



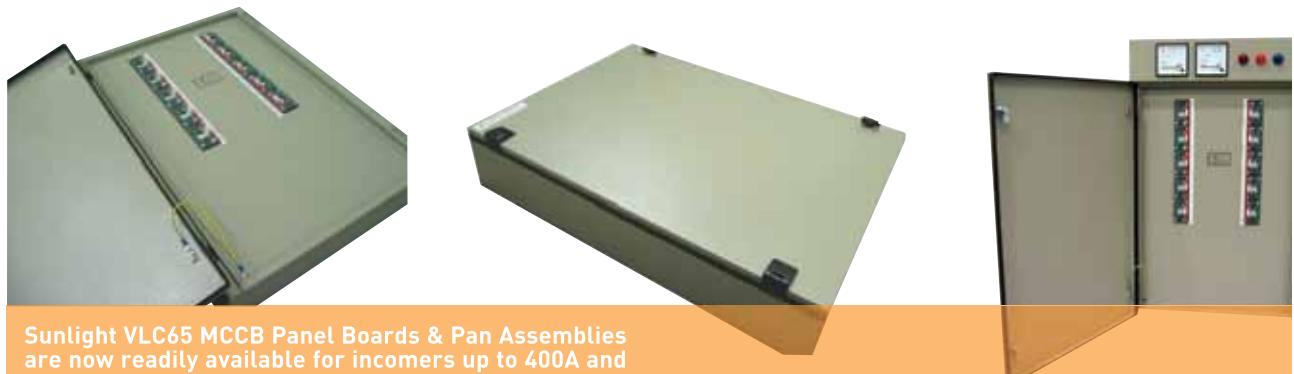
**SUNLIGHT**

[www.sunlightgroup.com](http://www.sunlightgroup.com)



### 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 60439 Part 1, BS EN 60439 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

<b>System</b>	- Main TPN power distribution systems and submain systems using MCCBs - MCCB panel boards before the tenants energy meters	
<b>Rated current</b>	- Main busbar or incoming MCCB/Isolator switch - Outgoing MCCB, (Suitable for 75-77mm 3P breakers) - Outgoing circuits with other rating are also available upon request	- Up to 400A - Up to 125A
<b>Rated insulation voltage</b>	690V, 50Hz	
<b>Pollution degree</b>	3	
<b>Rated impulse withstand voltage (Ui<sub>imp</sub>)</b>	6kV	
<b>Number of ways</b>	From 4 to 12 triple pole (TP) outgoing ways Greater number of outgoing ways can be provided as options	
<b>Number of poles</b>	SP(1-pole), TP (3-pole), and 3/4-pole for incomer	
<b>Tested standard complied</b>	IEC 60439 Part 1, BS EN 60439 Part 1	
<b>Degree of Protection (IP)</b>	- Standard : IP 40 - Special : IP 43, IP 55, IP 65	
<b>Type of Incoming Connections</b>	Choice of factory fitted incoming devices: Main lugs (Direct Cable Connections); MCCBS; and Isolator Switches	
<b>Enclosure &amp; surface treatment</b>	The steel enclosure is manufactured from 1.2mm gauge electro-galvanised steel sheet. 1.5mm & 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.	
<b>Short circuit capabilities</b>	- Rated conditional short circuit current of main busbar - Rated conditional short circuit current of main busbar to neutral busbar - Rated conditional short circuit current of outgoing circuits - Rated conditional short circuit current on outgoing MCCB to protective earth - Rated prospective current (peak value) - Dielectric strength	: 65kA rms at 415V, 0.20pf : 65kA rms at 415V, 0.20pf : 65kA rms at 415V, 0.20pf : 65kA rms at 240V, 0.20pf : 143kA peak : 2500V, 5 seconds
<b>Busbars</b>	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.  Main Busbar cross section: 40 x 2.5mm  Earth & Neutral Busbar cross section: 15 x 5mm (A copper connection piece is available for lugs with bolt sizes bigger than M10)	
<b>Installation</b>	Indoor, surface mounting, weatherproof & floor mounting on request	
<b>Ambient temp</b>	-5 °C to + 50 °C	
<b>Electromagnetic compatibility</b>	Verified in accordance to IEC 60439 Part 1, BS EN 60439 Part 1	
<b>Resistance of insulating materials to abnormal heat &amp; fire</b>	Verified in accordance to IEC 60439 Part 1, BS EN 60439 Part 1	
<b>Busbar Configurations</b>	Three phase main busbars are fitted. They are used for single-pole or 3-pole MCCB.	
<b>Gland Plate and openings for external cables</b>	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.

