

Betrak[®] underfloor power track

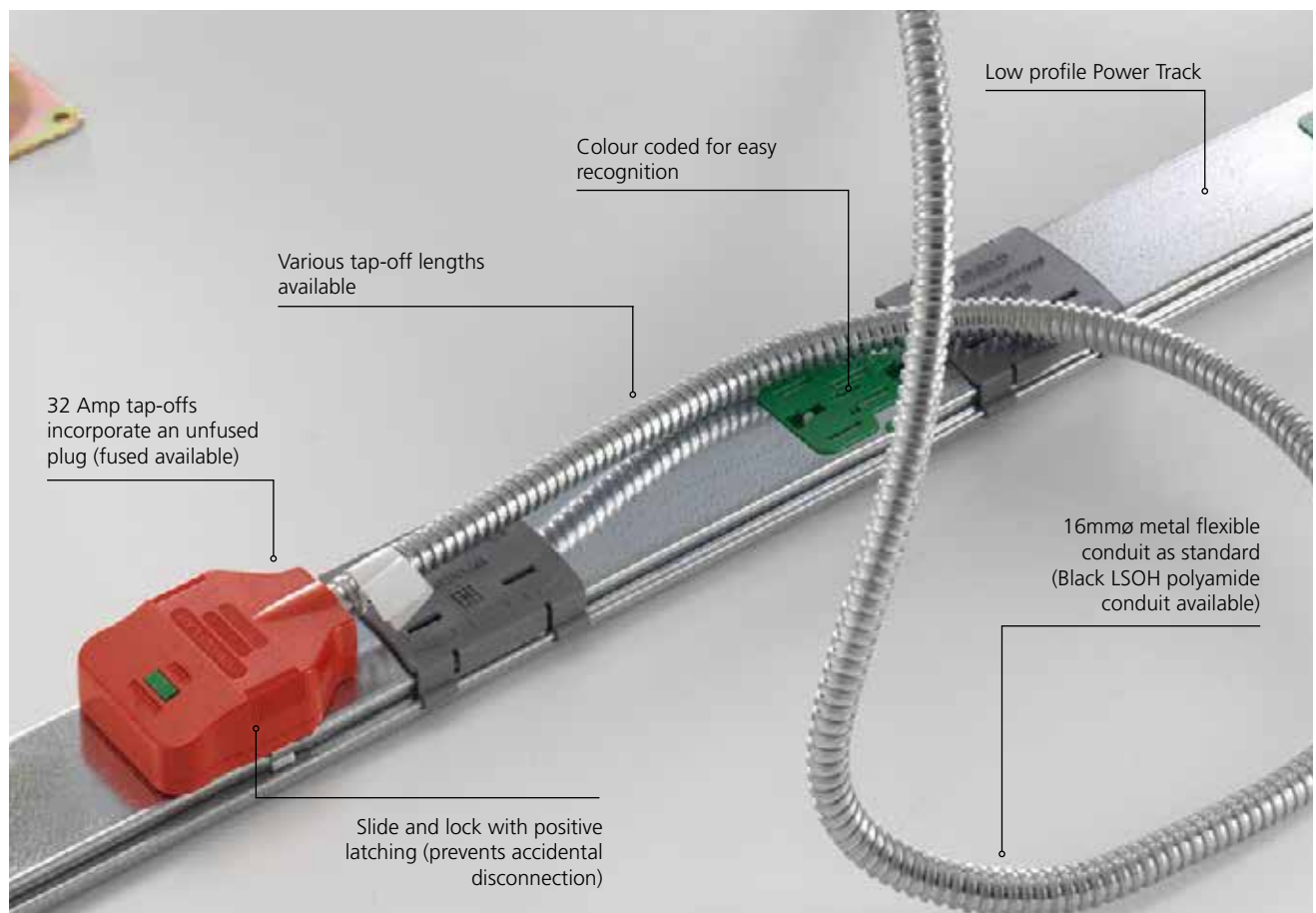
Power Tracks offer an efficient, flexible solution to underfloor power distribution as they use a click fit method for that fast and simple install. To reduce up front labour costs all Power Tracks are tested at our manufacturing facilities meaning no on site commissioning. Underfloor power solutions are also very low maintenance and exceptionally reliable making it the perfect solution in today's modern construction world.

