

## Betrak® Underfloor Busbar

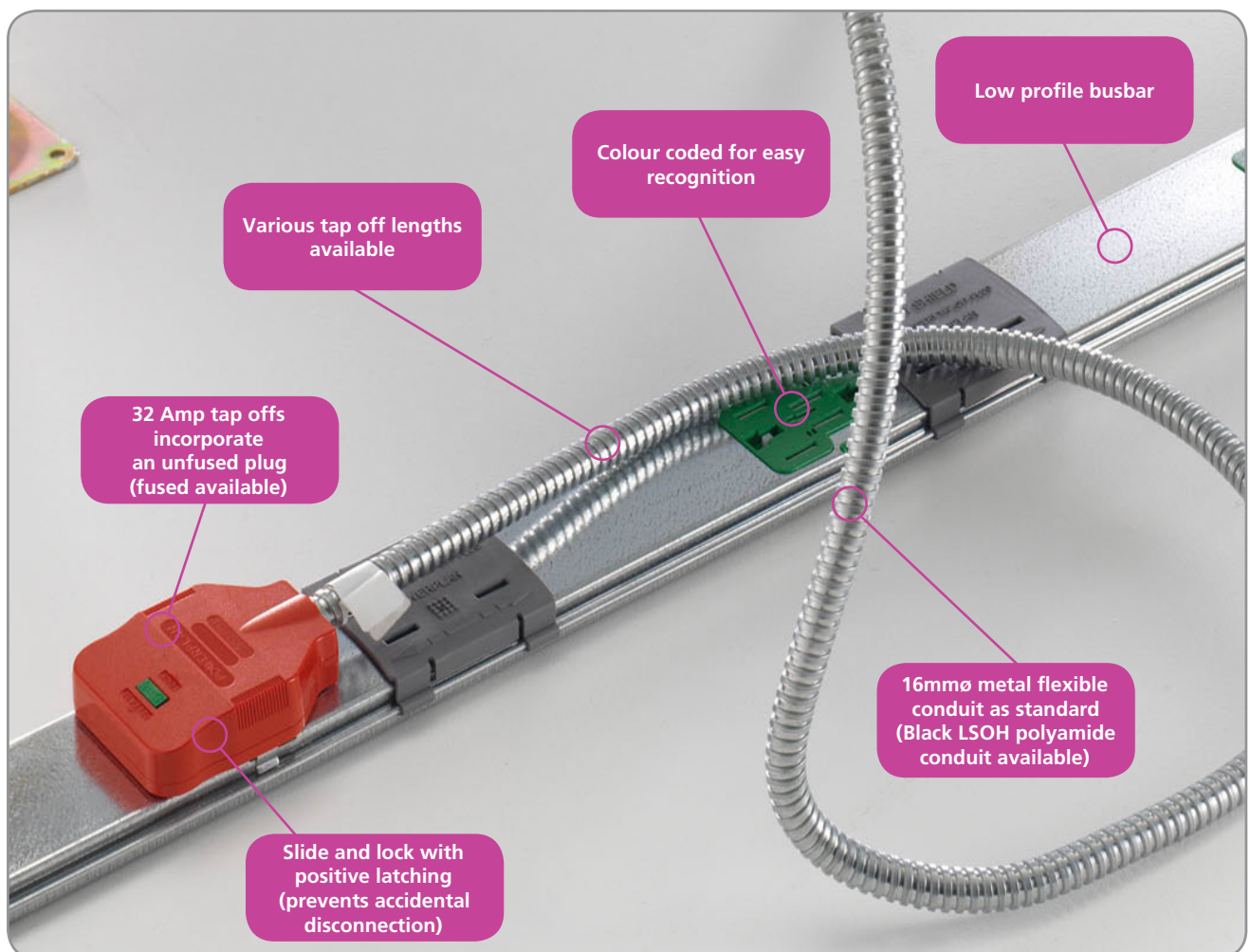
Busbars offer an efficient, flexible solution to underfloor power distribution as they use a click fit method for that fast and simple install. To reduce up front labour costs all busbars are tested at our manufacturing facilities meaning no onsite commissioning. Underfloor power solutions are also very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








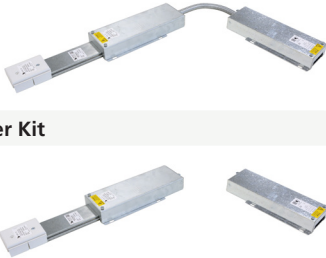
### The benefits of using an Underfloor Power Distribution System

- 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 busbar suitable for shallow floor voids
- Convenience: variety of Betrak® lengths with different socket centres. 300mm standard (150mm and 600mm available on request)

