

Powertrack

Powertrack is an underfloor busbar system rated at 63Amp maximum. It is available in Standard or CE (Clean Earth) versions.

Lengths

- Powertrack lengths of 1.2m, 1.8m, 2.4m and 3.6m with tap-off outlets at 300mm

Safety

- Snap-fit feed units, couplers and tap-offs are key and colour-coded to avoid assembly errors.

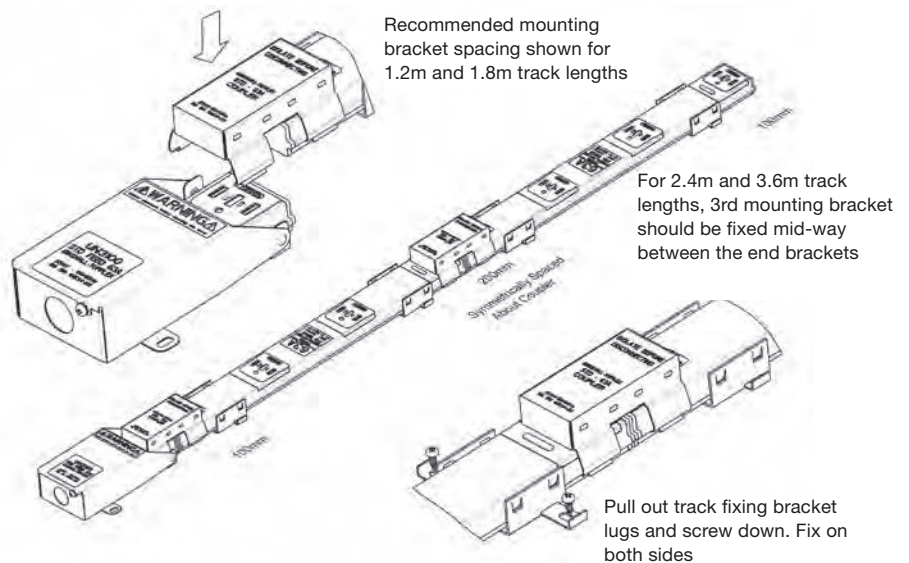


Standard = grey



CE = red

Please refer to the full installation instructions, EL182 available at www.marshall-tufflex.com or by contacting the Technical Team on +44 (0)1424 856688.

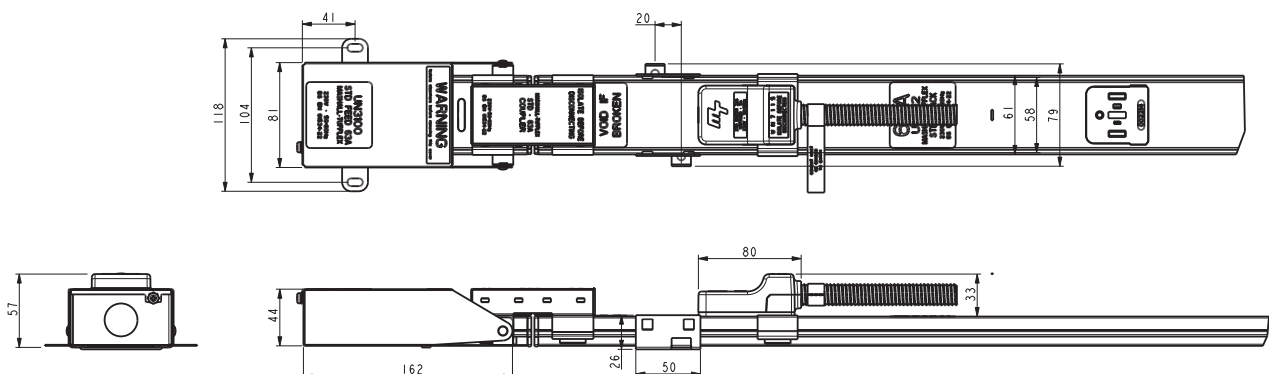


- A shutter is operated on insertion to prevent accidental contact.
- Avoid exceeding the maximum power rating of the track. This is ascertained by the maximum power requirement for each floor outlet box

Positioning

- For the most economic format, it is advised that Powertrack is arranged in parallel runs with Powertrack feed units orientated to the incoming supply.
- For optimum layout flexibility, spacing should be a maximum of 5.5m between each length of track and 2.5m from the perimeter when using a standard 3m tap-off to a floor box.

