

LOW-VOLTAGE MCCB PANEL BOARDS & PAN ASSEMBLIES / *Sunlight VLC65*

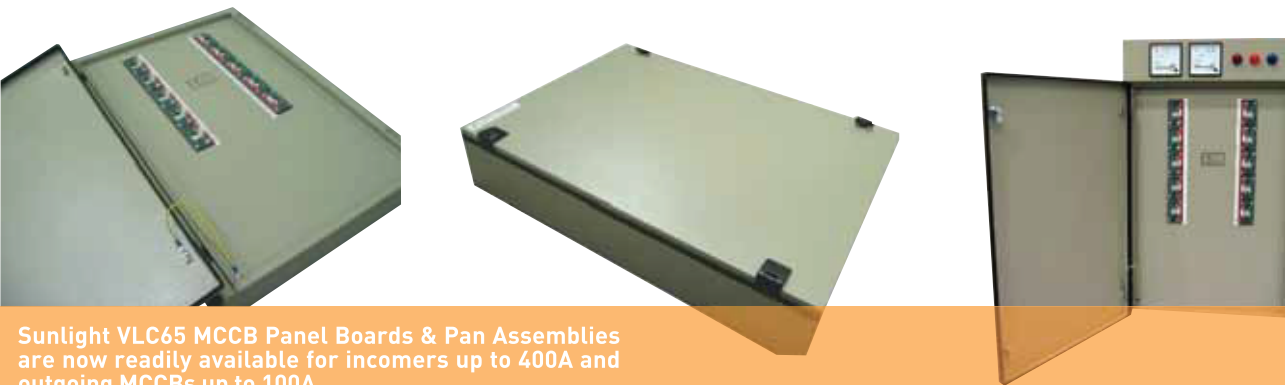


**SUNLIGHT**  
A CHINT COMPANY



Type-Tested Low-Voltage MCCB Panel Boards & Pan Assemblies  
With High-Breaking Capacity Performance

The Sunlight VLC65 MCCB Panel Boards & Pan Assemblies feature a unique high performance design that offers a highly available standard solution for MCCB distribution board. This version allows a required degree of power distribution and supply flexibility that is particularly valued for the frequently changing requirements of the process and energy industries.



Sunlight VLC65 MCCB Panel Boards & Pan Assemblies are now readily available for incomers up to 400A and outgoing MCCBs up to 100A.

- Safety and proven quality by type-testing of the **complete metal enclosure with Pan Assembly** to IEC 61439 Part 1, BS EN 61439 Part 1;
- High breaking capacity of up to 65kA rms;
- Range covers up to 12 triple-pole outgoing ways (i.e. 12 nos. of 3-pole MCCBs or 36 nos. of single-pole MCCBs);
- Work well with most reliable & established switchgears like ABB, Merlin Gerin, Siemens, Cutler - Hammer etc;
- Suitable for various incoming connections: direct lugs/cable connections, MCCBs and Isolator switches connections;

- Standard solutions yet with high flexibility for customization like the provision for future connections to other power load or busbars etc

With ISO 9000 Quality Management System firmly in place, Sunlight Electrical assures all products with high levels of manufacturing consistency and quality finishing.

**Sunlight VLC65 MCCB Panel boards & Pan Assemblies** can be widely applied in modern buildings and industries such as residential and commercial buildings, hospitals, sports facilities, water, oil and gas plants and developments, etc.

