POWERTRACK

adaptable, reliable

underfloor power

THE INDUSTRY STANDARD IN UNDERFLOOR POWER

Electrak powertrack / underfloor busbar is perfect for cavity floor installations. With minimal parts, push-fit assembly and a complementary range of floor boxes and grommets, this flexible, easy-to-install system can be reconfigured as office layouts evolve.

The system consists of continuous lengths of track which are fed via a feed unit and can be installed in floor voids as low as 48mm.

- 63 A rated, IP 40 protection
- Available in five versions: single phase, clean earth, dual circuit, three phase and auxiliary earth
- Tinned busbar version available for use within Abu Dhabi (see page 15)
- Available in 1.2m, 1.8m, 2.4m and 3.6m lengths
- Tap-off outlets are located at every 300 or 600mm pitch
- Floor mountable (stand-off brackets also available)

Integral track connector plugs into feed unit

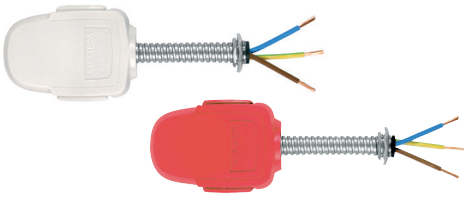
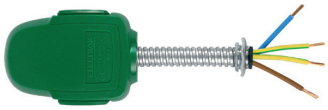
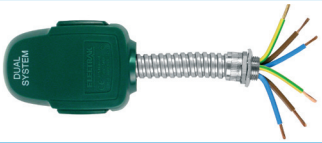
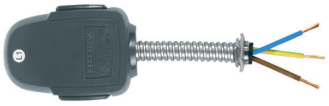
Lengths simply push-fit together

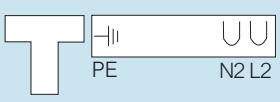
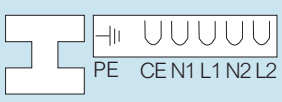
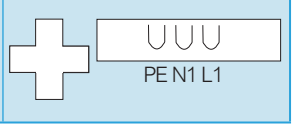
Integral fixing brackets for rapid installation

Tap-offs plug into shuttered socket outlets and lock onto track body

Electrak® powertrack / underfloor busbar system

selection chart

	Description	Length (m)	
Track lengths with 300 mm socket centres			
	4 outlets	1·2	
	6 outlets	1·8	
	8 outlets	2·4	
	12 outlets	3·6	
Track feeds			
		–	
	Excluding cables and conduit		
	Flexible metal conduit		
	Flexible metal conduit		
Standard tap-off / auxiliary earth tap-off			
	32 A unfused 16 mm Ø L, N, PE	3	
		5	
	13 A fused 16 mm Ø L, N, PE	3	
		5	
	13 A 543·7 fused 16 mm Ø L, N, PE	3	
		5	
Low noise / clean earth tap-off			
	32 A unfused 16 mm Ø CE, L, N, PE	3	
		5	
	13 A fused 16 mm Ø CE, L, N, PE	3	
		5	
	13 A 543·7 fused 16 mm Ø CE, L, N, PE	3	
		5	
Dual circuit tap-off			
	32 A unfused 20 mm Ø CE, L1, N1 L2, N2, PE	3	
		5	
3 phase tap-off			
	32 A 415 V 3 phase 20 mm Ø L1, L2, L3, N, PE	3	
		5	
	32 A L1 unfused reconfigurable live pin 16 mm Ø L1, N, PE	3	
		5	
	32 A L2 unfused reconfigurable live pin 16 mm Ø L2, N, PE	3	
		5	
	32 A L3 unfused reconfigurable live pin 16 mm Ø L3, N, PE	3	
		5	
	Key code / Busbar arrangement		

	ELECTRAK 24 Standard system (white)	ELECTRAK 25 Low noise / clean earth system (green)	ELECTRAK 26 Dual circuit system (dark green)	ELECTRAK 27 3 phase system (grey)	ELECTRAK 28 Auxiliary earth system (red)
	DA1123	JA2123	KA3123	NA4123	YA5123
	DA1183	JA2183	KA3183	NA4183	YA5183
	DA1243	JA2243	KA3243	NA4243	YA5243
	DA1363	JA2363	KA3363	NA4363	YA5363
	DF1010	JF2010	KF3010	NF4010	YF5010
	DW1000	JW2000	KW3000	NW4000	YW5000
	DW1010	JW2010	KW3010	NW4010	YW5010
	DW1020	JW2020	KW3020	NW4020	YW5020
	DP1332	–	DP1332	–	YP5332
	DP1532	–	DP1532	–	YP5532
	DP1313	–	DP1313	–	YP5313
	DP1513	–	DP1513	–	YP5513
	DP1327	–	DP1327	–	YP5327
	DP1527	–	DP1527	–	YP5527
	–	JP2332	JP2332	–	–
	–	JP2532	JP2532	–	–
	–	JP2313	JP2313	–	–
	–	JP2513	JP2513	–	–
	–	JP2327	JP2327	–	–
	–	JP2527	JP2527	–	–
	–	–	KP3328	–	–
	–	–	KP3528	–	–
	–	–	–	NZ4331	–
	–	–	–	NZ4531	–
	–	–	–	NP4332[1]	–
	–	–	–	NP4532[1]	–
	–	–	–	NP4302[1]	–
	–	–	–	NP4502[1]	–
	–	–	–	NP4303[1]	–
	–	–	–	NP4503[1]	–
					

1 : All NP tap-offs are reconfigurable between L1, L2 or L3 for 3 phase track

Electrak® 24 powertrack / underfloor busbar system

standard system (white)


DA1123


DF1010


DW1010


DP1332

Selection charts **p. 8-9**
Dimensions and technical information **p. 18-23**

Approved to ASTA Standard 138 and ISO 9001 : 2008
Conforms to BS EN 61534-22 : 2014. Fully complies with the requirements of BS 7671 : 2008 + AMD 3 : 2015 IET Wiring Regulations
A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Track system components
		Electrak 24 standard track lengths
		Track lengths fit together using the integral connectors on each length Track lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	DA1123	1·2 m, 4 outlets, 2 floor fixing brackets
1	DA1183	1·8 m, 6 outlets, 2 floor fixing brackets
1	DA1243	2·4 m, 8 outlets, 2 floor fixing brackets
1	DA1363	3·6 m, 12 outlets, 3 floor fixing brackets
		Track feed unit
1	DF1010	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	DW1000	Excluding cables and conduit
1	DW1010	1·2 m flexible metal conduit
1	DW1020	2·4 m flexible metal conduit
		Special fixing brackets
		Required when track is raised off surface level Brackets raise track by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under track body and track feed
1	DZ1230	For fitting under integral track connectors

Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the powertrack is protected by a protective device not exceeding 32 A
		32 A unfused
		16 mm Ø, L, N, PE
1	DP1332	3 m
1	DP1532	5 m
		13 A fused
		16 mm Ø, L, N, PE
1	DP1313	3 m
1	DP1513	5 m
		13 A 543·7 fused - high integrity
		16 mm Ø, L, N, PE
1	DP1327	3 m
1	DP1527	5 m
		Tap-off units specifically for the U.A.E.
		To meet the local requirements, these tap-offs contain silver-flashed blades, larger 20 mm Ø conduits and minimum 4 mm² conductors
		32 A unfused
		L (red), N (black), PE (green/yellow)
1	DP1332R	3 m U.A.E.
1	DP1532R	5 m U.A.E.
		13 A fused
		L (red), N (black), PE (green/yellow)
1	DP1314R	3 m U.A.E.
1	DP1514R	5 m U.A.E.

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

Electrak® 25 powertrack / underfloor busbar system

low noise / clean earth system (green)

JA2123

JF2010

JW2010

JP2332

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Dimensions and technical information **p. 18-23**

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A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Track system components
		Electrak 25 low noise / clean earth track lengths
		Track lengths fit together using the integral connectors on each length Track lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	JA2123	1·2 m, 4 outlets, 2 floor fixing brackets
1	JA2183	1·8 m, 6 outlets, 2 floor fixing brackets
1	JA2243	2·4 m, 8 outlets, 2 floor fixing brackets
1	JA2363	3·6 m, 12 outlets, 3 floor fixing brackets
		Track feed unit
1	JF2010	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	JW2000	Excluding cables and conduit
1	JW2010	1·2 m flexible metal conduit
1	JW2020	2·4 m flexible metal conduit
		Special fixing brackets
		Required when track is raised off surface level Brackets raise track by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under track body and track feed
1	DZ1230	For fitting under integral track connectors

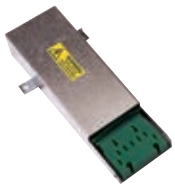
Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the powertrack is protected by a protective device not exceeding 32 A
		32 A unfused
		16 mm Ø, CE, L, N, PE
1	JP2332	3 m
1	JP2532	5 m
		13 A fused
		16 mm Ø, CE, L, N, PE
1	JP2313	3 m
1	JP2513	5 m
		13 A 543·7 fused - high integrity
		16 mm Ø, CE, L, N, PE
1	JP2327	3 m
1	JP2527	5 m

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

Electrak® 26 powertrack / underfloor busbar system

dual circuit system (dark green)

KA3123


KF3010


KW3010


KP3328

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Conforms to BS EN 61534-22 : 2014. Fully complies with the requirements of BS 7671 : 2008 + AMD 3 : 2015 IET Wiring Regulations
A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Track system components
		The dual powertrack system has both standard and low noise / clean earth systems incorporated
		Electrak 26 dual circuit track lengths
		Track lengths fit together using the integral connectors on each length Track lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	KA3123	1·2 m, 4 outlets, 2 floor fixing brackets
1	KA3183	1·8 m, 6 outlets, 2 floor fixing brackets
1	KA3243	2·4 m, 8 outlets, 2 floor fixing brackets
1	KA3363	3·6 m, 12 outlets, 3 floor fixing brackets
		Track feed unit
1	KF3010	With two 25 mm diameter holes suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	KW3000	Excluding cables and conduit
1	KW3010	1·2 m flexible metal conduit
1	KW3020	2·4 m flexible metal conduit
		Special fixing brackets
		Required when track is raised off surface level Brackets raise track by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under track body and track feed
1	DZ1230	For fitting under integral track connectors

Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the powertrack is protected by a protective device not exceeding 32 A
		Standard 32 A unfused
		16 mm Ø, L, N, PE
1	DP1332	3 m
1	DP1532	5 m
		Standard 13 A fused
		16 mm Ø, L, N, PE
1	DP1313	3 m
1	DP1513	5 m
		Standard 13 A 543·7 fused
		16 mm Ø, L, N, PE
1	DP1327	3 m
1	DP1527	5 m
		Low noise / clean earth 32 A unfused
		16 mm Ø, CE, L, N, PE
1	JP2332	3 m
1	JP2532	5 m
		Low noise / clean earth 13 A fused
		16 mm Ø, CE, L, N, PE
1	JP2313	3 m
1	JP2513	5 m
		Low noise / clean earth 13 A 543·7 fused
		16 mm Ø, CE, L, N, PE
1	JP2327	3 m
1	JP2527	5 m
		Dual circuit 32 A unfused
		20 mm Ø, CE, L1, N1, L2, N2,PE
1	KP3328	3 m
1	KP3528	5 m

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

Electrak® 27 powertrack / underfloor busbar system

3 phase system (grey)


NA4123


NF4010


NW4010


NZ4331

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Dimensions and technical information **p. 18-23**

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Conforms to BS EN 61534-22 : 2014. Fully complies with the requirements of BS 7671 : 2008 + AMD 3 : 2015 IET Wiring Regulations
A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Track system components
		Electrak 27 3 phase track lengths
		Track lengths fit together using the integral connectors on each length Track lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	NA4123	1·2 m, 4 outlets, 2 floor fixing brackets
1	NA4183	1·8 m, 6 outlets, 2 floor fixing brackets
1	NA4243	2·4 m, 8 outlets, 2 floor fixing brackets
1	NA4363	3·6 m, 12 outlets, 3 floor fixing brackets
		Track feed unit
1	NF4010	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	NW4000	Excluding cables and conduit
1	NW4010	1·2 m flexible metal conduit
1	NW4020	2·4 m flexible metal conduit
		Special fixing brackets
		Required when track is raised off surface level Brackets raise track by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under track body and track feed
1	DZ1230	For fitting under integral track connectors

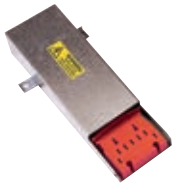
Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the powertrack is protected by a protective device not exceeding 32 A
		32 A 415 V 3 phase
		20 mm Ø, L1, L2, L3, N, PE
1	NZ4331	3 m
1	NZ4531	5 m
		32 A L1[2] unfused
		Reconfigurable live pin 16 mm Ø, L, N, PE
1	NP4332	3 m
1	NP4532	5 m
		32 A L2[2] unfused
		Reconfigurable live pin 16 mm Ø, L, N, PE
1	NP4302	3 m
1	NP4502	5 m
		32 A L3[2] unfused
		Reconfigurable live pin 16 mm Ø, L, N, PE
1	NP4303	3 m
1	NP4503	5 m
		Tap-off units specifically for the U.A.E.
		To meet the local requirements, these tap-offs contain silver-flashed blades, larger 20 mm Ø conduits, minimum 4 mm² conductors and use RYB colour coding for the conductors
		32 A unfused
1	NP4332R	3 m L1 U.A.E. (R)
1	NP4532R	5 m L1 U.A.E. (R)
1	NP4302Y	3 m L2 U.A.E. (Y)
1	NP4502Y	5 m L2 U.A.E. (Y)
1	NP4303B	3 m L3 U.A.E. (B)
1	NP4503B	5 m L3 U.A.E. (B)