The benefits of using an Underfloor Power Distribution System

- Choice: a comprehensive range of supply systems
- Flexibility: can be used in new or existing layouts
- Versatility: all kinds of configurations are possible including bends/corners
- Safety: colour coded tap-offs for easy recognition. Sliding dust covers to protect outlets
- Height clearance: low profile power track suitable for shallow floor voids
- Convenience: variety of Betrak[®] lengths with different socket centres. 300mm standard (150mm and 600mm available on request).

The 63 Amp Betrak[®] system caters for single phase standard, clean earth (CE) low noise, auxiliary, three phase or dual applications. Betrak[®] comes in lengths of 1.2m, 1.8m, 2.4m or 3.6m with tap-off positions provided at 300mm as standard (Note: 150mm and 600mm available on request). As a result, the system is extremely versatile and suitable for high to low density tap-off requirements.

All integral connectors and tap-off plug sockets are colour coded to avoid any possible errors during assembly. For maximum safety each operates a shutter on insertion to ensure no accidental contact can be made.



Due to transport restrictions 3.6m length Power Tracks have a minimum order requirement of 10 lengths. Orders of less than 10 units will be supplied as 2x 1.8m lengths per 3.6m length ordered.

Betrak[®] underfloor power track

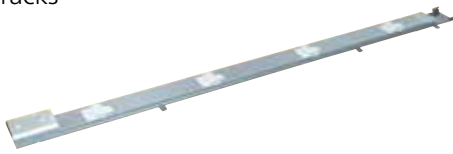
Attention should be given to the total power requirements to avoid exceeding the maximum power rating of the Power Track. The following versions are available for Power Tracks:

- Standard Earth
- Clean Earth (CE) Low Noise Earth
- Auxiliary Earth
- Dual Circuit
- Three Phase



Product Range - Betrak[®] Underfloor Power Track

Power Tracks



Part Number	Colour	Earth Type	Length	No Sockets	Centres	Product
PBST3336	White	Standard	3.6m	12	300mm	Power Track
PBST3324	White	Standard	2.4m	8	300mm	Power Track
PBST3318	White	Standard	1.8m	6	300mm	Power Track
PBST3312	White	Standard	1.2m	4	300mm	Power Track
PBCT4336	Red	Clean	3.6m	12	300mm	Power Track
PBCT4324	Red	Clean	2.4m	8	300mm	Power Track
PBCT4318	Red	Clean	1.8m	6	300mm	Power Track
PBCT4312	Red	Clean	1.2m	4	300mm	Power Track
PBAT3336	Black	Auxiliary	3.6m	12	300mm	Power Track
PBAT3324	Black	Auxiliary	2.4m	8	300mm	Power Track
PBAT3318	Black	Auxiliary	1.8m	6	300mm	Power Track
PBAT3312	Black	Auxiliary	1.2m	4	300mm	Power Track
PBDT6336	Green	Dual	3.6m	12	300mm	Power Track
PBDT6324	Green	Dual	2.4m	8	300mm	Power Track
PBDT6318	Green	Dual	1.8m	6	300mm	Power Track
PBDT6312	Green	Dual	1.2m	4	300mm	Power Track
PBTT5336	Blue	3 Phase	3.6m	12	300mm	Power Track
PBTT5324	Blue	3 Phase	2.4m	8	300mm	Power Track
PBTT5318	Blue	3 Phase	1.8m	6	300mm	Power Track
PBTT5312	Blue	3 Phase	1.2m	4	300mm	Power Track

Feed Units



Part Number	Colour	Earth Type	Length	No Sockets	Centres	Product
PBSF3010/SM	White	Standard	3.6m	12	300mm	Feed Unit
PBCF4010/SM	Red	Clean	3.6m	12	300mm	Feed Unit
PBAF3010/SM	Black	Auxiliary	3.6m	12	300mm	Feed Unit
PBDF6010/DM	Green	Dual	3.6m	12	300mm	Feed Unit
PBT5010	Blue	3 Phase	3.6m	12	300mm	Feed Unit

