Welcome to Braemac Energy

Braemac Energy Pty Ltd is a dedicated ‘Green Earth’ organization

An integral part of the largest electronic component group in the country, Braemac Energy sources and supplies an extensive range of Solar products. We are also consultants and installers of solar panels, equipment and accessories in homes, schools, businesses and government establishments.

Founded in Sydney in 1986, and fully Australian owned, the Braemac group of companies enjoys a well-earned reputation for the expertise, service and commitment displayed by over 200 technicians and employees located across Australia, New Zealand, USA, Singapore, Hong Kong and the UK.

At Braemac Energy, we feel a deep responsibility for raising awareness of climate change issues and helping others understand the role that solar energy can play in reducing carbon emissions. We are also passionate about working with people, nature and technology to provide for a more sustainable future. As such we are proud to be associated with companies, who are at the forefront of developing efficient, affordable, reliable and clean solar energy solutions for the benefit of all.

We hope you will join in Braemac Energy’s commitment to sustainable energy solutions and a greener global future.
1. RAIL SYSTEM

### 1.1 Mounting Rail

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Figure</th>
<th>Item</th>
<th>Comments</th>
<th>Length</th>
</tr>
</thead>
</table>
| BE10-01  | ![I rail](image1) | I rail 34*56mm | Fixings with U-nut & M8 bolt  
Material: AL6005-T5  
Aluminum anodized  
Color: Silver | Standard: 1700mm  
2560mm  
3405mm  
4200mm  
Customized length allowed |
| BE10-07  | ![Base rail I](image2) | Base rail I 50*50mm | Top fixings: U-nut & M8 bolt  
Bottom fixings: M8 Cup square bolt & hexagon nut  
Side fixing with mounting plate(BE-MP01)  
Material: AL6005-T5  
Aluminum anodized  
Color: Silver | |
| BE10-08  | ![Base rail II](image3) | Base rail II 50*50mm | Top fixings with U-nut & M8 bolt  
Side fixing with mounting plate(BE-MP01)  
Material: AL6005-T5  
Aluminum anodized  
Color: Silver | |

### 1.2 Rail Connectors

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Figure</th>
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<th>Length</th>
</tr>
</thead>
</table>
| BE10-05200 | ![Rail splice kit](image4) | Rail splice kit | Extend I Rail to any length, fixing with M8 set screw  
Material: AL6005-T5  
Aluminum anodized  
Color: Silver | 200mm |
| BE10-09   | ![Base Rail splice kit](image5) | Base Rail splice kit | Connector for Base rail I / II, fixing with M8 set screw  
Material: AL6005-T5  
Aluminum anodized  
Color: Silver | |
### 2. MODULE ASSEMBLY COMPONENTS

#### 2.1 Module Connecting Clamp

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Figure</th>
<th>Item</th>
<th>Comments</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-02</td>
<td></td>
<td>Mid clamp</td>
<td>Hold every neighboring framed panel onto the rails by U-nut &amp; M8 bolt</td>
<td>Accommodate solar panels of thickness: 35mm, 37mm, 40mm, 42mm, 45mm, 46mm, 50mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Material: AL6005-T5</td>
<td></td>
</tr>
<tr>
<td>BE10-03</td>
<td></td>
<td>End clamp</td>
<td>Hold the edge of each ‘end’ framed panel by U-nut &amp; M8 bolt.</td>
<td>Material: AL6005-T5</td>
</tr>
</tbody>
</table>

#### 2.2 Connecting Clamp for Glass module

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Figure</th>
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<th>Comments</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-10</td>
<td></td>
<td>Mid clamp for glass module</td>
<td>Hold every neighboring frameless panel onto the rails by U-nut &amp; M8 bolt</td>
<td>Accommodate solar panels of thickness: 7mm, 8mm, 9mm, 10mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Material: AL6005-T5</td>
<td></td>
</tr>
<tr>
<td>BE10-11</td>
<td></td>
<td>End clamp for glass module</td>
<td>Hold the edge of each ‘end’ frameless panel by U-nut &amp; M8 bolt.</td>
<td>Material: AL6005-T5</td>
</tr>
</tbody>
</table>

