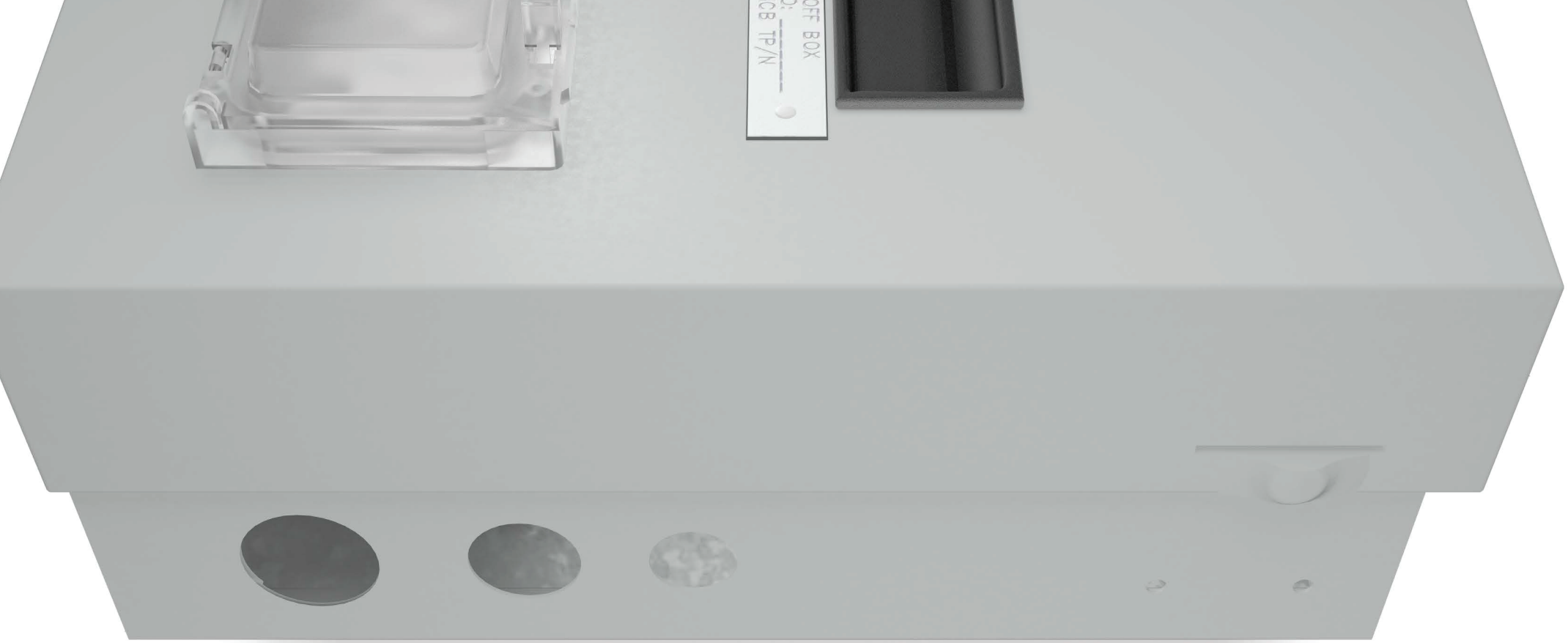


PowerBar pb

TAP OFF UNITS

HPB AND MPB RANGE

CONTENTS

INTRODUCTION

Powerbar is a patented range of busbar trunking that is utilised within building and industrial applications to deliver power to electrical loads. It is an alternative to traditional cabling and provides numerous advantages to the installer and client including savings on space, time and cost. There are also electricity savings due to reduced losses, reduced voltage drop and flexibility to reposition load centres using tap-off points.

Powerbar Overview
The Powerbar range of products is built with patented processes that make it the most reliable product of its type, providing peace of mind for your installation. This, together with unrivalled product support, means that the Powerbar range of products will provide the optimum solution to your distribution requirements.

Powerbar services the UK and European markets from its manufacturing plant in Donegal, Ireland and the Middle East from our plant in Ras Al Khaimah, U.A.E. We pride ourselves on meeting our client's deadlines and ensuring a quick turnaround on final make-up pieces.

From concept to commissioning we provide complete in-house engineering.
- Site surveys
- 3D - CAD Drawings
- Project Management
- Thermal Imaging

Our highly skilled team are experts at providing the client exactly what they require and are experienced in producing bespoke parts to meet the client's unique demands.

STANDARDS

Standards

The HPB range is fully ASTA Tested Certified and is CE approved. It is manufactured in a **certified management system** environment where Quality ISO 9001, Safety OHSAS 18001 and Environmental IS0 14001 standards are applied to all aspects of the manufacturing and installation processes.
It is manufactured in accordance with IEC61439-1 and IEC61439-6.