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266
2 : All NP tap-offs are reconfigurable between L1, L2, or L3 for 3 phase track

Electrak® 28 powertrack / underfloor busbar system

auxiliary earth system (red)


YA5123


YF5010


YW5010

YP5332

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A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Track system components
		Electrak 28 auxiliary earth track lengths
		Track lengths fit together using the integral connectors on each length Track lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	YA5123	1·2 m, 4 outlets, 2 floor fixing brackets
1	YA5183	1·8 m, 6 outlets, 2 floor fixing brackets
1	YA5243	2·4 m, 8 outlets, 2 floor fixing brackets
1	YA5363	3·6 m, 12 outlets, 3 floor fixing brackets
		Track feed unit
1	YF5010	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	YW5000	Excluding cables and conduit
1	YW5010	1·2 m flexible metal conduit
1	YW5020	2·4 m flexible metal conduit
		Special fixing brackets
		Required when track is raised off surface level Brackets raise track by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under track body and track feed
1	DZ1230	For fitting under integral track connectors

Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the powertrack is protected by a protective device not exceeding 32 A
		32 A unfused
		16 mm Ø, L, N, PE
1	YP5332	3 m
1	YP5532	5 m
		13 A fused
		16 mm Ø, L, N, PE
1	YP5313	3 m
1	YP5513	5 m
		13 A 543·7 fused - high integrity
		16 mm Ø, L, N, PE
1	YP5327	3 m
1	YP5527	5 m

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

Electrak
tinned powertrack...

Designed to meet local standards

As a specific requirement for use within Abu Dhabi, Legrand has developed a 'tinned' busbar which has been designed in line with the guidance for busways outlined by the Abu Dhabi Distribution Company (ADDC), as detailed below.

Guideline For Design, Testing and Installation Of Busways GL.GN.01.
Issued by: Abu Dhabi Distribution Co.
Low Voltage Switchgear Committee
Issue: 2, Revision: 1, effective 01/02/2012

16. Lighting & Small Power Busways & Modular Wiring
Lighting & Power Socket bus duct and modular wiring are considered part of building wiring and regulated by the Electricity Wiring Regulation issued by RSB. It shall comply with respective specifications under the Wiring regulation. ADDC LVSGC approves these methods in principle provided that the RSB set aspects are incorporated (like tinning of copper, colour coding etc.).

Guideline For Design, Testing and Installation Of Busways GL.GN.01
Copyright Abu Dhabi Distribution Co.

Developed to meet the ADDC requirements for busways, these specially designed ranges see all busbars tinned along their entire length, and all busbar connectors and tap-off blades plated.

Approved to ASTA standard 138 and designed to be in accordance with the requirements of BS EN 60439-2: 2000 and BS EN 61534-22: 2009 (IEC 61534: 2009).

The Electrical Wiring Regulations 2007
Issued by: The Regulation and Supervision Bureau for the Water, Wastewater and Electricity Sector in the Emirate of Abu Dhabi. Revision 1, January 2009

7.7 Busways, bus ducts and busbar risers
7.7.6 Busways, bus ducts and busbar risers shall have neutral conductors of equal size to the phase conductors and shall have a dedicated Earth Conductor. The use of the metal casing as an earth conductor permitted only for Earth Leakage Protected Installations, and with the prior approval of the Distribution Company.

The Electrical Wiring Regulations 2007
Copyright The Regulation and Supervision Bureau (RSB)

The Electrak powertrack system uses equal size tinned copper busbars for live, neutral and earth conductors to meet with the requirements of The Regulation and Supervision Bureau of the Water, Wastewater and Electricity Sector in the Emirate of Abu Dhabi.

Electrak 28R tinned tap-offs

Electrak 28R tinned busbar connectors

Appendix 8. Colour identification for cables

Conductor	Colour
Non-flexible fixed wiring and all 3 phase cables:	
Phase 1	Red
Phase 2	Yellow
Phase 3	Blue
Neutral	Black
Earth conductors	Green / yellow

To meet the local regulations, tap-offs designed for sale within this region are supplied with the following cable colours:

Within any single phase system (e.g. Electrak 25R or Electrak 28R) - red (L), black (N) and green/yellow (E).

Specifically within the 3 phase Electrak 27 system - L1 tap-offs are red (L), black (N) and green/yellow (E); L2 tap-offs are yellow (L), black (N) and green/yellow (E); L3 tap-offs are blue (L), black (N) and green/yellow (E).

Appendix 9. Capacity of conduits and trunking

Conduit (mm^2)	Diameter of Conduit (mm^2)		
	20	25	32
	Maximum number of conductors		
1.5	7	12	-
2.5	5	9	12
4.0	3	6	9

The tap-offs contain a maximum of 2 x 4mm^2 conductors (excluding earths) housed in a 20mm ø metal flexible conduit.

NOTE: When designing installation in regions with higher ambient temperatures than 35°C, de-rating factors may need to be applied. Please refer to the table on page 22 for details.

Intertek

Electrak® 25R tinned powertrack / underfloor busbar system

low noise / clean earth system (green)

JA2123R

JF2010R

JW2010R

JP2332R

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A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Busbar system components
		63 A low noise / clean earth busbar lengths
		Busbar lengths fit together using the integral connectors on each length Lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	JA2123R	1·2 m, 4 outlets, 2 floor fixing brackets
1	JA2183R	1·8 m, 6 outlets, 2 floor fixing brackets
1	JA2243R	2·4 m, 8 outlets, 2 floor fixing brackets
1	JA2363R	3·6 m, 12 outlets, 3 floor fixing brackets
		Feed unit
1	JF2010R	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	JW2000R	Excluding cables and conduit
1	JW2010R	1·2 m flexible metal conduit
1	JW2020R	2·4 m flexible metal conduit
		Special fixing brackets
		Required when busbar is raised off surface level Brackets raise the system by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under lengths and feed units
1	DZ1230	For fitting under integral connectors