Technical Data At a Glance

|  |  |   |  |
|--|--|---|--|
| System   | <div>- Main TPN power distribution systems and submain systems using MCCBs</div> <div>- MCCB panel boards before the tenants energy meters</div>   |   |  |
| Rated current  | <div>- Main busbar or incoming MCCB/Isolator switch</div> <div>- Outgoing MCCB. (Suitable for 75-77mm 3P breakers)</div> <div>- Outgoing circuits with other rating are also available upon request</div>  | <div>- Up to 400A</div> <div>- Up to 125A</div> |  |
| Rated insulation voltage                                   | 690V, 50Hz   |   |  |
| Pollution degree   | 3  |   |  |
| Rated impulse withstand voltage (Uimp)                     | 6kV  |   |  |
| Number of ways   | <div>From 4 to 12 triple pole (TP) outgoing ways</div> <div>Greater number of outgoing ways can be provided as options</div>   |   |  |
| Number of poles  | SP(1-pole), TP (3-pole), and 3/4-pole for incomer  |   |  |
| Tested standard complied                                   | IEC 61439 Part 1, BS EN 61439 Part 1   |   |  |
| Degree of Protection (IP)                                  | <div>- Standard : IP 40</div> <div>- Special : IP 43, IP 55, IP 65</div>   |   |  |
| Type of Incoming Connections                               | <div>Choice of factory fitted incoming devices:</div> <div>Main lugs (Direct Cable Connections);</div> <div>MCCBs; and Isolator Switches</div>   |   |  |
| Enclosure & surface treatment                              | <div>The steel enclosure is manufactured from 1.2mm gauge electro-galvanised steel sheet. 1.5mm &amp; 2.0mm gauge galvanised sheet steel are available on request. The panel is coated with RAL 7032 polyester-epoxy powder with a minimum coating of 50 microns. The Pan Assemblies are held together by corrosion-resistant galvanised steel.</div>  |   |  |
| Short circuit capabilities                                 | <div>- Rated conditional short circuit current of main busbar : 65kA rms at 415V, 0.20pf</div> <div>- Rated conditional short circuit current of main busbar to neutral busbar : 65kA rms at 415V, 0.20pf</div> <div>- Rated conditional short circuit current of outgoing circuits : 65kA rms at 415V, 0.20pf</div> <div>- Rated conditional short circuit current on outgoing MCCB to protective earth : 65kA rms at 240V, 0.20pf</div> <div>- Rated prospective current (peak value) : 143kA peak</div> <div>- Dielectric strength : 2500V, 5 seconds</div> |   |  |
| Busbars  | <div>The conductors are made with one-piece high conductivity copper plate which accept bolt-on outgoing single or triple pole MCCBs. The busbars are cleaned and passivated to inhibit oxidation.</div> <div>Main Busbar cross section: 40 x 2.5mm</div> <div>Earth &amp; Neutral Busbar cross section: 15 x 5mm (A copper connection piece is available for lugs with bolt sizes bigger than M10)</div>  |   |  |
| Installation   | Indoor, surface mounting, weatherproof & floor mounting on request   |   |  |
| Ambient temp   | -5 °C to + 50°C  |   |  |
| Electromagnetic compatibility                              | Verified in accordance to IEC 61439 Part 1, BS EN 61439 Part 1   |   |  |
| Resistance of insulating materials to abnormal heat & fire | Verified in accordance to IEC 61439 Part 1, BS EN 61439 Part 1   |   |  |
| Busbar Configurations                                      | Three phase main busbars are fitted. They are used for single-pole or 3-pole MCCB.   |   |  |
| Gland Plate and openings for external cables               | The gland plate of board can be freely removed during installation for hole-opening & cable connections.   |   |  |

Constructional Features – An Expanded View

Sunlight VLC 65



**Pan Assembly**  
A tested module able to withstand 65kA rms short-circuit level on both main and outgoing circuits.



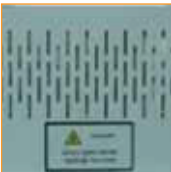
**Break-through technology with a safety touch..**  
Safety "finger-tags" to prevent direct and indirect contacts. No spare breakers needed for standby. Just tear tags for future breakers' add-ons.

Internal Cover Plate

IP 40 Door Gasket



**Earth Bar System**  
A tested 2-tier earth bar system that offers both practical terminations and space saving solutions



**Insulated Shroud**  
A removable barrier that covers live bars terminating incoming lugs/breakers/switches



**Designer Lock Appeals**  
Key-type available



**Neutral Bar System**  
A tested 2-tier neutral bar system that offers both practical terminations and space saving solutions



**Heavy Duty Hinge**  
A hinge that has both the "looks" and "muscles" for 180 degree opening

Wide Cabling Space

**Removable Gland Plate For Incoming Connections**



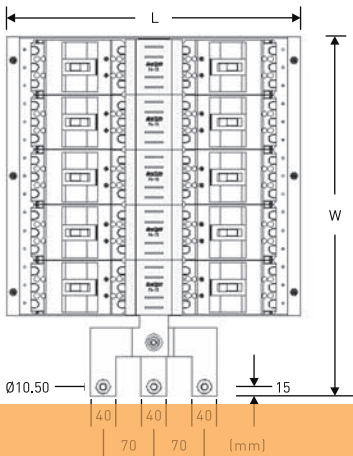
Specifications & Configurations

Dimensions of MCCB Panel Boards



| Mode of Incoming Connections:<br>(A) Direct Lug / Cable Connection |                             |            |                       |
|--|-----------------------------|------------|-----------------------|
| Ordering Part Number   | No. of 3-pole outgoing ways | Rating (A) | Enclosure (H x W x D) |
| VLC65-DB404LC  | 4                           | 400        | 575 x 550 x 165       |
| VLC65-DB406LC  | 6                           | 400        | 575 x 550 x 165       |
| VLC65-DB408LC  | 8                           | 400        | 750 x 550 x 165       |
| VLC65-DB410LC  | 10                          | 400        | 750 x 550 x 165       |
| VLC65-DB412LC  | 12                          | 400        | 750 x 550 x 165       |