Flexible Corners



Part Number	Colour	Earth Type	Length	No Sockets	Centres	Product
PBSB3031H/SM	White	Standard	1m	-	-	Flexible Corner
PBSB3032H/SM	White	Standard	2m	-	-	Flexible Corner
PBSB3000/SM	White	Standard	-	-	-	Flexible Corner Kit
PBCB4031H/SM	Red	Clean	1m	-	-	Flexible Corner
PBCB4032H/SM	Red	Clean	2m	-	-	Flexible Corner
PBCB4000/SM	Red	Clean	-	-	-	Flexible Corner Kit
PBAB3031H/SM	Black	Auxiliary	1m	-	-	Flexible Corner
PBAB3032H/SM	Black	Auxiliary	2m	-	-	Flexible Corner
PBAB3000/SM	Black	Auxiliary	-	-	-	Flexible Corner Kit
PBDB6031H/DM	Green	Dual	1m	-	-	Flexible Corner
PBDB6032H/DM	Green	Dual	2m	-	-	Flexible Corner
PBDB6000/DM	Green	Dual	-	-	-	Flexible Corner Kit
PBTB5031H/DM	Blue	3 Phase	1m	-	-	Flexible Corner
PBTB5032H/DM	Blue	3 Phase	2m	-	-	Flexible Corner
PBTB5000/D	Blue	3 Phase	-	-	-	Flexible Corner Kit

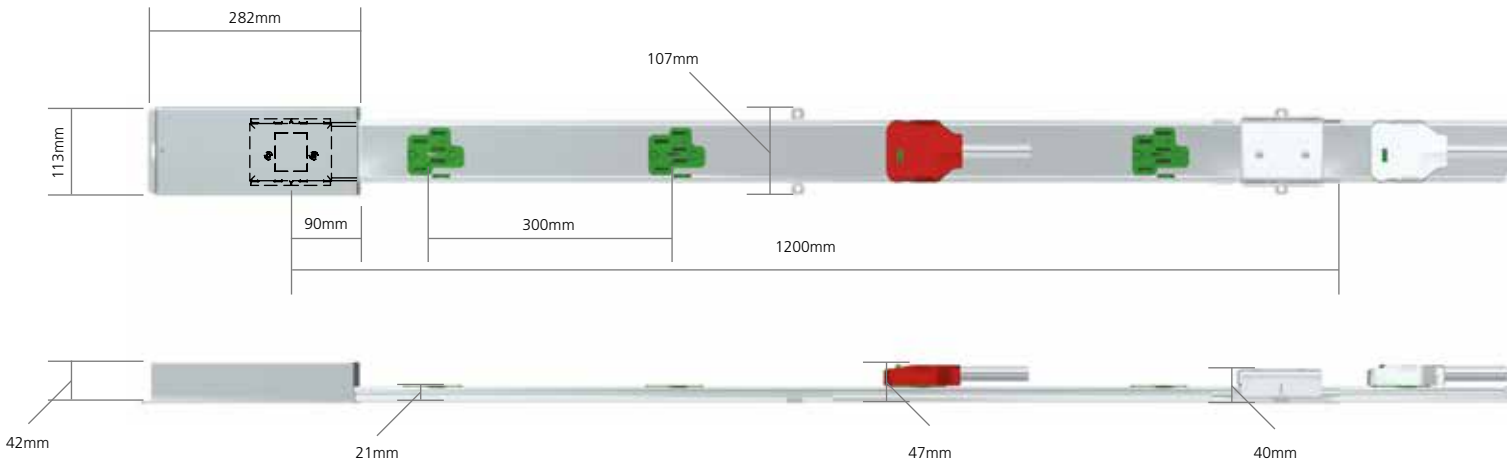
Due to transport restrictions 3.6m length Power Tracks have a minimum order requirement of 10 lengths. Orders of less than 10 units will be supplied as 2x 1.8m lengths per 3.6m length ordered.

How to install Betatrak® underfloor power track

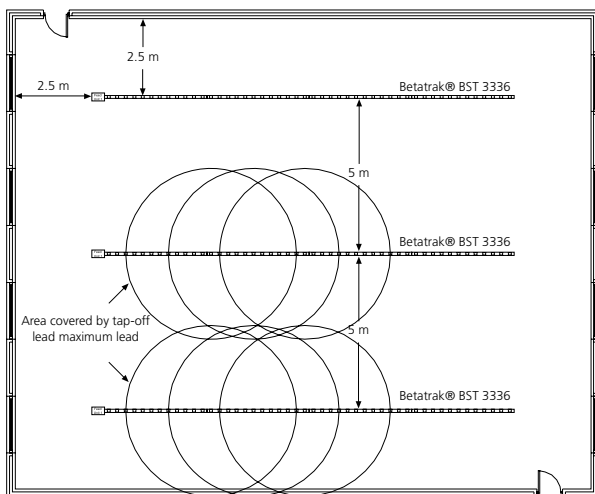
Starting with the feed unit, remove the dust cover over the colour coded socket and simply snap the integral coupler, pre-installed on the Power Track, into the feed socket. The next length of track is then fitted to the socket end of the first length of Power Track as previously described, this is then repeated for the following lengths until the run is complete. On the final length of Power Track section the dust cover supplied is fitted on the final unused coupling point to protect against the ingress of foreign contaminants. The feed unit is then secured via the slots in the base and the Power Track every 1200mm (max) by using the mounting brackets provided.