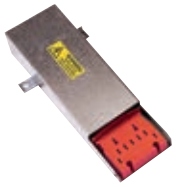
Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the busbar run is protected by a protective device not exceeding 32 A
		32 A unfused
		20 mm Ø, CE, L, N, PE (4 mm²)
1	JP2332R	3 m
1	JP2532R	5 m
		13 A fused - high integrity
		20 mm Ø, CE, L, N, PE (4 mm²)
1	JP2314R	3 m
1	JP2514R	5 m

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

Electrak® 28R tinned powertrack / underfloor busbar system

auxiliary earth system (red)

YA5123R



YF5010R

YW5010R

YP5332R

Selection charts **p. 8-9**
Dimensions and technical information **p. 18-23**

Approved to ASTA Standard 138 and ISO 9001 : 2008
Conforms to BS EN 61534-22 : 2014. Fully complies with the requirements of BS 7671 : 2008 + AMD 3 : 2015 IET Wiring Regulations
A compact system that can be installed in floor voids as low as 48 mm

Pack	Cat. Nos.	Busbar system components
		63 A auxiliary earth busbar lengths
		Busbar lengths fit together using the integral connectors on each length Lengths should always be secured using the integral floor fixing brackets 300 mm socket centres
1	YA5123R	1·2 m, 4 outlets, 2 floor fixing brackets
1	YA5183R	1·8 m, 6 outlets, 2 floor fixing brackets
1	YA5243R	2·4 m, 8 outlets, 2 floor fixing brackets
1	YA5363R	3·6 m, 12 outlets, 3 floor fixing brackets
		Feed unit
1	YF5010R	With one 25 mm diameter hole suitable for MICC, armoured cables or single core cables in conduit
		Flexible interlinks
		Can be used to overcome obstructions or as corners where required
1	YW5000R	Excluding cables and conduit
1	YW5010R	1·2 m flexible metal conduit
1	YW5020R	2·4 m flexible metal conduit
		Special fixing brackets
		Required when busbar is raised off surface level Brackets raise the system by 21 mm and should be spaced 600 mm apart
1	DZ1210	For fitting under lengths and feed units
1	DZ1230	For fitting under integral connectors

Pack	Cat. Nos.	Tap-off units
		Tap-off length is determined by the cable and not the conduit length, e.g. a 3 m tap-off has 3 m of cable and 2·6 m of flexible metal conduit[1] Tap-off units in excess of 3 m should only be used if they contain a fuse or if the busbar run is protected by a protective device not exceeding 32 A
		32 A unfused
		20 mm Ø, L, N, PE (4 mm²)
1	YP5332R	3 m
1	YP5532R	5 m
		13 A fused - high integrity
		20 mm Ø, L, N, PE (4 mm²)
1	YP5314R	3 m
1	YP5514R	5 m

1 : Tap-offs are supplied as standard with flexible metal conduit
For alternative wiring solutions, contact us on +44 (0) 345 600 6266

General installation notes

Electrak powertrack is a compact system that can be installed in floor voids as low as 48 mm

Feed units are provided with one or two 25 mm diameter holes suitable for MICC, armoured cables or single core cables in conduit
Track lengths connect together and to feed units using the integral connectors on each length

Lengths should always be secured using the integral floor fixing brackets ; three on the 3·6 m length and two on 2·4 m, 1·8 m or 1·2 m lengths

Access to power is provided along the busbar length by simply plugging tap-off units into shuttered socket outlets. These tap-off units feed all types of conventional floor service outlet boxes or feed workstations directly through the floor via insulated conductors contained in flexible metal or VO rated nylon conduit. When connecting tap-offs directly through the floor via grommet outlets to workstations care must be taken to ensure that the tap-off length is adequate

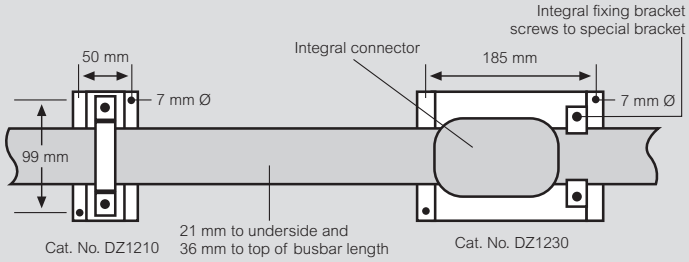
The dual system has both standard and low noise / clean earth systems incorporated. As well as dual tap-offs, both standard and low noise / clean earth tap-offs can be plugged into any socket outlet along the busbar length. The dual tap-off incorporates both standard and low noise cables

Optimum layout flexibility is achieved by positioning busbar lengths a maximum of 5·2 m apart and 2·5 m from the wall, and by connecting the 3 m tap-off units to floor outlet boxes. This means every part of the floor area can be served. Flexible interlinks can be used to overcome obstructions or used as corners if required

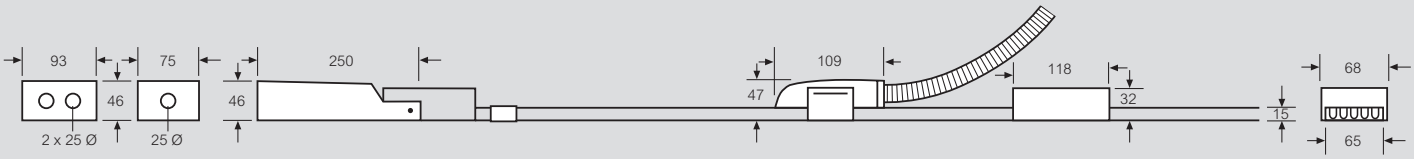
Special fixing brackets

Electrak special fixing brackets are available to raise the system by 21 mm. Ensure brackets are spaced 600 mm apart and always have support under the integral connectors and feed units. Failure to do so may undermine the integrity of the system

Cat. No. DZ1210 raised off-floor fixing brackets are spaced at 600 mm centres along the busbar run. Also use bottom half of bracket under feed unit and flexible interlink
Cat. No. DZ1230 raised off-floor fixing brackets are always used under integral connectors. Busbar is secured to raised brackets using the integral fixing bracket