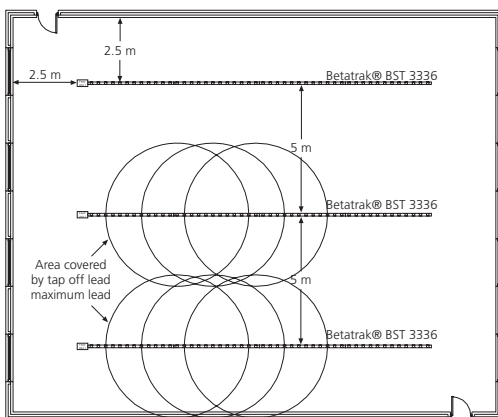
### The following versions are available for both Busbar and Tap Offs:

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



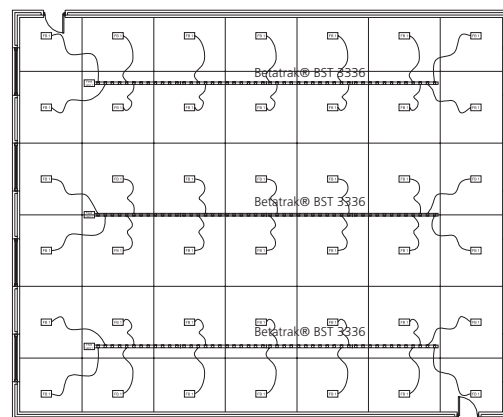
|   |  |                      | Standard            | Clean Earth (CE)<br>(Low Noise Earth)   | Auxiliary   | Dual Circuit<br>(Standard/Low Noise)   | 3 Phase   |   |
|---|--|----------------------|---------------------|---|---|--|---|---|
|   |  |                      | White<br>63 Amp     | Red<br>63 Amp   | Black<br>63 Amp   | Green<br>63 Amp  | Blue<br>63 Amp  |   |
|  | <b>Length</b>  | <b>No of Sockets</b> | <b>Centres (mm)</b> |  |  |  |  |  |
|   | 3.6m   | 12                   | 300                 | PBST3336  | PBCT4336  | PBAT3336   | PBDT6336  | PBT5336   |
|   | 2.4m   | 8                    | 300                 | PBST3324  | PBCT4324  | PBAT3324   | PBDT6324  | PBT5324   |
|   | 1.8m   | 6                    | 300                 | PBST3318  | PBCT4318  | PBAT3318   | PBDT6318  | PBT5318   |
|   | 1.2m   | 4                    | 300                 | PBST3312  | PBCT4312  | PBAT3312   | PBDT6312  | PBT5312   |
| <b>Feed Unit</b>  |   |                      | PBSF3010/SM         | PBCF4010/SM   | PBAF3010/SM   | PBDF6010   | PBT5010   |   |
| <b>Flexible Corner</b>  |  | 1m                   | PBSB3031H/S         | PBCB4031H/S   | PBAB3031H/S   | PBDB6031H  | PBT5031H  |   |
|   |  | 2m                   | PBSB3032H/S         | PBCB4032H/S   | PBAB3032H/S   | PBDB6032H  | PBT5032H  |   |
| <b>Flexible Corner Kit</b>  |  |                      | PBSB3000/S          | PBCB4000/S  | PBAB3000/S  | PBDB6000   | PBT5000   |   |

## Typical Floor Layouts



### Busbar

3m tap offs provide full coverage when busbar is laid out on 5m centres.



### Floor Boxes

Typical layout: 1 floor box for every 10m<sup>2</sup>

# Underfloor Busbar



The 63 Amp Betatrak® System caters for single phase standard, clean earth (CE) low noise, auxiliary, three phase or dual applications. Betatrak® 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.

## Installation

Betrak® used within raised access floors is normally arranged in parallel runs with the feed units to the Betatrak® orientated towards the incoming supply. This offers an economic format inherent in long straight runs. Spacing should be a maximum of 5 metres between each length of track and 2.5 metres from the perimeter when using a standard 3 metre tap off to a floor box.

