m. If loads are to be hung, please consult loading charts on page 67. The maximum busbar trunking weight is 2 kg/m. When fixing brackets to drop rods or surfaces, see mounting details below

### Suspended trunking fixing brackets



### Surface mounted trunking fixing brackets

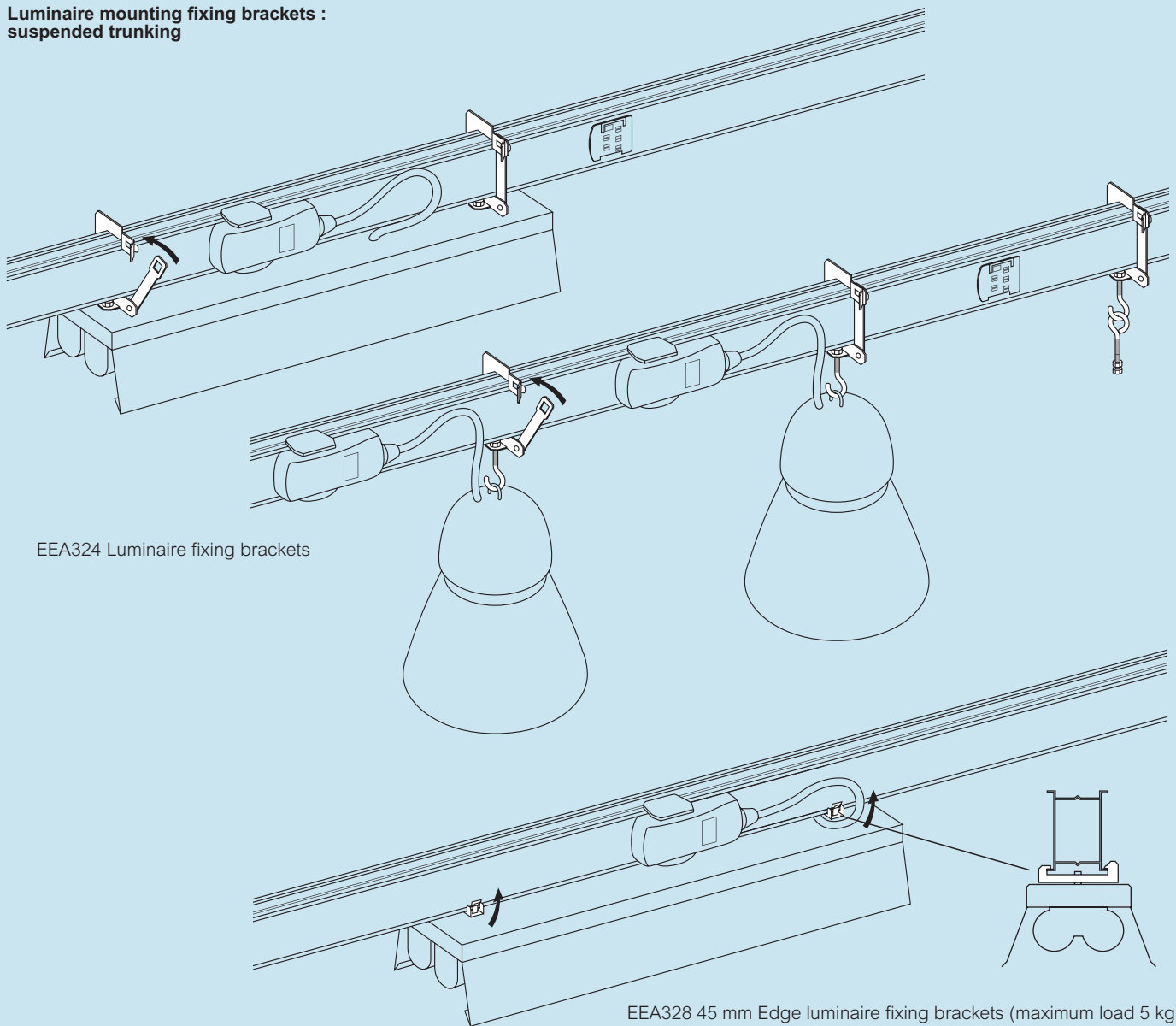


EEA304 57 mm Edge surface fixing bracket

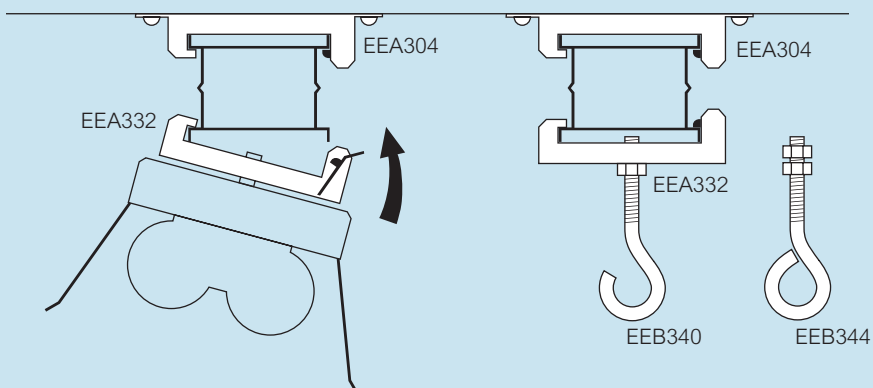
### Considerations before installation

Ensure surface is level. Screw fix through both fixing holes of surface fixing brackets to surface with No. 8 fixing screws. Hook trunking into place and push fit to close

**Luminaire mounting fixing brackets :  
suspended trunking**



**Luminaire mounting fixing brackets :  
surface trunking**



EEA332 57 mm Edge luminaire fixing bracket (maximum load 5 kg)  
See maximum loading charts p. 67