Dimensions of Pan Assemblies



| Ordering Part Number | No. of 3-pole outgoing ways | Width (W) (mm) | Length (L) (mm) |
|----------------------|-----------------------------|----------------|-----------------|
| VLC65-PA7504         | 4                           | 267            | 420             |
| VLC65-PA7506         | 6                           | 343            | 420             |
| VLC65-PA7508         | 8                           | 419            | 420             |
| VLC65-PA7510         | 10                          | 495            | 420             |
| VLC65-PA7512         | 12                          | 571            | 420             |



| Mode of Incoming Connections:<br>(B) With MCCBs or Isolator Switch |                             |            |                       |
|--|-----------------------------|------------|-----------------------|
| Ordering Part Number   | No. of 3-pole outgoing ways | Rating (A) | Enclosure (H x W x D) |
| VLC65-DB404MI  | 4                           | 400        | 850 x 550 x 165       |
| VLC65-DB406MI  | 6                           | 400        | 850 x 550 x 165       |
| VLC65-DB408MI  | 8                           | 400        | 1050 x 550 x 165      |
| VLC65-DB410MI  | 10                          | 400        | 1050 x 550 x 165      |
| VLC65-DB412MI  | 12                          | 400        | 1050 x 550 x 165      |



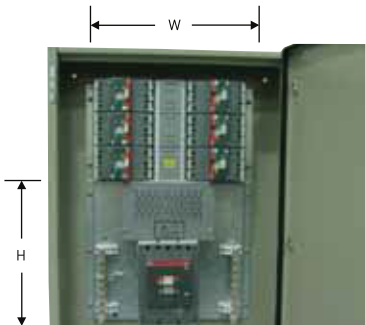
| Thermal Ratings   | Short Circuit Breaking Capacity Single Pole | Short Circuit Breaking Capacity Single, Double and Triple Pole |
|---|---|--|
| Up to 125A  | Up to 65kA Icu *                            | Up to 65kA Icu *   |
| * Subject to cascading or discrimination/backup capabilities of respective MCCBs' co-ordination characteristics |   |  |

Options and Add-Ons Features

Sunlight VLC 65

1. Incomer Plates

Standard plates complete with neutral and earth bars and supports. It comes complete with insulated covers for the housing of live parts.



(A) Incomer Plate with Incoming MCCB or Isolator Switch

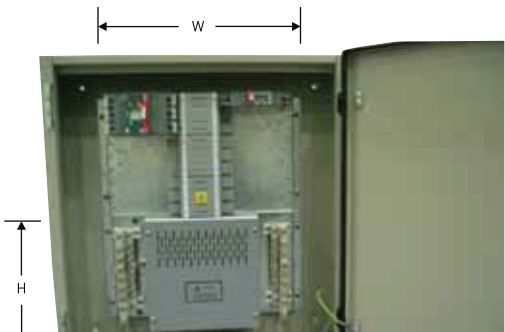
| Ordering Part Number | No. of 3-pole outgoing ways | Height (mm) (H) | Width (mm) (W) |
|----------------------|-----------------------------|-----------------|----------------|
| VLC65-IP04MI         | 4                           | 350             | 420            |
| VLC65-IP06MI         | 6                           | 350             | 420            |
| VLC65-IP08MI         | 8                           | 350             | 420            |
| VLC65-IP10MI         | 10                          | 350             | 420            |
| VLC65-IP12MI         | 12                          | 350             | 420            |

2. Provisions for Additional Compartment

Standard module to house measuring instruments, indicating lights, fuses, etc can easily be fixed as add-on compartment on the board.



| Ordering Part Number | Height (mm) (H) | Width (mm) (W) |
|----------------------|-----------------|----------------|
| VLC65-DB130AC        | 130             | 165            |



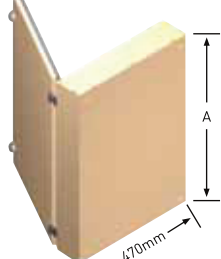
(B) Incomer Plate with Direct Lug / Cable Connection

| Ordering Part Number | No. of 3-pole outgoing ways | Height (mm) (H) | Width (mm) (W) |
|----------------------|-----------------------------|-----------------|----------------|
| VLC65-IP04LC         | 4                           | 220             | 420            |
| VLC65-IP06LC         | 6                           | 220             | 420            |
| VLC65-IP08LC         | 8                           | 220             | 420            |
| VLC65-IP10LC         | 10                          | 220             | 420            |
| VLC65-IP12LC         | 12                          | 220             | 420            |