Type Tests

10.2 Verification of **Strength of materials and parts**

10.3 Verification of **Degree of protection of enclosures**

10.4 Verification of **Clearance and Creepage distances**

10.5 Verification of **Protection against electric shock and integrity of protective circuits**

10.9 Verification of **Dielectric properties**

10.10 Verification of **Temperature rise limits**

10.11 Verification of **Short-circuit withstand strength**

ASTA Certificates

Powerbar completed extensive testing at ASTA and KEMA accredited laboratories to ensure the product we supply meets the international requirements.

UL Classified

Powerbar completed extensive testing at UL accredited laboratories to ensure the product we supply meets UL requirements.

All certificates available on request

OHSAS 18001:2007
OHS 533652

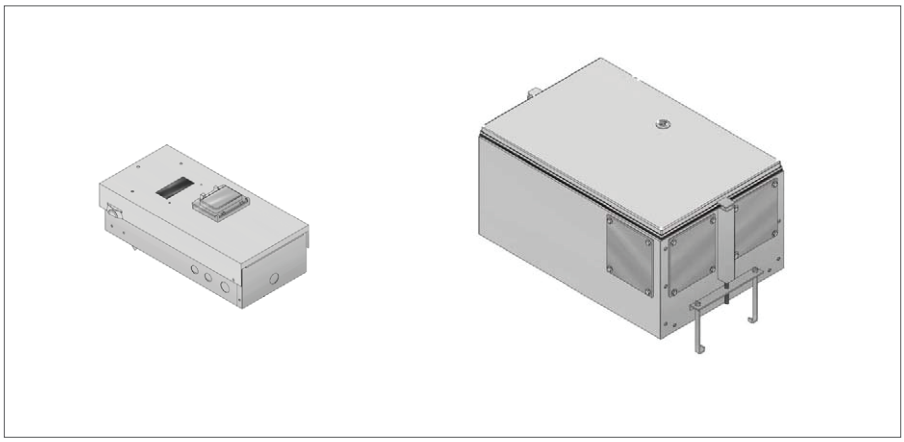
ISO 9001:2008
FM 12680

ISO 14001:2004
No: EMS 566536

PRODUCT OVERVIEW

Tap Off Units
Powerbar offers a range of tap off units to fit both our High Powerbar (HPB) and Medium Powerbar (MPB) ranges for multiple applications. There are over 100 units in our standard range. Powerbar can also manufacture special tap off units to suit any power distribution, metering or control requirements.

Safety
All Powerbar tap off units are designed with the safety of the installer and user as the key criteria. The tap off unit has an extended earth contact bracket which ensures the earth ground is always the first point to connect with the busbar system during installation. The tap off units have an interlock which prevents the tap off door from being opened while the tap off unit is in the ON position. The tap off unit is secured to the busbar housing using high tensile strength, lockable hardware, with an extended shutter actuator and mechanical clamping mechanism. This ensures the units are properly sealed during installation and cannot be fitted incorrectly.



Cable Entry
The standard tap off unit usually has bottom and side removable gland plates for cable access, but other variations are available as necessary, including cable spreader boxes. For any special requirements please contact the Powerbar engineering department.

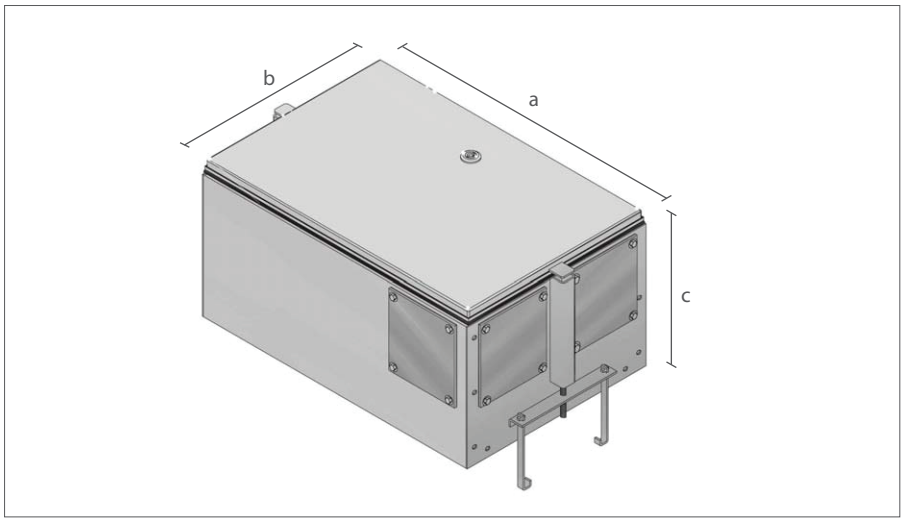
Special Tap Off Units
Powerbar can also manufacture special tap off units based on your specific needs and requirements. These features include:
- Metering options for landlord electrical tariff purposes
- BMS monitoring of breaker status
- BMS monitoring of metering systems
- Automatic remote open/close features
- Load shedding features
- Integral sockets
- Integral distribution boards