CMD is registered by BSI to BS EN ISO 9001 and BS EN ISO 14001. Betatrak® is designed to comply with regulation 434.2.1 of BS 7671: 2018 (IEE Wiring Regulations) and 543.7 earthing requirements for the installation of equipment having high protective conductor currents.

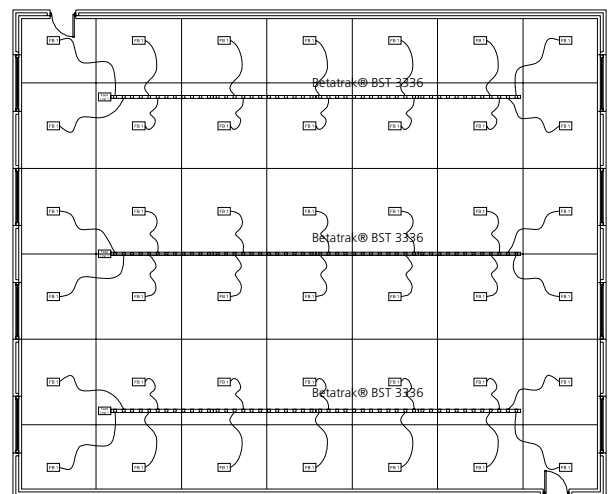
The scope of Reg. 543.7.1.3 requires that every final circuit is intended to supply one or more items of equipment, where the total protective conductor current is likely to exceed 10mA. in normal use, shall have a high protective connection.



Typical Floor Layouts



Power Track
3m tap-offs provide full coverage when Power Track is laid out on 5m centres.



Floor Boxes
Typical layout: 1 floor box for every 10m².

Due to transport restrictions 3.6m length Power Track have a minimum order requirement of 10 lengths. Orders of less than 10 units will be supplied as 2x 1.8m lengths per 3.6m length ordered.

Electrical Characteristics

Rated Current		63	Amps	
Rated Voltage		240/415	Volts	
Frequency		50	Hz	
Conditional Short Circuit Rating	(Protection devices IEC 60269/BS88 Fuse and IEC 60898 MCB)	16	KA	
Max withstand current		10 kA Peak		
Short time withstand current		1200A for 0.4 Sec		
Volt Drops (Line and Neutral)	Power Track	3.2	mV/A/m	
	Feed Unit	0.4	mV/A	
	Track Coupler	0.6	mV/A/m	
	Tap-off Connection	0.5	mV/A	
	+4mm ² Cable	11.00	mV/A/m	
	+2.5mm ²	18.00	mV/A/m	
	Flexible Corner Unit	3.6	mV/A	
	+10mm ² Cable (1.2m)	4.7	mV/A/m	
	Earth Fault Loop Impedance	Line to Earth (Housing)	3.0	mΩ/m
		Line to Earth (Bar)	3.2	mΩ/m
Line to Earth (Bar + Housing)		2.5	mΩ/m	
Feed Unit		0.8	mΩ	
Track Coupler		0.6	mΩ	
Tap-off Connection		0.6	mΩ	
+4m ² Cable		11.0	mΩ/m	
+2.5mm ² and 4mm ² Cable		14.5	mΩ/m	
Flexible Corner Unit		4.0	mΩ	
+10mm ² Cable		4.7	mΩ/m	

Mechanical Data

Number of Copper Conductors	2, 3, or 5	
Power Track Cross-section Area	14	mm ²
Betatrak® Basing Copper Equivalent (Where casing is protective Earth)	14	mm ²
Cable Termination Capacity	16	mm ²
Tap-off Cable 32Amp (BS 7211)	4.0	mm ²
Tap-off Cable 13Amp fused (BS 7211)	2.5	mm ²
Tap-off Conduit Sizes	Ø16 or Ø20	mm
Flexible Corner Unit Cable (BS 7211)	10	mm ²
Flexible Interlink Conduit	Ø25	mm
Feed Conduit Entry	1 or 2 x Ø25	mm
IP Rating BS EN 60529	4X	
Minimum void depth (power track + tap-off)	47 (59*)	mm