TECHNICAL INFORMATION



Electrical Characteristics				
Rated Current		63	Amps	
Rated Voltage		230	Volts	
Frequency		50/60	Hz	
Conditional Short Circuit Rating	(Protection device: BS 1361 fuse)	16	KA	
Conductor Resistance Line & Neutral		4.4	mΩ/m	
Volt Drops Line & Neutral	Powertrack	4.4	mV/A/m	
	Feed Unit + Coupler	2.2	mV/A	
	Tap-Off	0.73	mV/A	
	4mm ² Cable	11.0	mV/A/m	
	Coupler	1.5	mV/A	
	Interlink Unit	4.5	mV/A	
	16mm ² Cable (1.2m)	3.9	mV/A/m	
	Earth Fault Loop Impedance:	Line to Earth (Casing)	2.8	mΩ/m
		Line to Earth (Conductor)	3.2	mΩ/m
Line to Earth (Conductor + Casing)		2.8	mΩ/m	
Feed Unit + Coupler		2.2	mΩ	
Tap-Off		0.73	mΩ	
4mm ² Cable		11.0	mΩ/m	
Coupler		1.5	mΩ	
Interlink Unit		4.5	mΩ	
16mm ² Cable		3.9	mΩ/m	
Mechanical Data				
Number of Copper Conductors		2 or 3		
Conductor Cross-section Area	Nominal	20	mm ²	
Powertrack Casing Copper Equivalent	(Where casing is protective Earth)	12	mm ²	
Cable Termination Capacity		16	mm ²	
Tap-Off Cable 32A		4.0	mm ²	
Tap-Off Cable 13A or 16A		4.0	mm ²	
Tap-Off Conduit Sizes	Rating: Heavy duty conduit <1KN Tensile Load to BS EN 61386-23	Ø20	mm	
Flexible Interlink Cable		16	mm ²	
Flexible Interlink Conduit	Rating: Heavy duty conduit <1KN Tensile Load to BS EN 61386-23	Ø25	mm	
Feed Conduit Entry		1 x Ø25	mm	
IP Rating		40		
Minimum void depth (track + tap-off)		59	mm	
Materials specification				
Powertrack Casing	Galvanised Steel			
Conductors	High Conductivity Copper/brass			
Powertrack Insulators	PBT			
Sockets/Tap-Off Plug/Joint Mouldings	Polycarbonate			
Shutter	PBT			
Tap-Off/Interlink Flexible Conduit	Galvanised Steel			
Tap-Off Cable	BASEC BS 6004 H07V-R			
Tap-Off/Coupler Blade	Copper			
Feed Unit Case	Galvanised Steel			
Flexible Interlink Cable	BASEC BS 6004 H07V-R			
Feed/Flexible Interlink Housing	Galvanised Steel			

Technical Specifications

Third party certified and tested to comply with:

BS EN 61534-1: 2011

BS EN 61534-22: 2009

BS 5733: 1995 where applicable.

Marshall-Tufflex is registered by BSI to BS EN ISO 9001: 2008

MT Powertrack is designed to comply with the current version of the BS 7671 Wiring Regulations.

ASTA Type Test Certification

Powertrack is independently tested by Intertek to BS EN 61534-22:2009 clauses 15.4, 18.4.3.2, & 18.4.3.3

Regulation 543.7 Installations to BS 7671:2018 Earthing requirements for the installation of equipment having High Protective Conductor currents.

The scope of Reg. 543.7.1.203 requires that every final circuit 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.