Front View



Back View



1. Open the door; drive out four screws as shown in front view diagram. (According to the need of installation, gland plates can be removed)
2. Fix the back of the enclosure on the wall by using four M6 screws.

| Ordering Part Number | A (mm) | Type          | A (mm) |
|----------------------|--------|---------------|--------|
| VLC65-DB404LC        | 495    | VLC65-DB404MI | 770    |
| VLC65-DB406LC        | 495    | VLC65-DB406MI | 770    |
| VLC65-DB408LC        | 670    | VLC65-DB408MI | 920    |
| VLC65-DB410LC        | 670    | VLC65-DB410MI | 920    |
| VLC65-DB412LC        | 670    | VLC65-DB412MI | 920    |

Termination & Assembly Details

Terminals’ Capacities

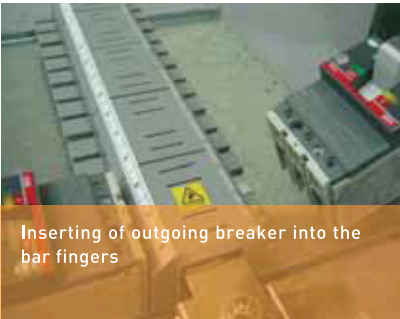
The incoming copper cable sizes are recommended and not restricted to the figures stated. All cable sizes refer to multi-stranded cable.

| For Panel Boards & Pan Assemblies |  |                                      |                     | Outgoing MCCBs             |  |                             |
|-----------------------------------|--|--------------------------------------|---------------------|----------------------------|--|-----------------------------|
|                                   | Recommended Incoming Copper Cables (mm2) | Outgoing Cables/Bolt Sizes Max (mm2) | Incoming Bolt Sizes |                            | Recommended Incoming Copper Cables (mm2) | Outgoing Cables Max (mm2) * |
| Neutral                           | Up to 240                                | 50 [M6]                              | M10, M12            | 10 – 100A                  | -  | 50                          |
| Earth                             | Up to 120                                | 25 [M6]                              | M8, M10             |                            |  |                             |
| 160A MCCB incomer                 | 95 [max]*                                | -                                    | M10*                |                            |  |                             |
| 250 MCCB incomer                  | 150 [max]*                               | -                                    | M10*                |                            |  |                             |
| 400A MCCB incomer                 | 240 [max]*                               | -                                    | M10*                |                            |  |                             |
| 400A Lugs                         | 240                                      | -                                    | M10*                | *Subject to breakers' make |  |                             |

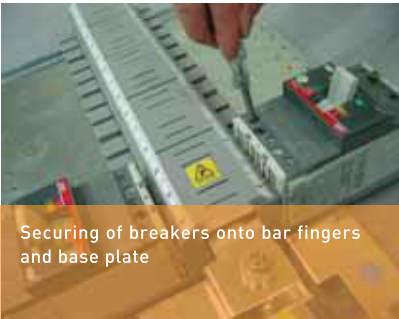
Termination Method of Incomer and Outgoing MCCBs



Termination of Incomer MCCB

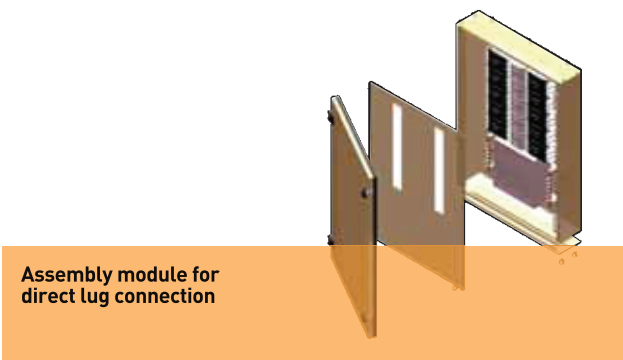


Inserting of outgoing breaker into the bar fingers

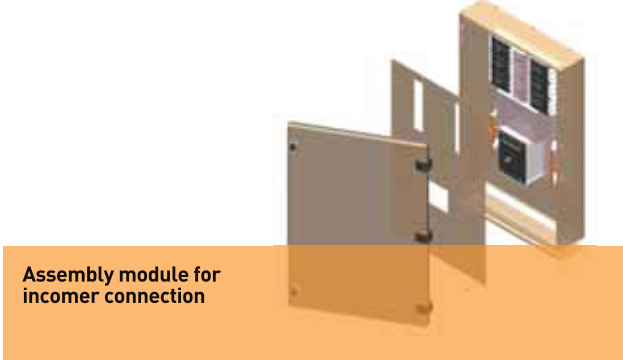


Securing of breakers onto bar fingers and base plate

Internal Assembly Details



Assembly module for direct lug connection



Assembly module for incomer connection

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|           |   |
|-----------|---|
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