Material Specification

Betatrak® Casing	Galvanised Steel
Power Track	High Conductivity Copper
Power Track Insulators and Coupling Mould	Flame Retardant Polycarbonate
Couple Contacts	Copper
Feed Unit Terminals	Brass Silver Plated
Tap-off Socket and Plug Mouldings	Flame Retardant Polycarbonate
Tap-off Shutter	Polyester
Tap-off Plug Ins	Brass
Tap-off Cable	LSOH BS 7211
Flexible Corner Cable	Tri Rated BS 6231

Ambient Temperature Control Factors

Temperature	25C	30C	35C	40C	50C
Factor	1.13	1.07	1.0	0.93	0.75

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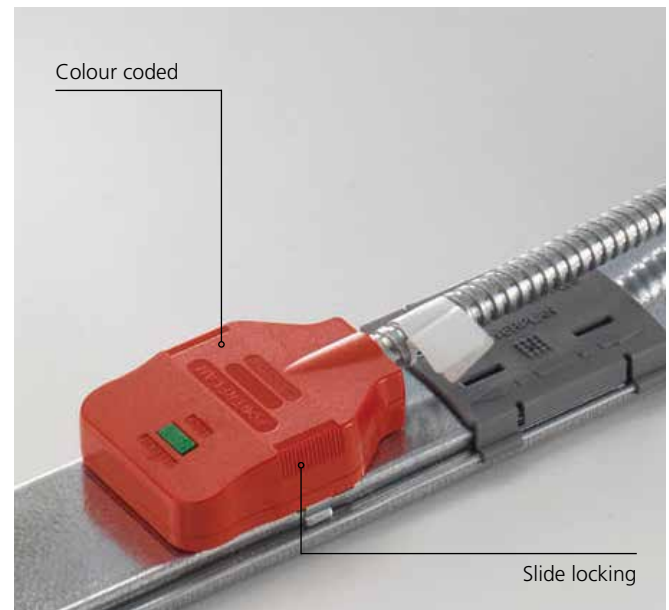
CMD Tap-off

Tap-offs are colour coded and non-interchangeable between Power Track types. The slide locking, positive latching tap-off plug prevents accidental disconnection and can be added to or removed from the Power Track while the system is live. All 3 metre, 32 Amp tap-offs incorporate an unfused plug, and as standard, 16mmØ metal flexible conduit enclosing 3 metres of 4mm² cables. These units are designed to comply with Regulation 434.2.1 of BS 7671:2018 3. 5 metre unfused tap-offs are also available for use with individual track runs that are rated at no more than 32Amp, where the protection of the tap-off against both overload and fault current is provided by the track protective device.

CMD tap-off units conform to the high integrity protective requirement by virtue of using a protective conductor of 4mm enclosed within a flexible conduit, thus providing additional protection against mechanical damage.

The benefits of using a CMD Tap-off

1. Choice: a comprehensive range of supply versions
2. Flexibility: can be used in new or existing layouts
3. Safety: all units are designed to comply with regulation 434.2.1 of BS 7671: 2018
4. Convenience: all tap-offs are colour coded and non-interchangeable with slide locking and positive latching to prevent accidental disconnection



32 Amp 3 metre Tap-off

32 Amp 3 metre tap-off unit is comprised of an unfused plug with 16mmØ flexible metal conduit with integral 3m x 4mm² cables.

These units are designed to comply with regulations 434.2.1 of BS 7671:2018 by virtue of the following:

1. Maximum length of cable is <3 metres
2. Minimum risk of faults as the item is factory assembled and fully tested
3. Fully protected by flexible steel conduit located within raised access floor that offers further protection

5 metre Tap-off

Tap-off units in excess of 3 metres should only be used if they contain a fuse or the Power Track is protected by a 32Amp rated protective device.

All Tap-off units comply with 17th Edition Wiring Regulations Section 543.7 (High Integrity Earthing).

Numerous configurations of tap-off units including fuse options are available on request. Longer lengths available on request. CMD tap-off units conform to the high integrity protective requirement by virtue of using a protective conductor of 4mm enclosed within a flexible conduit, thus providing additional protection against mechanical damage.