HPB TAP OFF UNITS

HPB-V1
- Current Rating ..... ≤315A
- Voltage 690V
- Tap Off Slots 1
- Approx. Weight 18.8kg

Size:

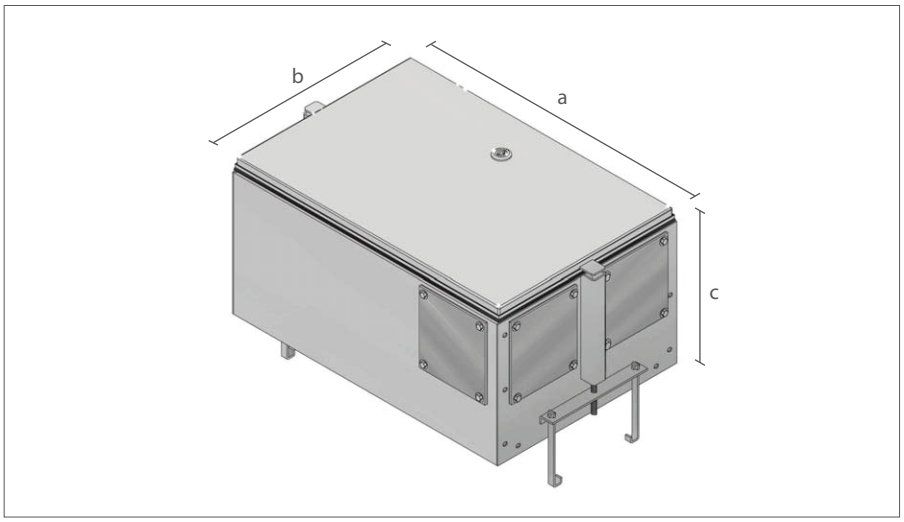
a **503mm**
b **340mm**
c **257.5mm**



HPB-V2
- Current Rating ..... ≤315A
- Voltage 690V
- Tap Off Slots 1
- Approx. Weight 15.7kg

Size:

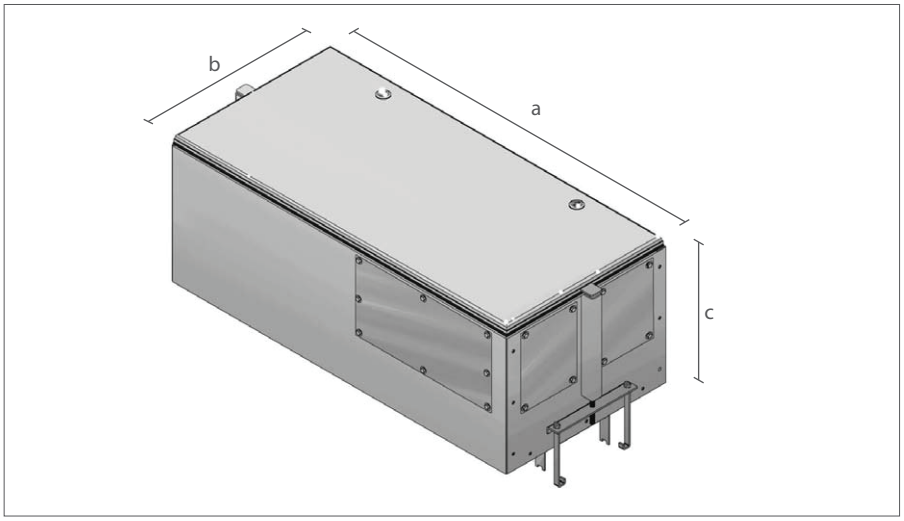
a **403mm**
b **256mm**
c **257.5mm**



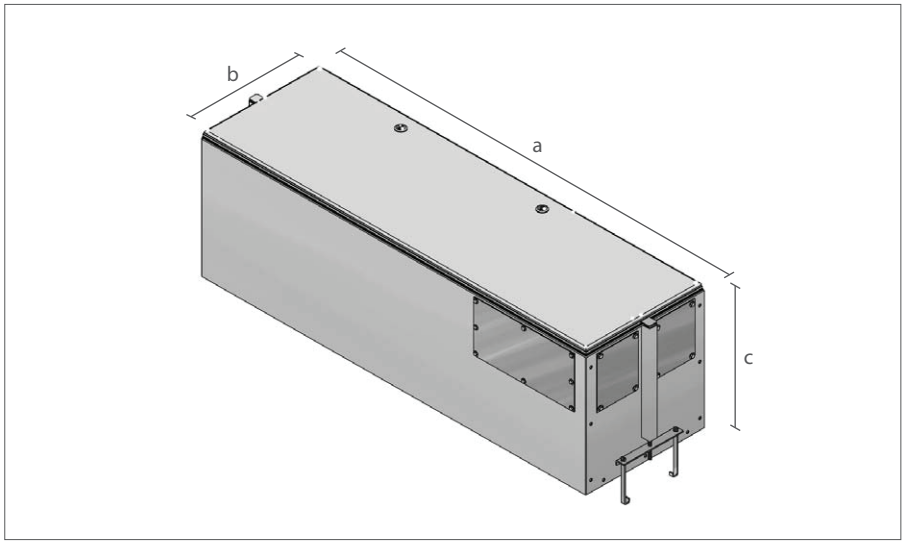
HPB-V1DC400
- Current Rating ..... ≤400A
- Voltage 690V
- Tap Off Slots 2
- Approx. Weight 37.5kg