Dimensions

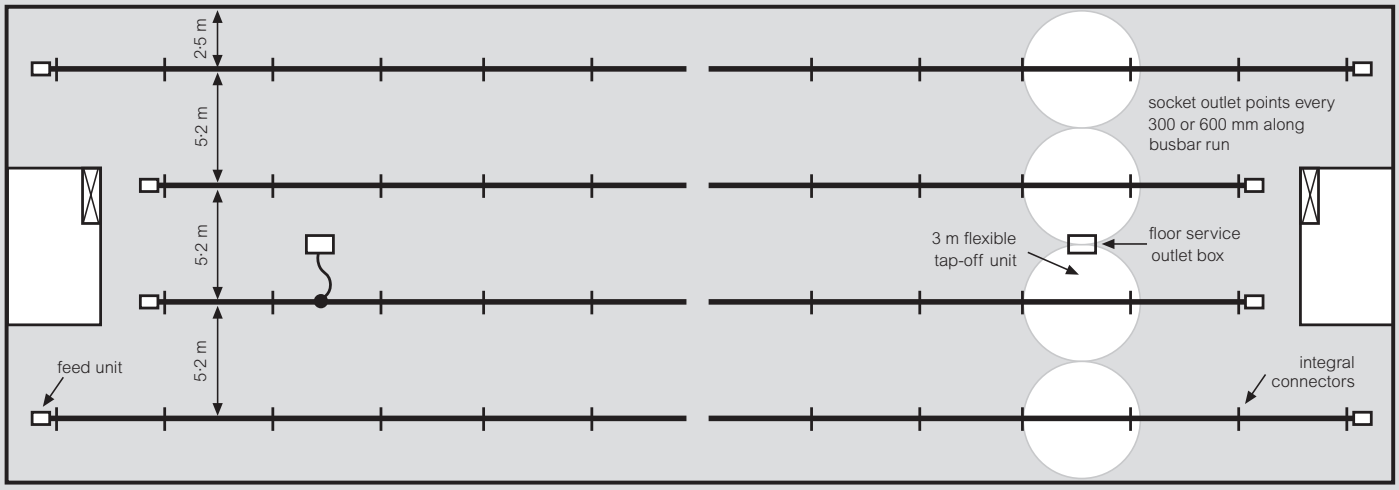


End view A

End view B

Integral fixing bracket fixing centres

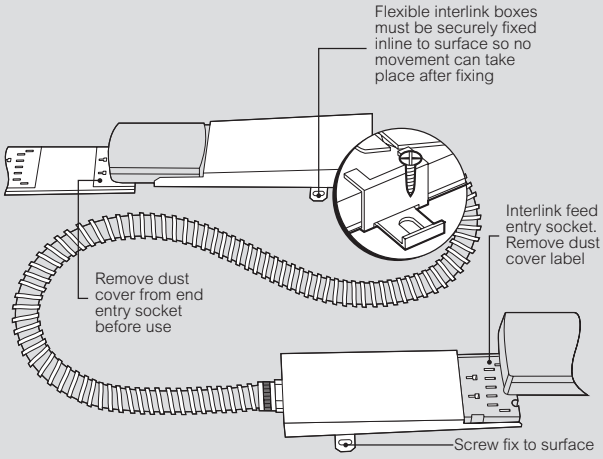
Example floor layout



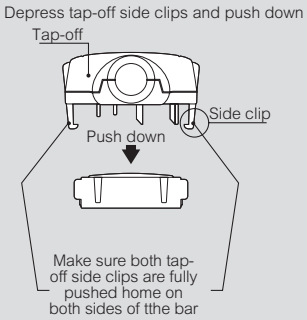
All dimensions (mm) are nominal

Product configuration

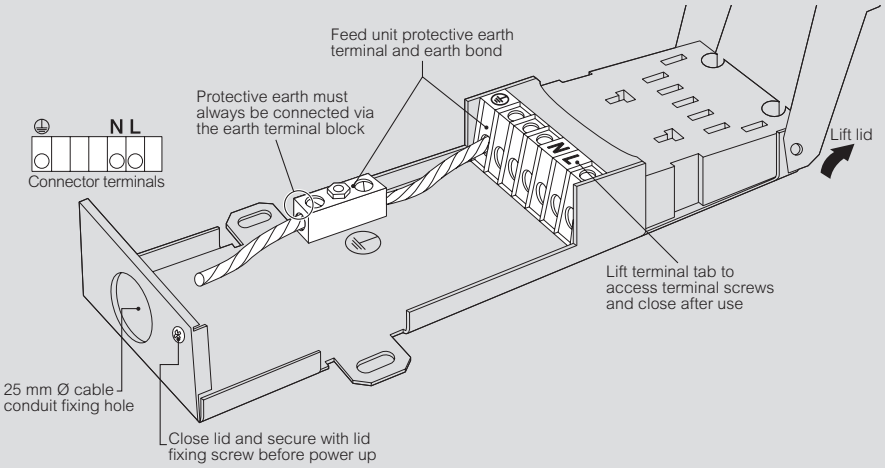
Flexible interlink



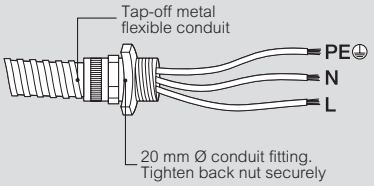
Tap-off connection



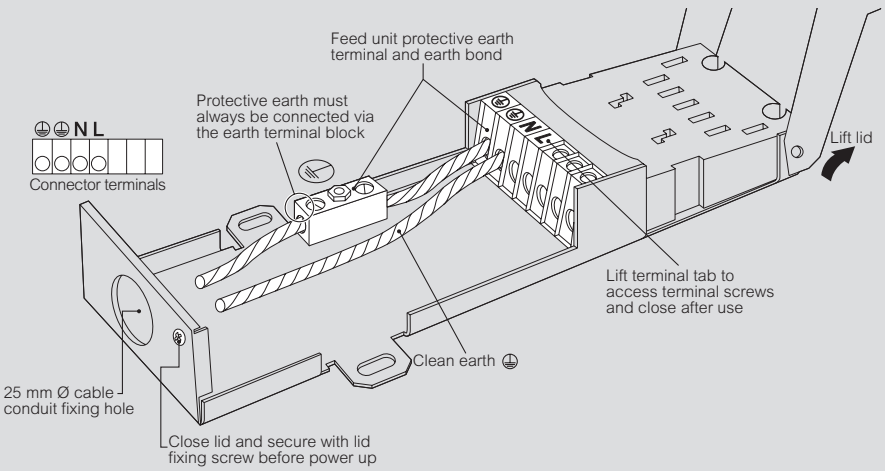
Feed unit (Cat. No. DF1010) Sub-cabling



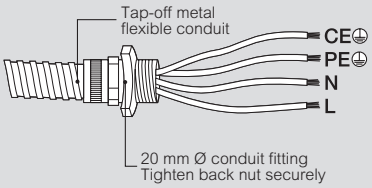
Tap-off connection



Feed unit (Cat. No. JF2010 and JF2010R) Sub-cabling



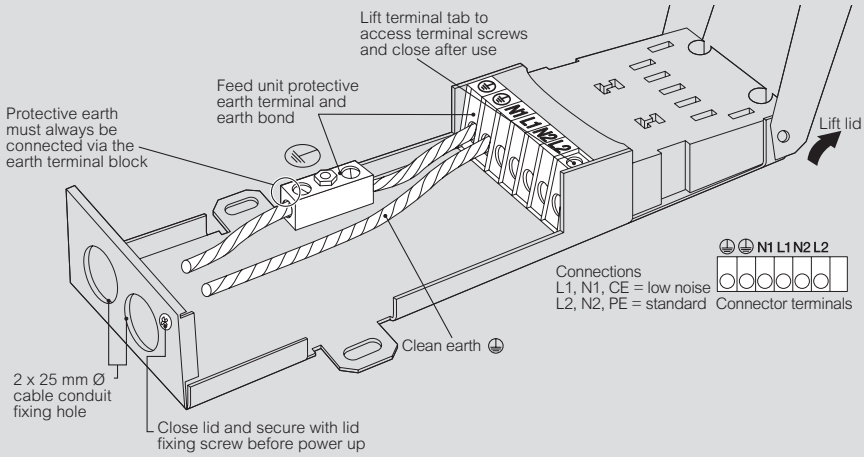
Tap-off connection



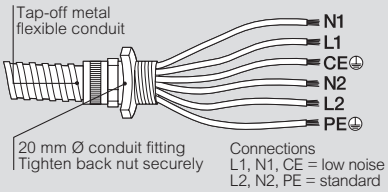
All dimensions (mm) are nominal

Product configuration (continued)

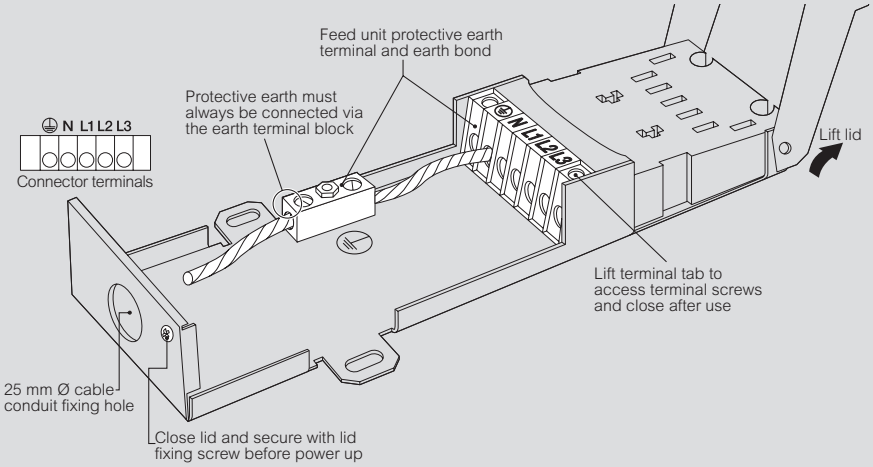
Feed unit (Cat. No. KF3010) Sub-cabling



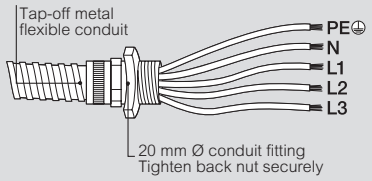
Dual tap-off connection (dark green)