CMD Tap-off

Attention should be given to the total power requirements to avoid exceeding the maximum power rating of the Power Track. The following versions are available for Tap-offs:

- Standard Earth
- Clean Earth (CE) Low Noise Earth
- Auxiliary Earth
- Dual Circuit
- Three Phase



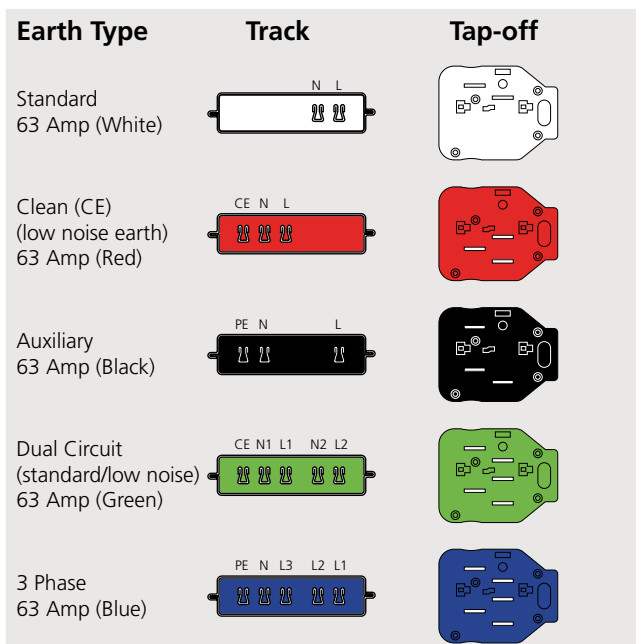
Product Range - Tap-offs

Part Number	Colour	Earth Type	Length	Rating	Fused	Product
PBSX3323H	White	Standard	3m	32Amp	-	Tap-off
PBSX3133H	White	Standard	3m	13Amp	✓	Tap-off
PBSX3325H	White	Standard	5m	32Amp	-	Tap-off
PBSX3135H	White	Standard	5m	13Amp	✓	Tap-off
PBCX4323H	Red	Clean	3m	32Amp	-	Tap-off
PBCX4133H	Red	Clean	3m	13Amp	✓	Tap-off
PBCX4325H	Red	Clean	5m	32Amp	-	Tap-off
PBCX4135H	Red	Clean	5m	13Amp	✓	Tap-off
PBAX3323H	Black	Auxiliary	3m	32Amp	-	Tap-off
PBAX3133H	Black	Auxiliary	3m	13Amp	✓	Tap-off
PBAX3325H	Black	Auxiliary	5m	32Amp	-	Tap-off
PBAX3135H	Black	Auxiliary	5m	13Amp	✓	Tap-off

Part Number	Colour	Earth Type	Length	Rating	Fused	Product
PBDX7283H*	Green	Dual	3m	-	-	Tap-off
PBSX3323H	Green	Dual	3m	32Amp	-	Tap-off
PBCX4323H	Green	Dual	3m	32Amp	-	Tap-off
PBSX3133H	Green	Dual	3m	13Amp	✓	Tap-off
PBCX4133H	Green	Dual	3m	13Amp	✓	Tap-off
PBDX7285H*	Green	Dual	5m	25Amp	-	Tap-off
PBSX3325H	Green	Dual	5m	32Amp	-	Tap-off
PBCX4325H	Green	Dual	5m	32Amp	-	Tap-off
PBSX3135H	Green	Dual	5m	13Amp	✓	Tap-off
PBCX4135H	Green	Dual	5m	13Amp	✓	Tap-off
PBTX5283H**	Blue	3 Phase	3m	-	-	Tap-off
PBTX3323H-1, 2 or 3	Blue	3 Phase	3m	32Amp	-	Tap-off
PBTX3133H-1, 2 or 3	Blue	3 Phase	3m	13Amp	✓	Tap-off
PBTX5285H**	Blue	3 Phase	5m	25Amp	-	Tap-off
PBTX3325H-1, 2 or 3	Blue	3 Phase	5m	32Amp	-	Tap-off
PBTX3135H-1, 2 or 3	Blue	3 Phase	5m	13Amp	✓	Tap-off

*These Tap-offs have 2 circuits (1x standard and 1x clean Earth) rated at 25 Amp.