Size:

a **756mm**
b **360mm**
c **290.5mm**



HPB TAP OFF UNITS



HPB-V1DC630
- Current Rating ..... ≤630A
- Voltage 690V
- Tap Off Slots 2
- Approx. Weight 61.0kg

Size:
a 967mm
b 360mm
c 390.5mm

Note:

- These tap offs are typical solutions based on standard MCCB's and switch fuses. Other factors need to be considered when deciding on what type of box to use, such as location of box, cable size, additional accessories etc.
- The HPB Powerbar tap off unit range is a 'plug-in' type up to 630A. The plug-in tap off unit is interchangeable between busbar's provided the configuration is the same.

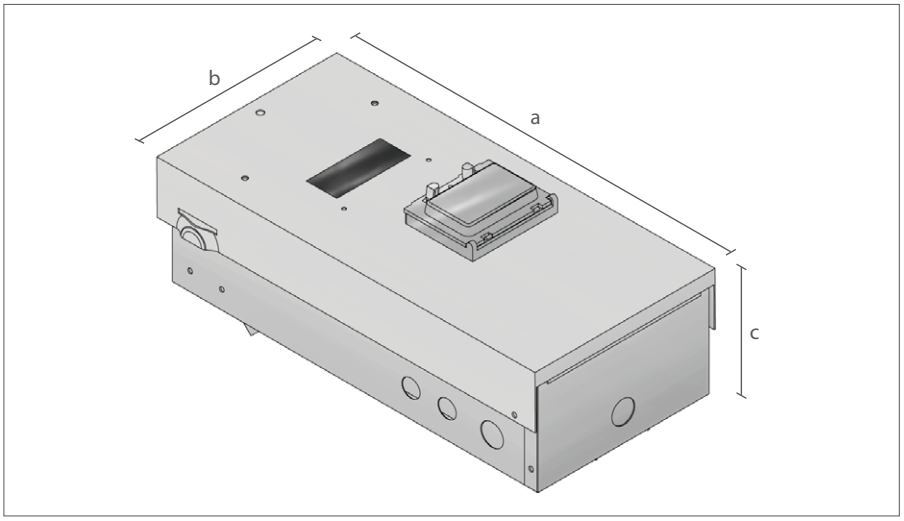
Above 630A the tap off units range changes to 'in line', these units are fixed in position.

HPB Tap Off Units

Current Rating	MCCB with Thermal Magnetic Trip	Motorised MCCB with Thermal Magnetic Trip	MCCB with Electronic Trip	Motorised MCCB with Electronic Trip	Switchfuse
32A	●	●	●	●	●
40A	●	●	●	●	●
63A	●	●	●	●	●
80A	●	●	●	●	●
100A	●	●	●	●	●
125A	●	●	●	●	●
160A	●	●	●	●	●
200A	●	●	●	●	●
250A	●	●	●	●	●
315A			●	●	●
400A			●	●	●
630A			●		
800A			●		
1000A			●		
1250A			●		
1600A			●		

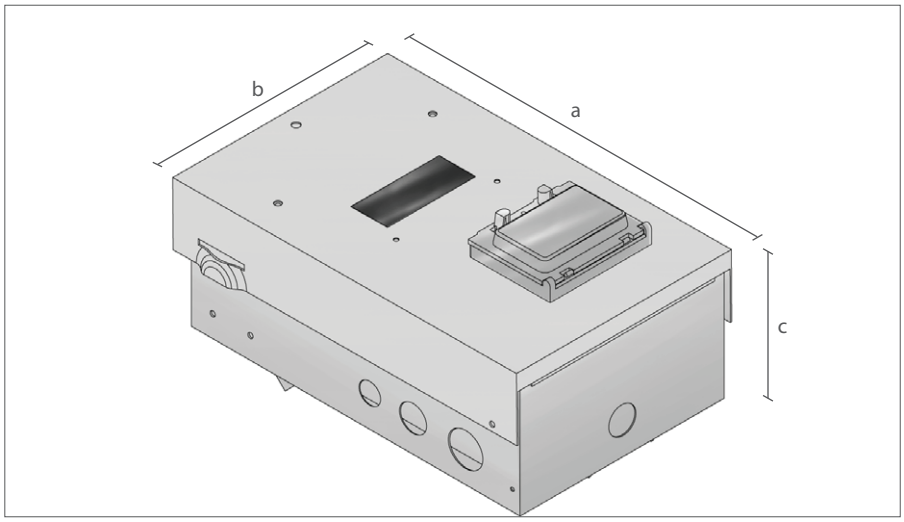
These tap offs are for use with our High Powerbar range of busbar.