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*Images of module connecting clamps for glass and frameless panel assembly.*
<table>
<thead>
<tr>
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<th>Figure</th>
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<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE-MP01</td>
<td></td>
<td>Mounting plate</td>
<td>Mounting plate for the fastening of the mounting Base Rails</td>
<td>60mm</td>
</tr>
<tr>
<td>BE-EC01</td>
<td></td>
<td>Rail End cap</td>
<td>Connecting with I rail</td>
<td>56.5<em>33.8</em>3mm</td>
</tr>
<tr>
<td>BE-GC01</td>
<td></td>
<td>Grounding clip</td>
<td>To be combined with standard mid clamp</td>
<td>34*34mm</td>
</tr>
<tr>
<td>BE-GL01</td>
<td></td>
<td>Grounding lug</td>
<td>To ensure the entire system grounded and safe</td>
<td>20mm</td>
</tr>
</tbody>
</table>
## 3. TILE ROOF MOUNTS

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Figure</th>
<th>Item</th>
<th>Comments</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-0401</td>
<td></td>
<td>Tile Hook 1#</td>
<td>For tiled roofing. Fix the railing to the beams below a tile roof and ensure a waterproof finish</td>
<td>180*165 mm</td>
</tr>
<tr>
<td>BE10-0402</td>
<td></td>
<td>Tile Hook 2#</td>
<td>For tiled roofing. Fix the railing to the beams below a tile roof and ensure a waterproof finish</td>
<td>180*165 mm</td>
</tr>
<tr>
<td>BE10-0403</td>
<td></td>
<td>Tile Hook 3#</td>
<td>Use with 6.3*80 wood screw &amp; M8 bolt Material: SUS304</td>
<td>186*236 mm</td>
</tr>
<tr>
<td>BE10-0404</td>
<td></td>
<td>Tile Hook 4#</td>
<td>Base plate: 45<em>100</em>5mm 55<em>100</em>5mm Hook: 116<em>155</em>6mm</td>
<td></td>
</tr>
<tr>
<td>BE10-0405</td>
<td></td>
<td>Tile Hook 5#</td>
<td>For asphalt roofing</td>
<td>296*152 mm</td>
</tr>
<tr>
<td>BE10-0406</td>
<td></td>
<td>Tile Hook 6#</td>
<td>For asphalt roofing</td>
<td>200*120 mm</td>
</tr>
</tbody>
</table>
## 4. METAL ROOF MOUNTS

### 1.6 Metal Roof Mounts

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Figure</th>
<th>Item</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-0601</td>
<td><img src="image1" alt="L foot" /></td>
<td>L foot</td>
<td>Secure the railing on the roof, and must be used with the supplied EPDM pad to prevent galvanic corrosion to the roof material. Material: AL6005-T5</td>
</tr>
<tr>
<td>BE10-0602</td>
<td><img src="image2" alt="Hanger bolt" /></td>
<td>Hanger bolt with L-bracket</td>
<td>Connecting I Rail For corrugated roofs, comprising a special hanger bolt with EPDM sealing and a L-bracket. Material: AL6005-T5 &amp; SUS304</td>
</tr>
<tr>
<td>BE10-0603</td>
<td><img src="image3" alt="Hanger bolt" /></td>
<td>Hanger bolt with adapter plate</td>
<td>Connecting Base Rail I and II, for corrugated roofs, comprising a special hanger bolt with EPDM-sealing and a mounting plate. Material: AL6005-T5 &amp; SUS304</td>
</tr>
</tbody>
</table>

### Dimensions

- L foot 1#: 40*84mm
- Wood screw 6.3*80mm
- EPDM pad 25*50mm
- U-nut & Bolt

- L foot 2#: 60*60*6mm
- M10*200 hanger bolts
- U-nut & Bolt

- M10*200 hanger bolts
- Aluminum adapter plate 130*50*8mm
<table>
<thead>
<tr>
<th>Item no.</th>
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<th>Item</th>
<th>Comments</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-0604</td>
<td></td>
<td>Trapezoidal clamp 1#</td>
<td>For trapezoidal corrugated metal, 4 holes, for direct fastening to the trapezoidal corrugated metal roof with the supplied EPDM pad to prevent galvanic corrosion to the roof material. Material: SUS304</td>
<td>Trapezoidal clamp 1# 100 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Trapezoidal clamp 2# 100 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EPDM pad 25*50</td>
</tr>
<tr>
<td>BE10-0605</td>
<td></td>
<td>Trapezoidal clamp 2#</td>
<td></td>
<td>Trpezoidal clamp 3# 100 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EPDM pad 25*50</td>
</tr>
<tr>
<td>BE10-0606</td>
<td></td>
<td>Trapezoidal clamp 3#</td>
<td></td>
<td>Standing seam clamp 1# 110 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>With elongated hole, for connecting Base rails I with M8 flanged hexagon nut /bolt Material: SUS304</td>
<td>Standing seam clamp 1# 110 mm</td>
</tr>
</tbody>
</table>
### 1.6 Metal Roof Mounts