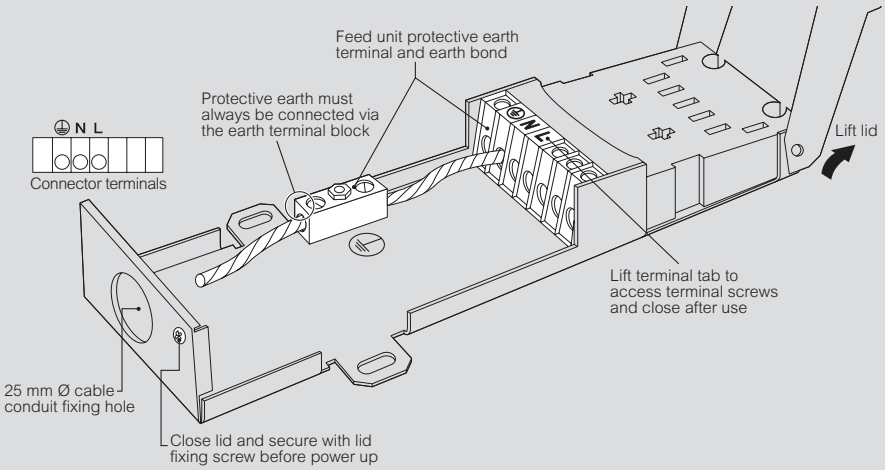
Feed unit (Cat. No. NF4010) Sub-cabling



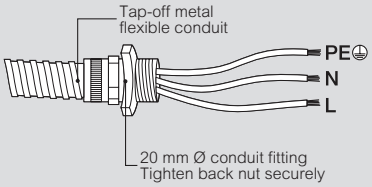
3 phase tap-off connection



Feed unit (Cat. No. YF5010 and YF5010R) Sub-cabling



Tap-off connection

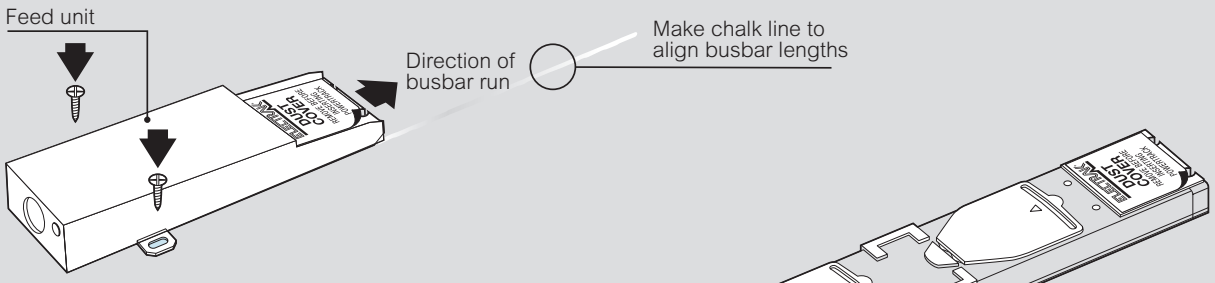


All dimensions (mm) are nominal

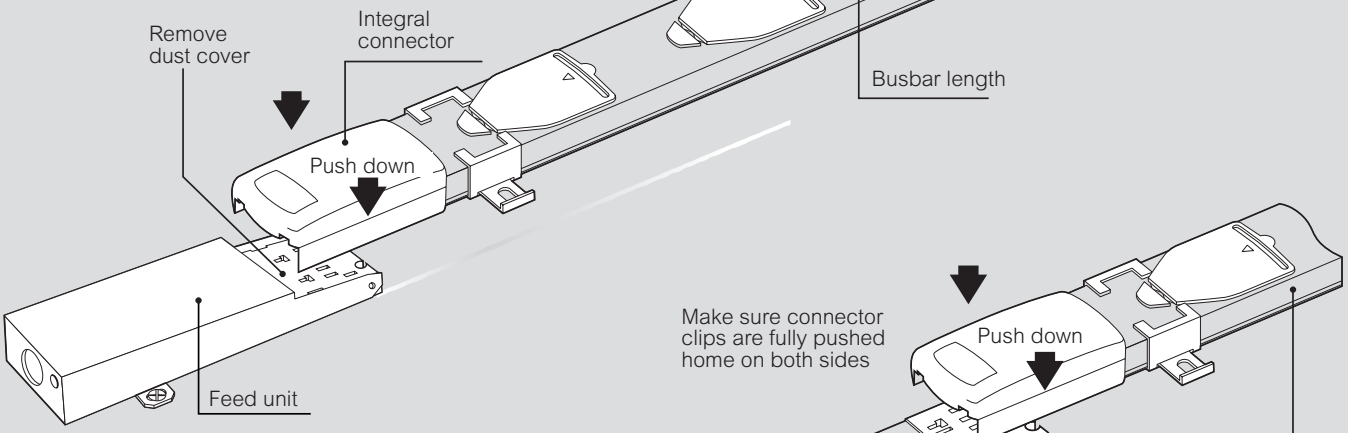
Electrak® powertrack / underfloor busbar system

installation (continued)

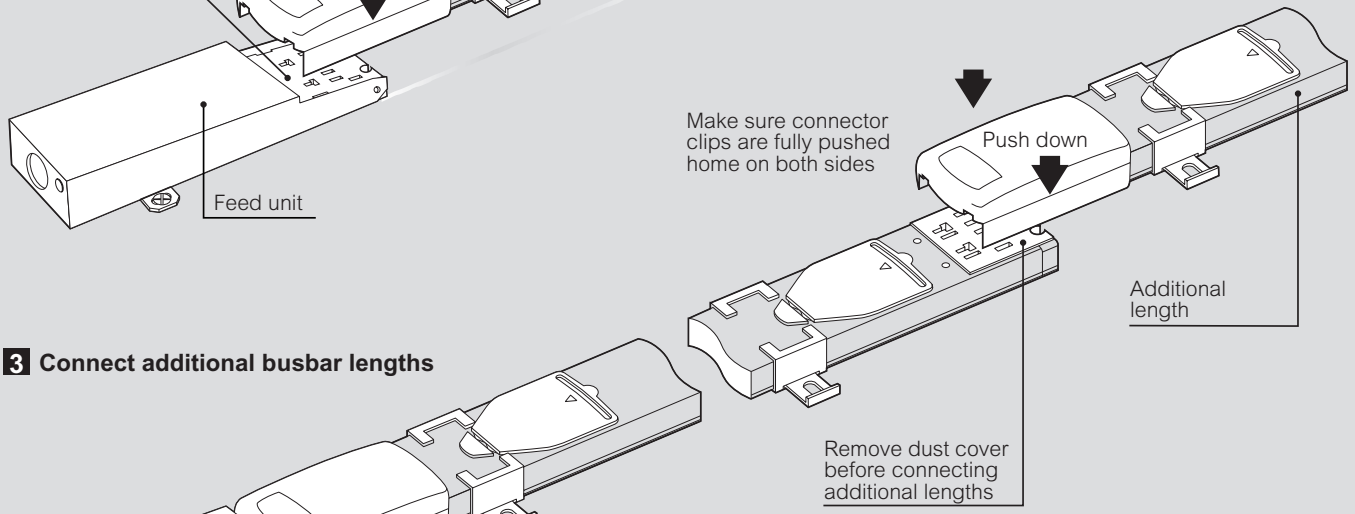
1 Fix feed unit to surface



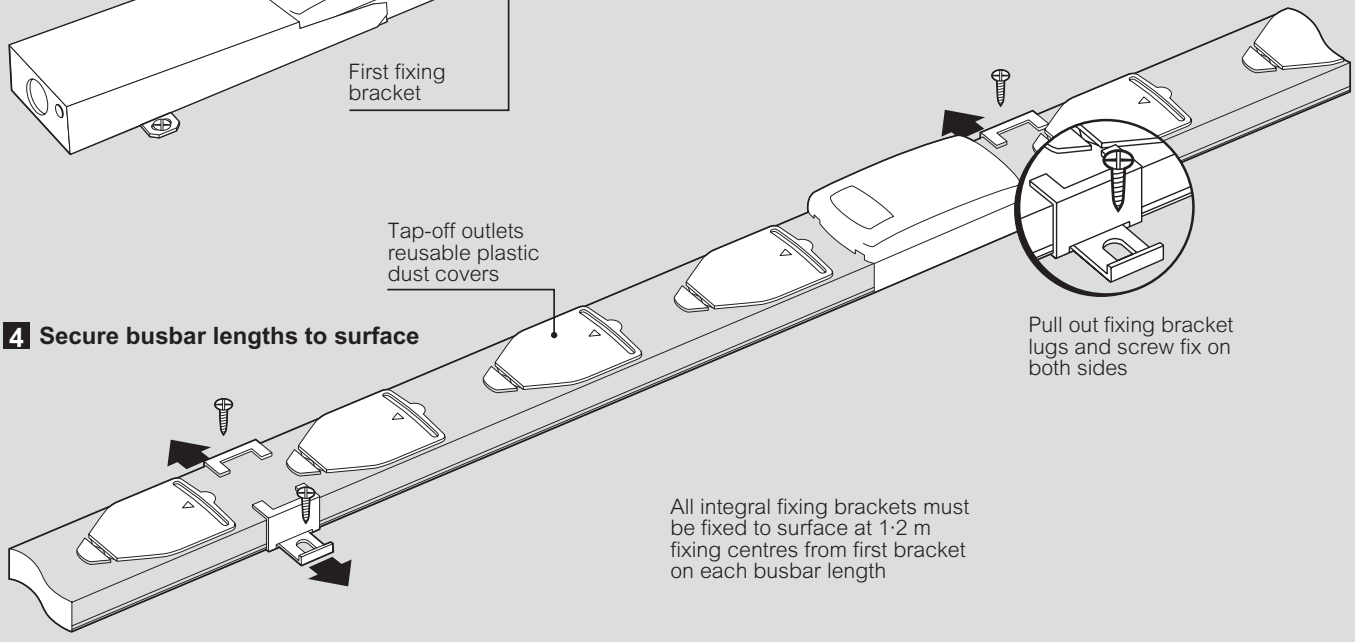
2 Connect busbar length to feed unit



3 Connect additional busbar lengths



4 Secure busbar lengths to surface



All dimensions (mm) are nominal

Electrak® powertrack / underfloor busbar system

technical data

■ Standards

Approved to ASTA Standard 138
BS EN 61534-22 : 2014
and IEC 61534-22 : 2014
Manufactured within an approved ISO 9001 : 2008 and ISO 14001 : 2004 facility
Assessed Quality Assurance Certificate No. 2029
Electrak powertrack / underfloor busbar fully complies with the requirements of BS 7671 : 2008 + AMD 3 : 2015 (IET Wiring Regulations)