MPB TAP OFF UNITS



MPB-ETOB-T1
- Current Rating ..... ≤100A
- Voltage 600V
- Tap Off Slots 1
- Approx. Weight 5.3kg

Size:
a 420mm
b 199mm
c 116mm



MPB-ETOB-T2
- Current Rating ..... ≤100A
- Voltage 600V
- Tap Off Slots 1
- Approx. Weight 5.0kg

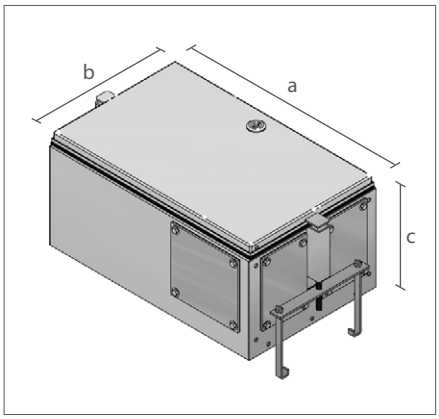
Size:
a 320mm
b 199mm
c 116mm

Euro Tap Offs

Current Rating	Single Pole MCB	Euro Tap Off Unit with Three Pole MCB	3 x Single Pole MCB with 3 x Single Phase Socket	Three Pole MCB with Three Phase Socket	Single Pole Fuse Switch	Three Pole Fuse Switch	3 x Single Pole Fuse Switch with 3 x Single Phase Socket	Three Pole Fuse Switch with Three Phase Socket	MCCB with Thermal Magnetic Trip
10A	●	●			●	●			
16A	●	●	●	●	●	●	●	●	
32A	●	●	●	●	●	●	●	●	●
40A									●
63A									●
80A									●
100A									●

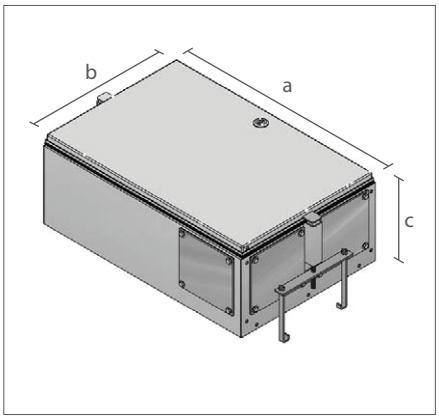
These tap offs are for use with our Meduim Powerbar range of busbar.

MPB TAP OFFS



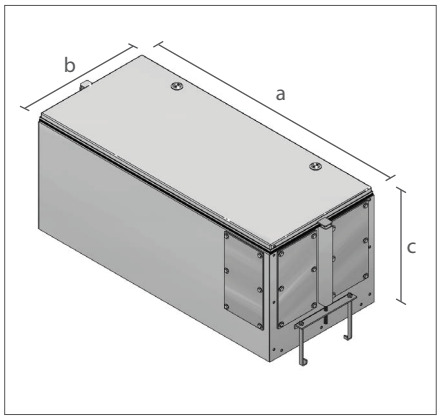
MPB-V1
- Current Rating ..... ≤250A
- Voltage 600V
- Tap Off Slots 1
- Approx. Weight 15.8kg

Size:
a **503mm**
b **340mm**
c **195.5mm**



MPB-V2
- Current Rating ..... ≤250A
- Voltage 600V
- Tap Off Slots 1
- Approx. Weight 13.0kg

Size:
a **403mm**
b **256mm**
c **195.5mm**



MPB-V1-DC
- Current Rating ..... ≤400A
- Voltage 600V
- Tap Off Slots 2
- Approx. Weight 27.5kg

Size:
a **756mm**
b **340mm**
c **334.5mm**

Note:

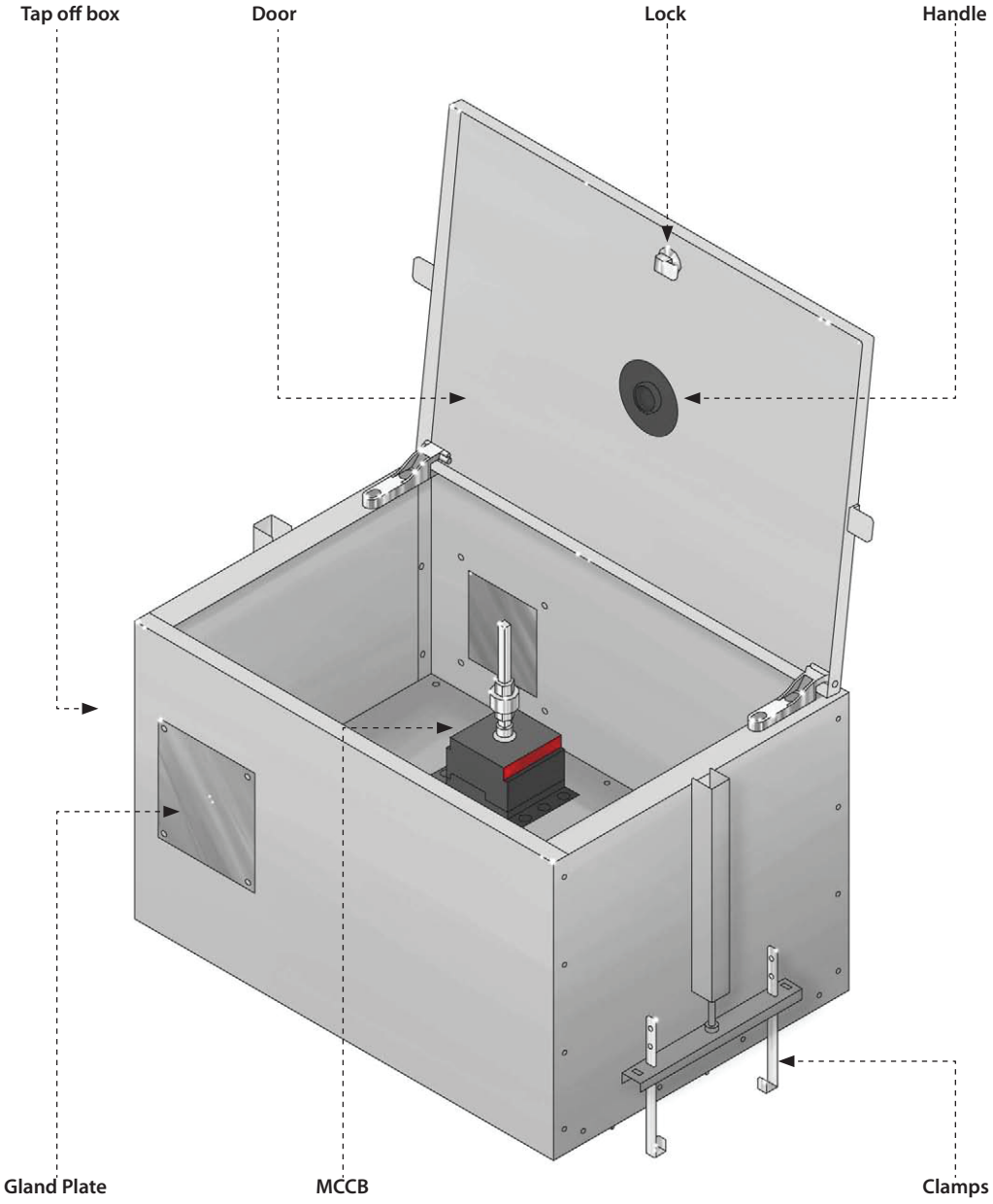
- These tap offs are typical solutions based on standard MCCB's and switch fuses. Other factors need to be considered when deciding on what type of Unit to use, such as location of Unit, cable size, additional accessories etc.
- The MPB Powerbar Tap Off Unit range is a "plug-in" type up to 400A. The plug-in tap off Unit is interchangeable between busbars provided the configuration is the same. Above 400A the tap off Units range changes to "in-line," these units are fixed in position.
- MCBs, Switchfuses, Schneider and Terasaki breakers are generally fitted to a ETOB-T1 while ABB breakers are generally fitted to a ETOB-T2.
- Meters can only be fitted to MPB-V1, MPB-V2 and MPB-V1-TC tap off units.