**These Tap-offs are 3 Phase (L1, L2, L3, N, E) rated at 25 Amp.

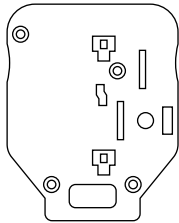
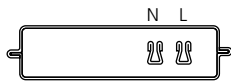


Mechanical Data

Tap-off cable 32 Amp (BS 7211)	4.0 mm ²
Tap-off cable 13 Amp fused (BS 7211)	2.5 mm ²
Tap-off conduit sizes	Ø16 or Ø20 mm
Tap-off socket and plug mouldings	Flame retardant polycarbonate
Tap-off shutter	Polyester
Tap-off plug pins	Brass
Tap-off cable	LSOH BS 7211
Flexible corner cable	Tri rated BS 6231

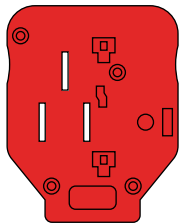
Dual Circuit Power Track is supplied with 1 standard and 1 clean circuit in the same Power Track housing so can be used with standard Earth and clean Earth Tap-offs as well as combined dual circuit Tap-offs.

Standard Earth - 63 Amp



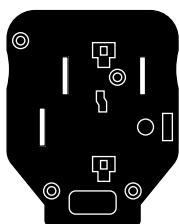
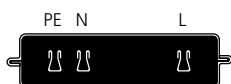
Code	Description
Betrak® Power Track	
PBST3336	3.6 Metre Length
PBST3324	2.4 Metre Length
PBST3318	1.8 Metre Length
PBST3312	1.2 Metre Length
PBSF3010/SM	Feed Unit c/w End Stop
PBSB3000/SM	Flexible Corner Kit
PBSB3031H/SM	Flexible Corner - 1 Metre
PBSB3032H/SM	Flexible Corner - 2 Metre
Tap-offs	
PBSX3323H	3 Metre Tap-off 32 Amp Unfused
PBSX3325H	5 Metre Tap-off 32 Amp Unfused
PBSX3133H	3 Metre Tap-off 13 Amp Fused
PBSX3135H	5 Metre Tap-off 13 Amp Fused

Clean Earth (CE) - 63 Amp



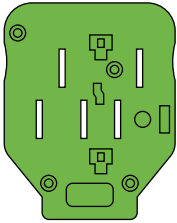
Code	Description
Betrak® Power Track	
PBCT4336	3.6 Metre Length
PBCT4324	2.4 Metre Length
PBCT4318	1.8 Metre Length
PBCT4312	1.2 Metre Length
PBCF4010/SM	Feed Unit c/w End Stop
PBCB4000/SM	Flexible Corner Kit
PBCB4031H/SM	Flexible Corner - 1 Metre
PBCB4032H/SM	Flexible Corner - 2 Metre
Tap-offs	
PBCX4323H	3 Metre Tap-off 32 Amp Unfused
PBCX4325H	5 Metre Tap-off 32 Amp Unfused
PBCX4133H	3 Metre Tap-off 13 Amp Fused
PBCX4135H	5 Metre Tap-off 13 Amp Fused

Auxiliary Earth - 63 Amp



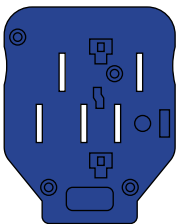
Code	Description
Betrak® Power Track	
PBAT3336	3.6 Metre Length
PBAT3324	2.4 Metre Length
PBAT3318	1.8 Metre Length
PBAT3312	1.2 Metre Length
PBAF3010/SM	Feed Unit c/w End Stop
PBAB3000/SM	Flexible Corner Kit
PBAB3031H/SM	Flexible Corner - 1 Metre
PBAB3032H/SM	Flexible Corner - 2 Metre
Tap-offs	
PBAX3323H	3 Metre Tap-off 32 Amp Unfused
PBAX3325H	5 Metre Tap-off 32 Amp Unfused
PBAX3133H	3 Metre Tap-off 13 Amp Fused
PBAX3135H	5 Metre Tap-off 13 Amp Fused

Dual Circuit - 63 Amp



Code	Description
Betrak® Power Track	
PBDT6336	3.6 Metre Length
PBDT6324	2.4 Metre Length
PBDT6318	1.8 Metre Length
PBDT6312	1.2 Metre Length
PBDF6010/DM	Feed Unit c/w End Stop
PBDB6000/DM	Flexible Corner Kit
PBDB6031H/DM	Flexible Corner - 1 Metre
PBDB6032H/DM	Flexible Corner - 2 Metre
Tap-offs	
PBDX7283H	3 Metre Tap-off 25 Amp Unfused Dual Circuit
PBDX7285H	5 Metre Tap-off 25 Amp Unfused Dual Circuit