All MT Powertrack tap-off units conform to the high integrity protective requirement by virtue of using a protective conductor of 4mm² enclosed within a flexible conduit, thus providing additional protection against mechanical damage. Regulation 543.7.1.203.

32Amp 3 metre tap-off unit

The 32Amp tap-off unit comprises of an unfused tap-off* a flexible metal conduit with integral 4mm² conductors.

These units are designed to comply with regulation 434.2.1(i) of BS7671:2018 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.

*Fused 3 metre tap-offs are available if required.

5 metre tap-off unit

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

Raised floor boxes

Three and four compartment boxes and a range of grommets that can be configured to meet client requirements for accessing multiple services concealed below a raised floor system.

Technical specifications

Raised floor boxes are third party tested to comply with:

BS EN 61534-22:2009

BS EN 60670-1:2005

BS EN 60670-23:2008

BS EN 50085-1:2005

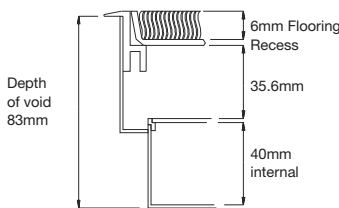
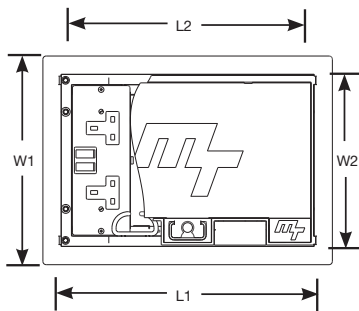
BS EN 50085-2-2:2008

Material

- Lid/trim: flame retardant polypropylene grey RAL 7011
- Box assembly: galvanised steel
- Load plate: 3mm zinc plated steel
- Accessory plate: galvanised steel

Dimensions

- For dimensions of non standard boxes and trims, contact our Technical Team on +44 (0)1424 856688.



Dimensions

No of compartments	Nominal trim size (L1 x W1)	Cut out dimensions (L2 x W2)	Accessory Plate Dimensions
3	357 x 257mm	322 x 222mm	185 x 95mm
4	357 x 257mm	322 x 222mm	185 x 71mm
		General tolerance +3mm	

Care should be taken to ensure that box edges are smoothed and free from burrs. Carpet tile cut size for lid is 303 x 166mm.

Load testing

Load testing of floor boxes to:

BS EN 61534-22:2009

BS EN 50085-2-2:2008

The floor boxes have been tested to and comply with the loading requirements of the aforementioned standards.

There are two loading criteria for the floor boxes:

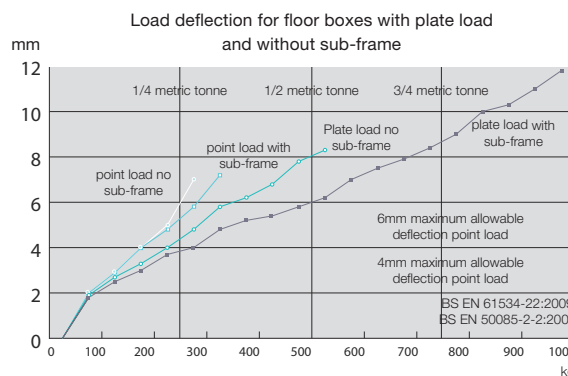
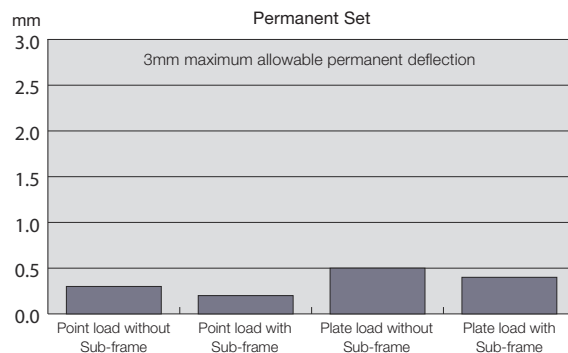
1. A point loading; to simulate foot traffic or light furniture like a chair leg / caster sitting on the lid. The maximum permissible deflection is 6mm (BS EN 61534-22:2009 and BS EN 50085-2-2:2008)
2. A plate loading; to simulate heavy foot traffic or larger furniture loads. The maximum permissible deflection is 4mm (BS EN 61534-22:2009) or 6mm (BS EN 50085-2-2:2008)