MPB Tap Offs

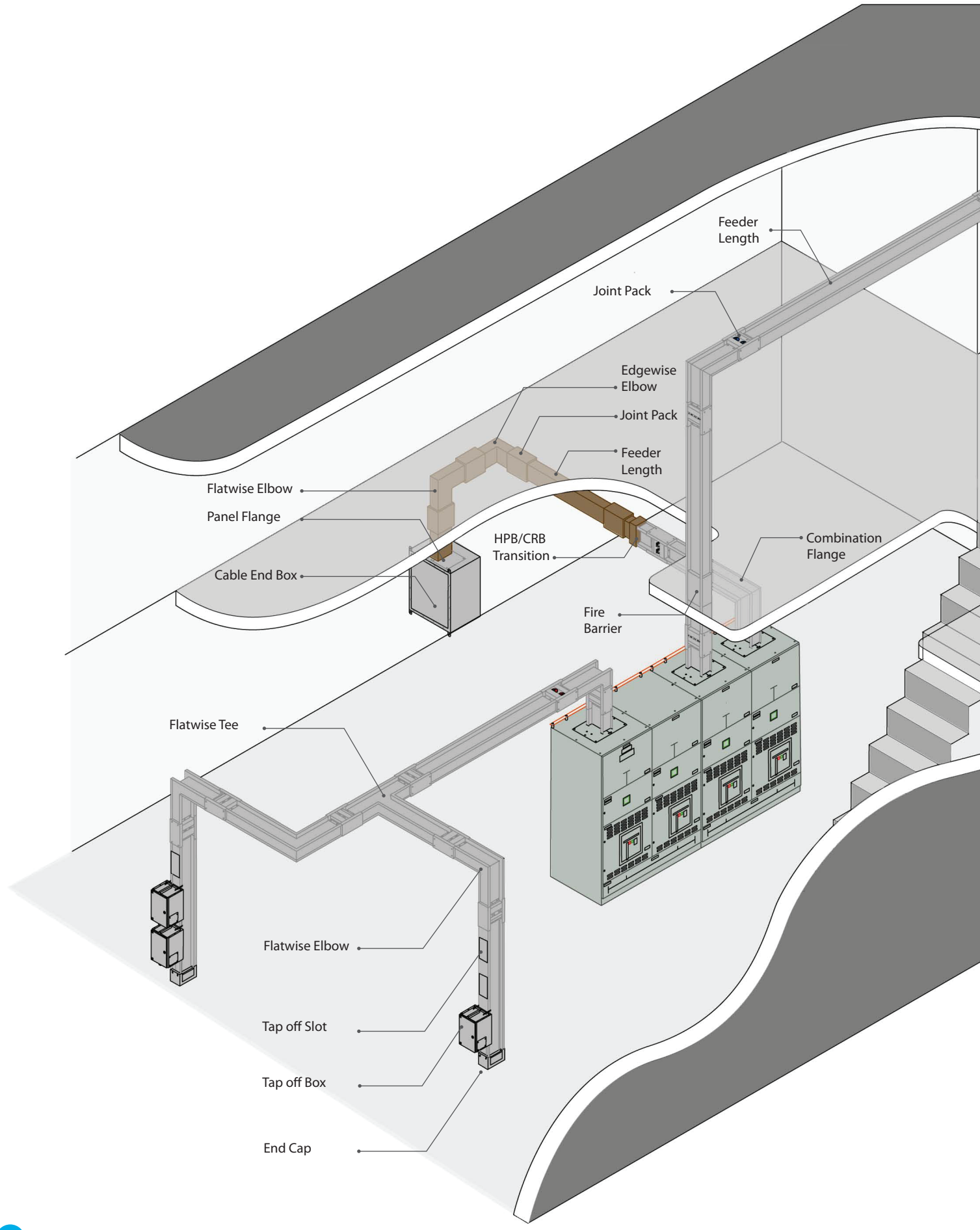
Current Rating	MCCB with Thermal Magnetic Trip	Motorised MCCB with Thermal Magnetic Trip	MCCB with Electronic Trip	Motorised MCCB with Electronic Trip	Switchfuse
32A	●	●	●	●	●
40A	●	●	●	●	●
63A	●	●	●	●	●
80A	●	●	●	●	●
100A	●	●	●	●	●
125A	●	●	●	●	●
160A	●	●	●	●	●
200A	●	●	●	●	●
250A	●	●	●	●	●
315A			●	●	●
400A			●	●	●

These tap offs are for use with our Medium Powerbar range of busbar.