3 Phase - 63 Amp



Code	Description
Betrak® Power Track	
PBTT5336	3.6 Metre Length
PBTT5324	2.4 Metre Length
PBTT5318	1.8 Metre Length
PBTT5312	1.2 Metre Length
PBTF5010/DM	Feed Unit c/w End Stop
PBTB5000/DM	Flexible Corner Kit
PBTB5031H/DM	Flexible Corner - 1 Metre
PBTB5032H/DM	Flexible Corner - 2 Metre
Tap-offs	
PBTX3323H-1	3 Metre Tap-off 32 Amp Unfused
PBTX3325H-1	5 Metre Tap-off 32 Amp Unfused
PBTX3133H-1	3 Metre Tap-off 13 Amp Fused
PBTX3135H-1	5 Metre Tap-off 13 Amp Fused
NB: Add suffix -1, -2 or -3 to indicate required phase configuration of the above 3 Phase Tap-offs E.G. PBTX3323H-1	

Non Standard Tap-offs

Code	Description
Betrak® Non Standard Tap-offs 32 Amp Neutrik Tap-offs	
PPA8284/K	5m, 32 Amp unfused, Std Earth Tap-off c/w 32 Amp Neutrik
PPA7842/K	5m, 32 Amp unfused, Auxiliary Earth Tap-off c/w 32 Amp Neutrik
PPA8306	5m, 32 Amp unfused, Clean Earth Tap-off c/w 32 Amp Neutrik
Alphatrak® Non Standard Tap-offs Standard Earth	
PASX3323H	3 Metre Tap-off 32 Amp Unfused
PASX3325H	5 Metre Tap-off 32 Amp Unfused
Alphatrak® Non Standard Tap-offs Clean Earth	
PACX4323H	3 Metre Tap-off 32 Amp Unfused
PACX4325H	5 Metre Tap-off 32 Amp Unfused

Betrak® Compliance Standard

ASTA Certificate of Verification Tests

Laboratory Ref. No:	45673/1
APPARATUS:	Rated current 63A, rated voltage 240V/415V, rated impulse voltage 4kV, 50Hz, with a conditional short circuit rating of 16kA. A range of underfloor power track systems and associated tap-off units.
DESIGNATION:	Betrak system
MANUFACTURER:	CMD Limited, Sycamore Road, Eastwood Trading Estate, Rotherham, S65 1EN
TESTED BY:	kA Testing Facility, John Street, New Basford, Nottingham, NG7 7HL, UK Prof. Ir. Damstra Laboratory, P.O Box 23, 7550 AA, Hengelo, Europalaan 202, 7559 SC Hengelo, The Netherlands Exova (UK) Limited, 6 Coronet Way, Centenary Park, Salford, M50 1RE, UK Exova Warringtonfire, Holmesfield Road, Warrington, WA1 2DS, UK Exova (UK) Limited, Key Industrial Estate, Fernside Road, Willenhall, West Midlands, WV13 3YA, UK
DATE(S) OF TESTS:	26th February - 23rd August 2016

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with:

IEC 61534-22 Edition 2.0, 2014-06 and BS EN 61534-22: 2014

Verifications with reference to the tests listed in Sub-Clause 5.3 of IEC 61534-1: Edition 2.1 2014-06

- | | |
|---|--|
| 1. Marking and Documentation, Clause 8 | 8. Insulation resistance test and dielectric strength test, Clause 15 |
| 2. Construction, Clause 9 | 9. Normal operation, Clause 16 |
| 3. Clearances, creepage distances and solid insulation, Clause 10 | 10. Temperature rise, Clause 17 |
| 4. Protection against electric shock, Clause 11 | 11. Short-circuit protection and short-circuit withstand strength, Clause 18 |
| 5. Terminals and Terminations, Clause 12 | 12. Resistance to heat, Clause 19 |
| 6. Screws, current carrying parts and connections, Clause 13 | 13. Fire hazard, Clause 20 |
| 7. Mechanical strength, Clause 14 | 14. External influences, Clause 21 |

This certificate applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with CMD.

Issued by Intertek, Centre Court, Meridian Business Park, Leicester, LE19 1WD.
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