■ Ambient temperature rating factors

The current carrying capacity for a powertrack / underfloor busbar (In) is affected by the ambient temperature
For Electrak powertrack / underfloor busbar the ambient rating factor Kα is equal to 1 for ambient temperatures up to and including 35° C

Iz = Kα In

Where :
Iz = effective current carrying capacity for continuous service under particular installation conditions
Kα = ambient temperature factor
In = nominal current carrying capacity
For ambient temperatures exceeding 35° C the values of Kα and Iz are given in the following tables

Powertrack / underfloor busbar system							
Ambient	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Kα	1				0·95	0·85	0·80
Iz	63 A				59 A	53 A	50 A

32 A unfused tap-off (using thermosetting 90°C cables)							
Ambient	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Kα	1				0·95	0·85	0·80
Iz	32 A				30 A	27 A	25 A

13 A fused tap-off (using 2·5 mm² thermosetting 90°C cables)							
Ambient	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Kα	1						
Iz	13 A						

References :

BS 7671 : 2008 incorporating amendment No. 3 : 2015
Appendix 8 – Current carrying capacity for powertrack systems
Appendix 4 – Table 4B1 Rating factors for thermosetting cables
Appendix 4 – Table 4E1A – Single core 90°C thermosetting insulated cables (non-armoured)

■ Earth fault loop impedance

BS 7671 : 2008 + AMD 3 : 2015 IET 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

■ Durability

Electrak systems are superbly designed and extremely robust. They can be expected to stand up to all normal site conditions. Electrak powertrack / underfloor busbar has been short circuit strength tested by ASTA

■ Installations with high protective conductor currents

All unfused tap-offs comply with Regulation 543·7 without the need for additional earth conductors. Regulation 543·7·1·103 (ii) states “a single copper protective conductor having a cross-sectional area of not less than 4 mm², complying with the requirements of Regulations 543·2 and 543·3, the protective conductor being enclosed to provide additional protection against mechanical damage, for example, within a flexible conduit”
For installations with high protective conductor currents requiring fused tap-offs, a 543·7 compliant tap-off must be used. Normally fused tap-offs incorporate 1·5 mm² conductors, however in our fused 543·7 tap-offs, the 1·5 mm² earth conductor is replaced with a 4 mm² conductor and are therefore compliant with Section 543·7·1·103 (ii)

■ 32 A tap-off unit

The 3 m 32 A tap-off unit comprises an unfused tap-off with 2·6 m of flexible metal conduit with integral 4 mm² LSOH conductors

These units are designed to comply with regulation 434·2·1 of the IET Wiring Regulations by virtue of the following :
• maximum length of cable is 3 m
• it is factory assembled and fully tested item with cable installed in high quality flexible conduit

Fault condition protection for the tap-off assembly and the floor box socket outlets is delivered by the circuit protection device
Disconnection time for socket outlets is 0·4 seconds (Regulation 411·3·2·2). The Electrak system meets this requirement

Tap-off units in excess of 3 m should only be used if they contain a fuse or the busbar run is protected by a protective device not exceeding 32 A

All dimensions (mm) are nominal

Volt drops (live and neutral)	
Busbars	3·0 mV/A/m
Cable connector	0·4 mV/A
Integral connector	0·4 mV/A
32 A tap-off	0·4 mV/A
+ 4 mm² cable	11 mV/A/m
Flexible corner assembly	1·5 mV/A
+ 10 mm² cable	4·0 mV/A/m

Mechanical data	E24 – E28	E28R
Number of conductors	3-6	3
Busbar conductor cross sectional area	13 mm²	13 mm²
Housing cross sectional area (copper equivalent)	13 mm²	13 mm²
Cable terminal capacity	16 mm²	16 mm²
Tap-off cable 32 A	4 mm²	4 mm²
Tap-off cable 13 A fused	1·5 mm²	2·5 mm²
Tap-off conduit, up to 4 conductors	16 mmØ	20 mmØ
Tap-off conduit, 5 and 6 conductors	20 mm²	N/A
Flexible corner cable (tri-rated, high temperature)	10 mm²	10 mm²
Flexible corner conduit	25 mmØ	25 mmØ
IP rating	40	40

Material specifications	
Housing - busbar lengths	Galvanised steel, natural finish
Busbars	High conductivity copper (Tinned version is electro-tin plated)
Busbar insulator	PTFE
Integral connectors / Tap-off outlets	Flame retardant polycarbonate
Tap-off outlet entry shutter	Acetal
Tap-off housing	Flame retardant polycarbonate
Integral connector blades	Copper (Tinned version is plated)
Tap-off blades	Copper (Tinned version is plated)
Tap-off/flexible corner conduit, metal	Electro-galvanised steel
Tap-off cable	LSOH to BS 7211
Flexible interlink cable	Tri-rated to BS 6231
Feed box/flexible interlink boxes	Galvanised steel
Feed connector terminals/earth block	Brass (Tinned version is plated)
Fixing brackets	Galvanised steel
13 A tap-off, fuse	To BS 1362, ASTA approved

Earth fault loop impedance	
Phase busbar	1·5 mΩ/m
Earth busbar	1·5 mΩ/m
Earth housing	1·1 mΩ/m
Earth busbar and housing	0·8 mΩ/m
Cable connector	0·4 mΩ
Integral connector	0·6 mΩ
32 A tap-off	0·6 mΩ
+ 4 mm² cable	11 mΩ/m
Flexible corner assembly	1·5 mΩ
+ 10 mm² cable	4·0 mΩ/m
Rated conditional short-circuit current	16 KA
Ambient temperature	25˚C

Electrical test data	
Rated current	63 A
Rated voltage	230/400 V~
Frequency	50/60 Hz
Conductor resistance - live and neutral	3·0 mΩ/m
Conductor impedance	1·5 mΩ/m

All dimensions (mm) are nominal