<table>
<thead>
<tr>
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<th>Figure</th>
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<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE10-0608</td>
<td><img src="image1.jpg" alt="Image" /></td>
<td>Standing seam clamp 2#</td>
<td>For KalZip or BEMO roof. Made up with M10 bolt/flange hexagon nut, EPDM pad. Material: AL6005-T5</td>
<td>Standing seam clamp 2# 60mm, L-foot 3# 60<em>50mm, Bolt M10</em>35</td>
</tr>
<tr>
<td>BE10-0609</td>
<td><img src="image2.jpg" alt="Image" /></td>
<td>Standing seam clamp 3#</td>
<td>For Zambelli RibRoof. Made up with M10 bolt/flange hexagon nut, EPDM pad. Material: AL6005-T5</td>
<td>Standing seam clamp 3# 60mm, L-foot 3# 60<em>50mm, Bolt M10</em>30</td>
</tr>
<tr>
<td>BE10-0610</td>
<td><img src="image3.jpg" alt="Image" /></td>
<td>Standing seam clamp 4#</td>
<td>For KalZip or BEMO roof, connecting with adjustable tilt system. Made up with M10 bolt/flange hexagon nut, EPDM pad. Material: AL6005-T5</td>
<td>Standing seam clamp 2# 110mm, T-support 110mm, Bolt M10*40</td>
</tr>
<tr>
<td>BE10-0611</td>
<td><img src="image4.jpg" alt="Image" /></td>
<td>Standing seam clamp 5#</td>
<td>For Zambelli RibRoof, connecting with adjustable tilt system. Made up with M10 bolt/flange hexagon nut, EPDM pad. Material: AL6005-T5</td>
<td>Standing seam clamp 3# 110mm, T-support 110mm, Bolt M10*35</td>
</tr>
</tbody>
</table>
5. ADJUSTABLE TILT MOUNTS

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Figure</th>
<th>Item</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE20-01</td>
<td></td>
<td>Adjustable Stand</td>
<td>Includes front base and back base, secure the railing on the roof and must be used with the supplied EPDM pad. Material: AL6005-T5</td>
</tr>
<tr>
<td>BE20-02</td>
<td></td>
<td>Tilt kits</td>
<td>Adjusting the tightness of fastener in the square tube to get the angle you need. Material: AL6005-T5. Adjustable angle range:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10° ~ 15°; 15° ~ 30°; 30° ~ 45°; 30° ~ 60°</td>
</tr>
</tbody>
</table>
6.1 Tile roof mounting system

**Product Code:** BER-01

- Widely use for any specification modules
- Various roof hooks to suit for different installation conditions
- Made from corrosion-resistant stainless steel/aluminum
- Typical designing with Pre-assemble component packs for minimum assembly time
- Customized solution is allowed

**Quick Installation**

1. Fix the hook on the wood rafters with wood screw.
2. Put the aluminum rails on the top of roof hook, fixing it with nut and bolt.
3. Fix the module on the rail by module clamp with bolt and nut.
6.2 Metal Roof Mounting system ("MRMS" for short)

6.2.1 MRMS with L-feet

**Product Code:** BER-02

- Widely use for any specification modules
- For corrugated sheet roofing
- Safety & Economical
- Preassembled for quick installation
- Components made from high quality aluminum, wood screw & EPDM pad

**Quick Installation**

1. Drill a hole from the roof surface then fasten the L foot to the hole by wood screw.
2. Insert the nut into the rail channel, and fasten the bolt and nut to fix the rail.
3. Fix the module on the rail by module clamp with bolt and nut.
Product Code: BER-03
- Connecting I Rail for corrugated roofs with L-bracket
- Preassembled, flexible designing save installation time
- Height is easy to adjust
- Widely use for any specification modules
- Comprising a special hanger bolt with high quality aluminum, EPDM sealing and L-bracket

Product Code: BER-04
- Connecting Base Rail for corrugated or trapezoidal sheet metal roofs with mounting plate.
- Preassembled, flexible designing save installation time
- Height is easy to adjust
- Widely use for any specification modules
- Slot for easy connection to base rail with mounting plate
- Customized solution is allowed
Product Code: BER-05
- Connecting I Rail for trapezoidal sheet metal roofs.
- Preassembled for quick installation
- Widely use for any specification modules
- Aluminum and stainless-steel parts with EPDM pad to be highly corrosion-resistant
- For direct fastening to the trapezoidal corrugated metal roof with self tapping screw.