The loading graphs show the deflection based on floor boxes without and with a sub-frame. The point loading value is approaching ¼ of a metric tonne without sub-frame and reaching ¼ of a metric tonne with sub-frame. In both cases the permanent deflection is less than 0.25mm.

For plate loading without sub-frame the value is approaching ¼ of a metric tonne with 4mm deflection and ¼ of a metric tonne with 6mm deflection. With the sub-frame fitted the loading reaches ¼ of a metric tonne with 4mm deflection and ½ a metric tonne with 6mm deflection. In both cases the permanent deflection is reaching 0.5mm.

Note: floor boxes fitted with sub-frame can exceed more than 1 metric tonne plate load before lid failure. In all tests (with and without sub-frame) the required loading was reached without damage to the plastic trim or compromised the lid.

Note: The maximum permissible permanent deflection after the load has been removed is 3mm for both standards.



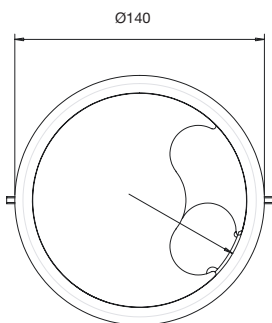
TECHNICAL INFORMATION

Grommets

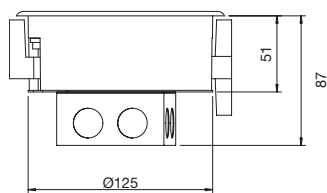
Material

- ABS Flame retardant
- Flammability: UL94 V-0 at 2.0mm
- Colour: polypropylene grey RAL 7011
- Lid: captive screwdown
- Lid recess: 15mm for extra strength
- Through power/data options

Dimensions



Cut out dimensions



In-screed system

Three and four compartment boxes configured to meet client requirements for accessing multiple services concealed within an in-screed floor system.

Standard system is suitable for screed depths of 65mm to 85mm. For other screed depths please contact our Technical Team on +44 (0)1424 856688.

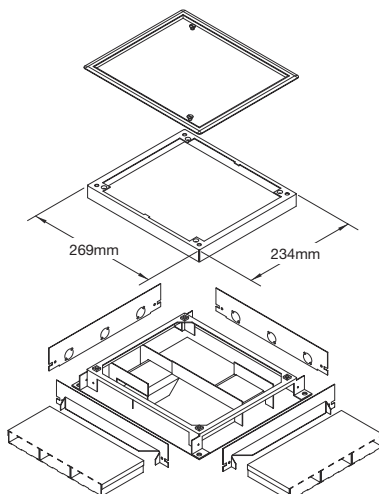
Material

- Lid/trim: polypropylene grey RAL 7011
- Frame assembly: galvanised steel
- Modular boxes: galvanised steel
- Load plate: galvanised steel

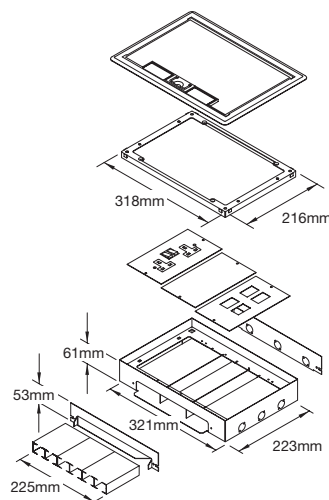
Wiring accessories and mounting plates

- 3 compartment box: 185 x 95mm
- 4 compartment box: 185 x 71mm
- For use with standard 60.3mm and 120.6mm accessories with blank or pre-punched plates for data/telecoms etc.