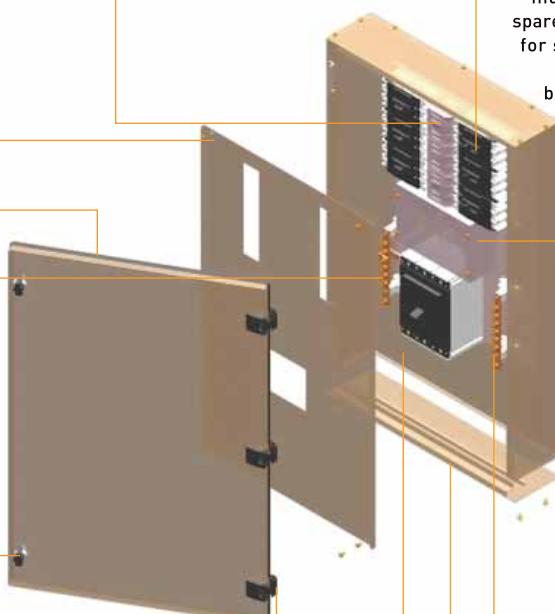
### Internal Cover Plate

### 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



### Neutral Bar System

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



### Designer Lock Appeals

Key-type available



### 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

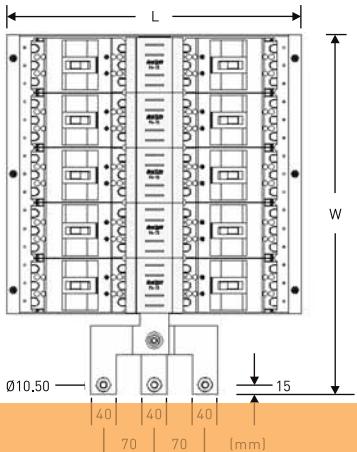
### Dimensions of MCCB Panel Boards



Mode of Incoming Connections:  
(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:  
(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



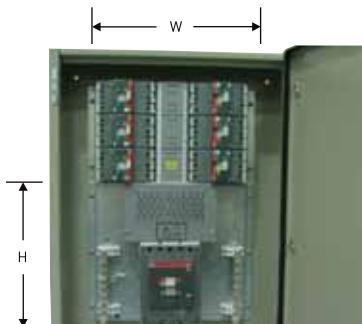
### Outgoing MCCBs Characteristics

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

### 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**

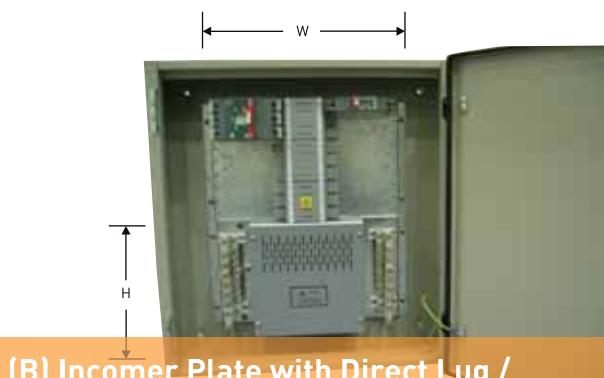
Ordering Part Number	No. of 3-pole outgoing ways	Height (mm) (H)	Width (mm) (W)
VLC65-IP04MI	4	350	420
VLC65-IP06MI	6	350	420
VLC65-IP08MI	8	350	420
VLC65-IP10MI	10	350	420
VLC65-IP12MI	12	350	420

### 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



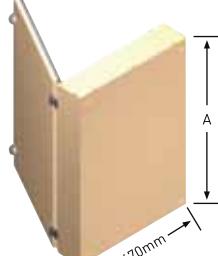
**(B) Incomer Plate with Direct Lug / Cable Connection**

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

	Recommended Incoming Copper Cables (mm <sup>2</sup> )	Outgoing Cables/Bolt Sizes Max (mm <sup>2</sup> )	Incoming Bolt Sizes
Neutral	Up to 240	50 (M6)	M10, M12
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*

#### Outgoing MCCBs

	Recommended Incoming Copper Cables (mm <sup>2</sup> )	Outgoing Cables Max (mm <sup>2</sup> ) *
10 – 100A	-	50

\*Subject to breakers' make

### Termination Method of Incomer and Outgoing MCCBs



Termination of Incomer MCCB

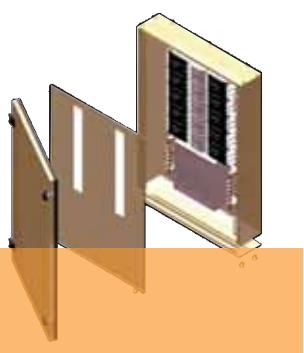


Inserting of outgoing breaker into the bar fingers

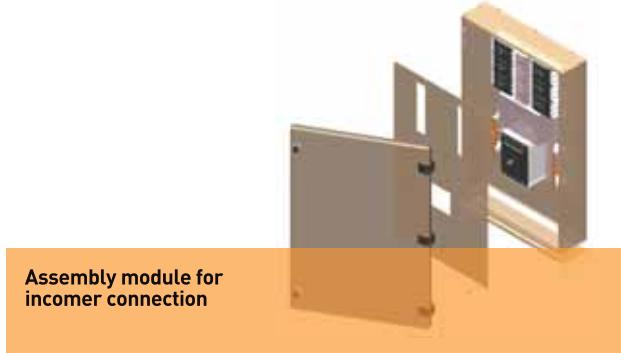


Securing of breakers onto bar fingers and base plate

### Internal Assembly Details



Assembly module for direct lug connection



Assembly module for incomer connection

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