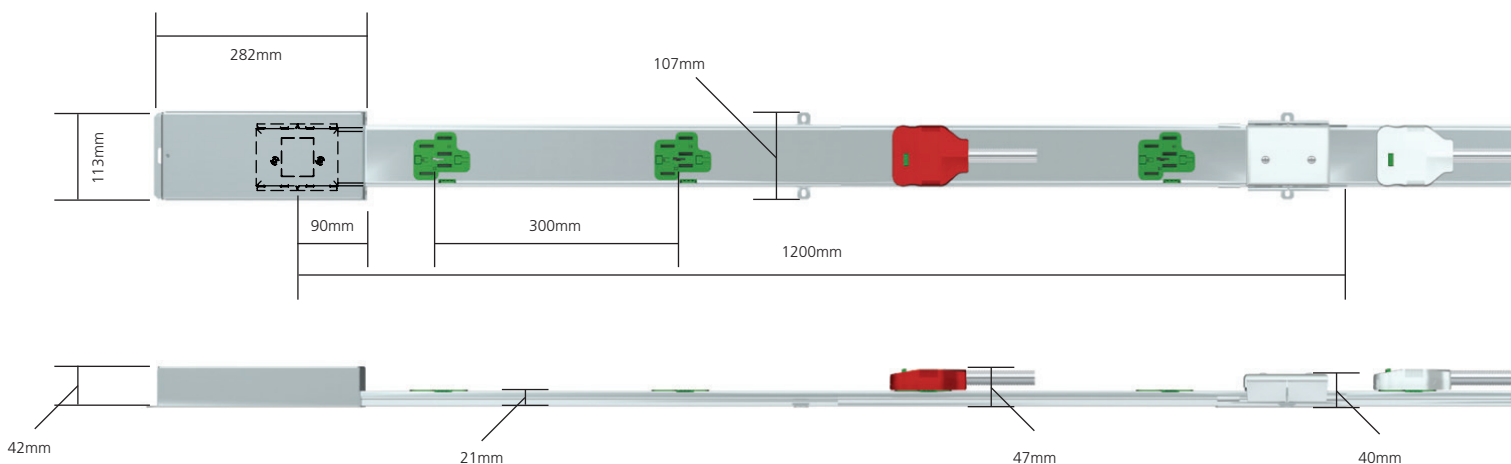
Attention should be given to the total power requirements to avoid exceeding the maximum power rating of the Busbar.

## How to install the Busbar

Starting with the feed unit, remove the dust cover over the colour coded socket and simply snap the integral coupler, pre-installed on the busbar, into the feed socket. The next length of track is then fitted to the socket end of the first length of busbar as previously described, this is then repeated for the following lengths until the run is complete. On the final length of busbar 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 busbar 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 of BS 7671: 2008 Amd 3 (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.



| 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)   | Busbars  | 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 <sup>2</sup> Cable                                    | 11.00                         |     | mV/A/m          |      |  |
|   | +2.5mm <sup>2</sup>  | 18.00                         |     | mV/A/m          |      |  |
|   | Flexible Corner Unit                                       | 3.6                           |     | mV/A            |      |  |
|   | +10mm <sup>2</sup> 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 <sup>2</sup> Cable  |  | 11.0                          |     | mΩ/m            |      |  |
| +2.5mm <sup>2</sup> and 4mm <sup>2</sup> Cable                        |  | 14.5                          |     | mΩ/m            |      |  |
| Flexible Corner Unit  |  | 4.0                           |     | mΩ              |      |  |
| +10mm <sup>2</sup> Cable  |  | 4.7                           |     | mΩ/m            |      |  |
| Mechanical Data   |  |                               |     |                 |      |  |
| Number of Copper Conductors   |  | 2, 3, or 5                    |     |                 |      |  |
| Busbar Cross-section Area   |  | 14                            |     | mm <sup>2</sup> |      |  |
| Betatrak® Basing Copper Equivalent (Where casing is protective Earth) |  | 14                            |     | mm <sup>2</sup> |      |  |
| Cable Termination Capacity  |  | 16                            |     | mm <sup>2</sup> |      |  |
| Tap off Cable 32Amp (BS 7211)   |  | 4.0                           |     | mm <sup>2</sup> |      |  |
| Tap off Cable 13Amp fused (BS 7211)                                   |  | 2.5                           |     | mm <sup>2</sup> |      |  |
| Tap off Conduit Sizes   |  | Ø16 or Ø20                    |     | mm              |      |  |
| Flexible Corner Unit Cable (BS 7211)                                  |  | 10                            |     | mm <sup>2</sup> |      |  |
| Flexible Interlink Conduit  |  | Ø25                           |     | mm              |      |  |
| Feed Conduit Entry  |  | 1 or 2 x Ø25                  |     | mm              |      |  |
| IP Rating BS EN 60529   |  | 4X                            |     |                 |      |  |
| Minimum void depth (track + tap off)                                  |  | 59                            |     | mm              |      |  |
| Material Specification  |  |                               |     |                 |      |  |
| Betatrak® Casing  |  | Galvanised Steel              |     |                 |      |  |
| Busbars   |  | High Conductivity Copper      |     |                 |      |  |
| Busbar 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 |  |

Betatrak products has been independently tested to fully comply with BS EN 61534 and IEC 61534 2014 for Underfloor Powertrack Systems.