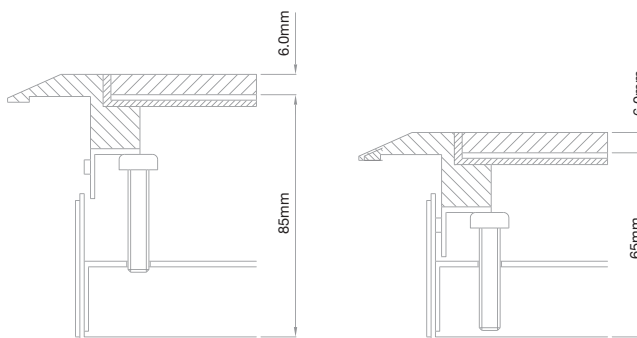
Junction box



Floor outlet box

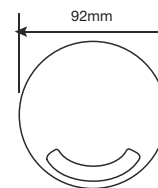


Box screed depth adjustment



Desk grommets

Dimensions



Cut out size

Box type	Diameter
DG1	80mm
General tolerance	2mm

Power and data modules

Standards

BS 1363-1

BS 1363-2 (where applicable)

BS 5733:2010+A1:2014

EN 50581:2012

EN 301 489-34(2012)

IEC 60884-1:2005

For more information please contact our Technical Team on +44 (0)1424 856688.

Material

Power and Power and Data Modules are constructed from high strength flame retardant black polycarbonate mouldings. RCBO – constructed from aluminium casing.

Insulation

Reinforced insulation.

Earth bonding:

- **Power Modules**
An external earth terminal allows connection of earth bonding leads without dismantling the unit. Please use suitable tools to cut earth lead from Power Modules if required.
- **Power and Data Modules**
Our Power and Data Modules units are supplied as standard with a prefitted 250mm earth lead to 5mm ring terminal.

Fusing

To enable compliance to BS 6396 the UK sockets are fitted with Ø5 x 20mm anti-surge ceramic fuses, with colour-coded fuse clips to denote the rating (3.15Amp or 5Amp).

RCBO rating

30mA 16Amp

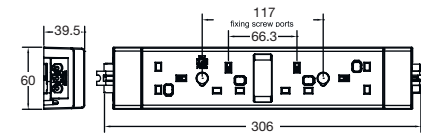
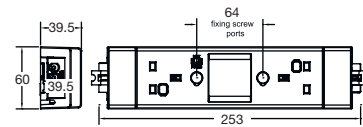
Quality and testing:

100% testing – continuity, polarity, insulation & earth

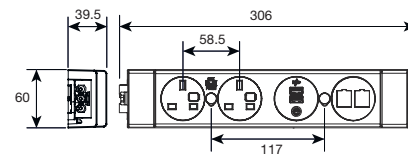
- **Power and Data Modules only**
- USB charger: Output voltage and resistance
- Data & AV: All sockets continuity tested

Dimensions

Power modules



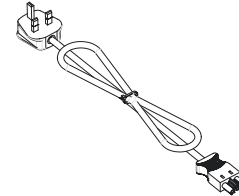
Power and data modules



Cable type

In-feed power cable shown with optional Wieland connector.

- 13Amp rating
- Specification of cable length is necessary



Power module earth lead

Size: 1.5mm²

Length: 250mm with 5mm ring terminal.

Configuration

- **Power modules**
Power only
- **Power and data modules**
2 x UK fused sockets plus 2 configurable gangs for Power, USB charging or data/AV
- **RCBOs**
Designed to be connected directly to underfloor track.
• Input connections via tap-off.
• Output connection via Wieland GST18/3.

Connection options

Power and Data Modules – Built in GST18/3 male for power in, plus optional GST18/3 female connector for power out on certain configurations.

Two modules units can be securely clipped together via the inbuilt GST18/3 connectors e.g. a DM5001 and DM5030 (both with 3.15Amp fuses) can be joined to form a BS 6396 compliant 6 socket unit.



The rear section of the Power and Data Modules can be removed for onsite data/AV installation.