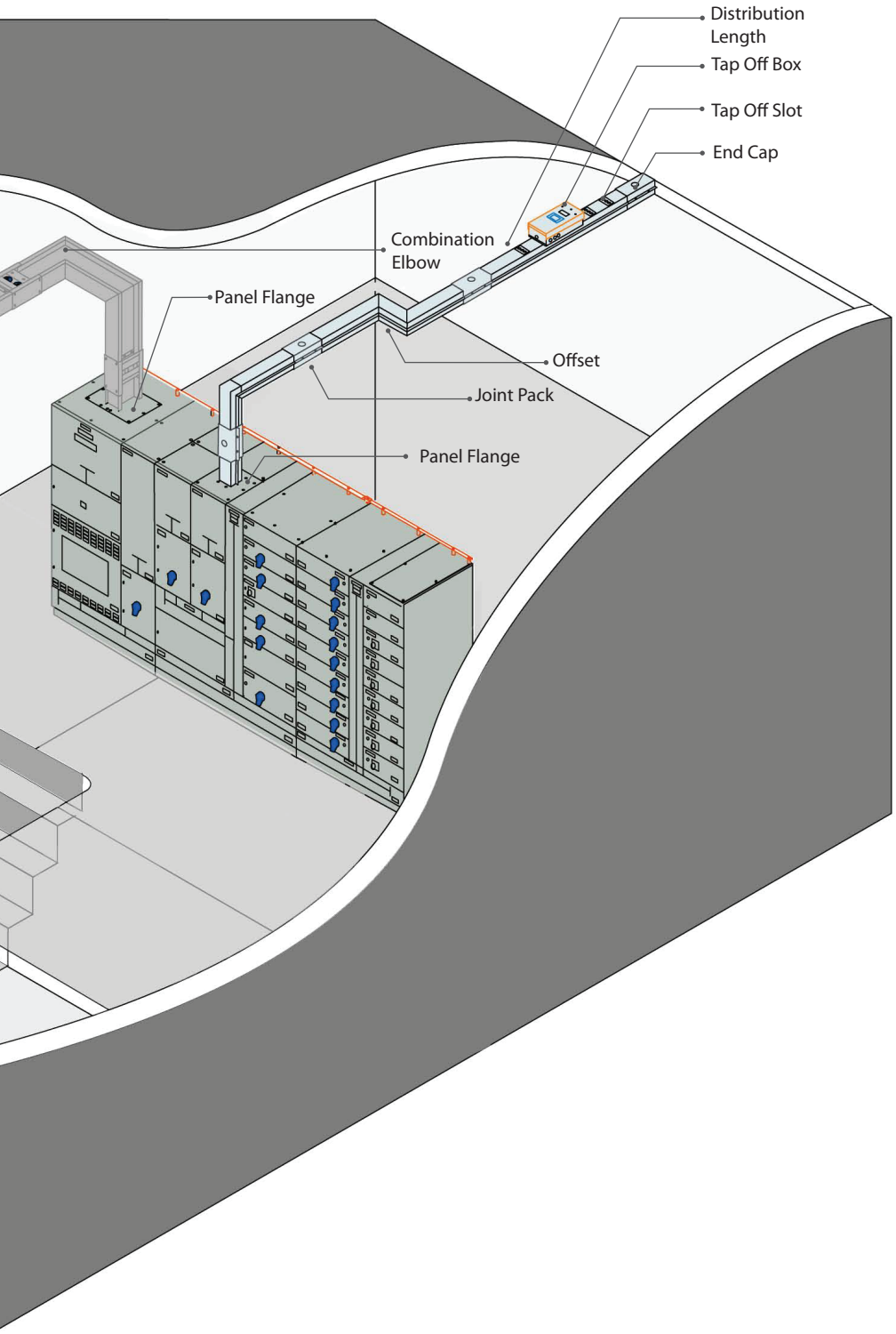
TYPICAL LAYOUT



TYPICAL INSTALLATION



TYPICAL INSTALLATION



E&I Engineering provide high voltage and low voltage switchgear and Powerbar provides a range of busbar trunking for power distribution. Together we can provide complete power solutions for your project.

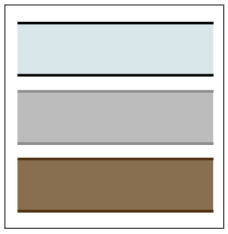
We have three ranges of Powerbar:

MPB - Medium Powerbar. Our air insulated range available with both copper and aluminium conductors. This range covers 160-800 Amps

HPB - High Powerbar. Our sandwich construction range available with both copper and aluminium conductors. This range covers 800-6600 Amps.

CRB - Cast Resin Bar. Our IP68 rated polymer concrete product for use in extreme conditions. This range is available with both copper and aluminium conductors. This range covers 800-6300 Amps.

Key.



MPB

HPB

Cast Resin

QUICK REFERENCE GUIDE

Critical Dimensions

Busbar passing through a wall, ceiling or floor:

- From the centre-line of a joint to the wall, ceiling or floor allow a minimum of 190mm.
- Joints cannot be positioned inside a wall, ceiling or floor – joints must be accessible for maintenance.

Busbar Clearances:

- From the top of the busbar to a wall, ceiling, floor or another busbar allow a minimum of 50mm.
- From the side of the busbar to a wall, ceiling, floor or other busbar minimum of 50mm.

Tap Off Clearances:

- Ensure adequate space is given to allow the tap off unit to be operated both easily and safely.

Feeder Busbar Length:

- Minimum length - 600mm
- Maximum length - 3000mm

Distribution Busbar Length:

- Minimum length - 600mm
- Maximum length - 3000mm

Flatwise Elbow Section:

- Minimum leg length – varies depending on the busbar.
- Maximum leg length – 750mm

Edgewise Elbow Section:

- Minimum leg length – 255mm
- Maximum leg length – 600mm

Critical Details

- Busbar drawing must have all relevant dimensions.
- Centre-line dimensions are expected, please highlight any dimensions that are not centre-line dimensions.
- Walls and floors must be located, shown and dimensioned.
- The front of all switchboards must be given and the phasing for any existing boards provided.
- Transformer connections require full details.
- When using rising busbar please note the phase orientation of the distribution sections.
- Horizontal distribution busbar positioned on its 'flat' must always be oriented with the Neutral phase to the top.

Operating Conditions:

- Ambient Temp : -50°C to +50°C
- Relative Humidity: 95% or below.
- Product designed for indoor use.

OTHER BROCHURES

Please use the QR codes on this page to gain access to our other brochures.
To read the QR codes you will need a device with a QR code reader.
These brochures can also be accessed through our website.

Product Overview

HPB Copper

HPB Aluminium

HPB IEC Copper

HPB ADDC Copper

MPB Busbar System

Cast Resin Bar

Tap Off Units

From out partners at **E&I Engineering**

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PowerBar pb

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