Product Code: BER-06
- Connecting I Rail for trapezoidal sheet metal roofs.
- Preassembled for quick installation
- Widely use for any specification modules
- Aluminum and stainless-steel parts with EPDM pad to be highly corrosion-resistant
- For direct fastening to the trapezoidal corrugated metal roof with self tapping screw.
**6.2.6 MRMS with Trapezoidal clamp 3#**

- Connecting Base Rail for trapezoidal sheet metal roofs.
- Preassembled for quick installation
- Widely use for any specification modules
- Aluminum and stainless-steel parts with EPDM pad to be highly corrosion-resistant
- For direct fastening to the trapezoidal corrugated metal roof with self tapping screw.

**Product Code: BER-07**

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**6.2.7 MRMS with Standing seam clamp 1#**

- Connecting Base Rail for Butler Roof
- Preassembled for quick installation
- Widely use for any specification modules
- Firmly secured with highly water-proof
- The roof membrane is not damaged

**Product Code: BER-08**
Product Code: BER-09
- Connecting Base Rail for KalZip or BEMO roof.
- Preassembled for quick installation
- Widely use for any specification modules
- Firmly secured with highly water-proof
- The roof membrane is not damaged

Product Code: BER-10
- Connecting Base Rail for Zambelli RibRoof
- Preassembled for quick installation
- Widely use for any specification modules
- Firmly secured with highly water-proof
- The roof membrane is not damaged
6.3 Adjustable tilt system

Product Code: BER-11

- Suitable for various metal roofs with adjustable angle.
- Combing with tilt kits attaching directly to the I-rail.
- Each assembly kit performs strong locking force
- Retractable adjustment
- Corrosion resistant aluminum components
- Strong base and tilt kit to enhance the stability of whole system
- High-quality materials for long service life

Quick Installation

1. Fasten the adjustable stand to the hole by wood screw, install the tilt kits on back base
2. Insert the nut of tilt leg into the rail channel, and fasten the bolt and nut to fix the rail.
3. Fix the module on the rail by module clamp with bolt and nut.
6.4 Adjustable tilt system with Standing seam clamp

Product Code: BER-12
- Combing adjustable stand with standing seam clamp by T-support
- Suitable for KalZip/BEMO roof(or Zambelli RibRoof) with adjustable angle.
- Each assembly kit performs strong locking force
- Retractable adjustment
- Corrosion resistant aluminum components
- Strong base and tilt kit to enhance the stability of whole system
- High-quality materials for long service life

Quick Installation
1. Fix the standing seam clamps on the roof, fasten the adjustable stand on them, install the tilt kits on back base
2. Insert the nut of tilt leg into the rail channel, and fasten the bolt and nut to fix the rail.
3. Fix the module on the rail by module clamp with bolt and nut.
6.5 Triangle mounting system

**Product Code:** BER-13

- Suitable for flat and pitched roofs
- Customized angle allowed
- Preassembled components to ensure quick assembly time
- Widely use for any specification modules
- High-quality materials for long service life

**Quick Installation**

1. Fix triangle leg on the roof by wood screw.
2. Install base rail on triangle legs by cup square bolt and flanged nut.
3. Fix the module on the rail by module clamp with bolt and nut.
6.5 PVK Mounting System

**Quick Installation**

1. Fix solar panels on the main support by bolts.
2. Install front foot, back foot and back structure.
3. Fasten the fixed solar panels on the structure.

**Product Code:** BEG-01
- Suitable for open ground
- Customized angle allowed
- Pre-Assemble & Time saving
- Solid structure, do not need I-rails.
- Widely use for any specification modules
- No tile cutting, no tile drilling
- High-quality materials for long service life
6.4 Ballasted mounting system

Product Code: BER-14
- Suitable for flat roofs, especially for bituminous and membrane roofs with limited load bearing capacity.
- Non-penetrating with flexible ballast
- Typically designing for easy and quick installation
- No damage to the roof.
- Pre-assembly EPDM protection pad for corrosion resistant
- Unimpeded water flow

Quick Installation
1. Fasten the adjustable stand to the hole by wood screw, install the tilt kits on back base
2. Insert the nut into the rail channel, and fasten the bolt and nut to fix the rail.
3. Fix the module on the rail by module clamp with bolt and nut.