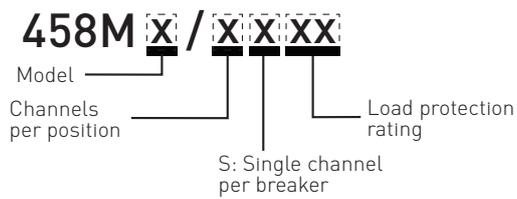


# Installation and User Guide

## Digidim 458Mx Chassis



*freedom in lighting*



### Example part numbers and configurations

| Part number          | Position in chassis | Number of channels | Load protection rating |
|----------------------|---------------------|--------------------|------------------------|
| 458M1/8S06           | Position A          | 8                  | 6A                     |
| 458M2/8S06 8S06      | Position A          | 8                  | 6A                     |
|                      | Position B          | 8                  | 6A                     |
| 458M3/8S06 8S06 8S06 | Position A          | 8                  | 6A                     |
|                      | Position B          | 8                  | 6A                     |
|                      | Position C          | 8                  | 6A                     |

# 1. Remove Cover, Knockouts (and Blanking Plates)

**WARNING:** THE BLANKING PLATE(S) PREVENT(S) ACCESS TO MAINS WIRING WHEN THERE IS NO MODULE CONNECTED.  
DO NOT REMOVE THE BLANKING PLATE(S) UNLESS YOU ARE ATTACHING A MODULE.

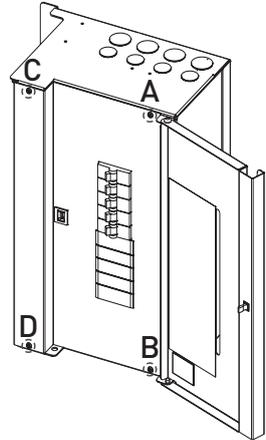
## Procedure

1. Open the door and remove the screws (**A** and **B**) from the inside door.
2. Remove the screws that are located to the left of the door (**C** and **D**)

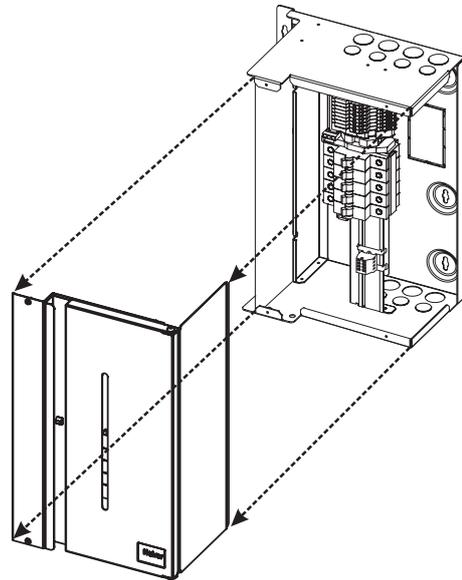
Note:

- 458M1: 2 screws (**C** and **D**)
- 458M2: 3 screws
- 458M3: 4 screws

3. Remove the cover from the chassis.



4. Remove knockouts as required.

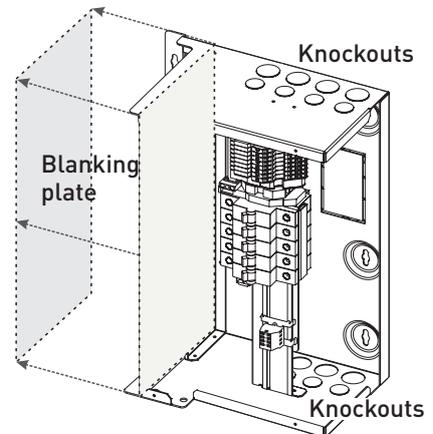


5. If you are attaching a module, unscrew and remove the blanking plate(s).

Note:

- 458M1: 1 blanking plate
- 458M2: 2 blanking plates
- 458M3: 3 blanking plates

With the blanking plate(s) removed, the chassis is ready for a module to be attached (see diagram on page 3).



Note 1: The diagrams on this page show the 458M1/4S10 Chassis.  
Covers and knockouts are removed from the 458M2 and 458M3 in a similar way.

Note 2: Use the grommets provided to protect cabling entering the knockouts.  
If necessary, the knockout gland plates (on 458M2 and 458M3 types) can be removed to provide more space for cabling.

## 2. Mount to Wall

### Mounting, Environmental and Clearance Requirements

#### Mounting

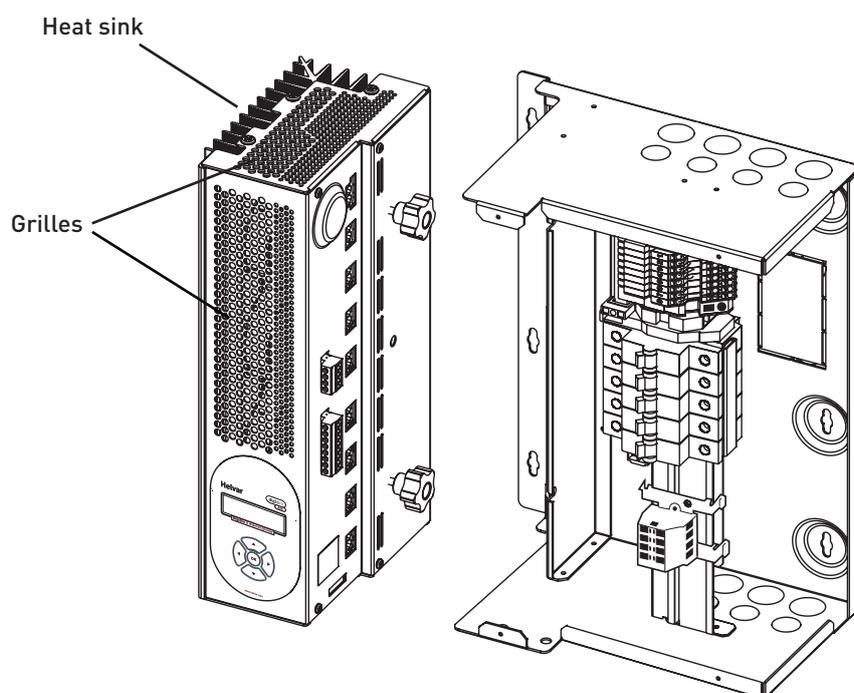
- Mount the chassis vertically on a flat surface.
- Use No. 8 or No. 10 screws with a head diameter between 6 mm and 9 mm.
- Use wall plugs if necessary.
- Mount chassis on wall using:
  - 4 screws for the 458M1 and 458M2 chassis
  - 6 screws for the 458M3 chassis

#### Environment

- The ambient temperature must be between 0 °C and +40 °C.
- Air humidity must be between 0 % and 90 % (noncondensing).
- The area must be adequately ventilated.
- Do NOT install this product in a damp location.

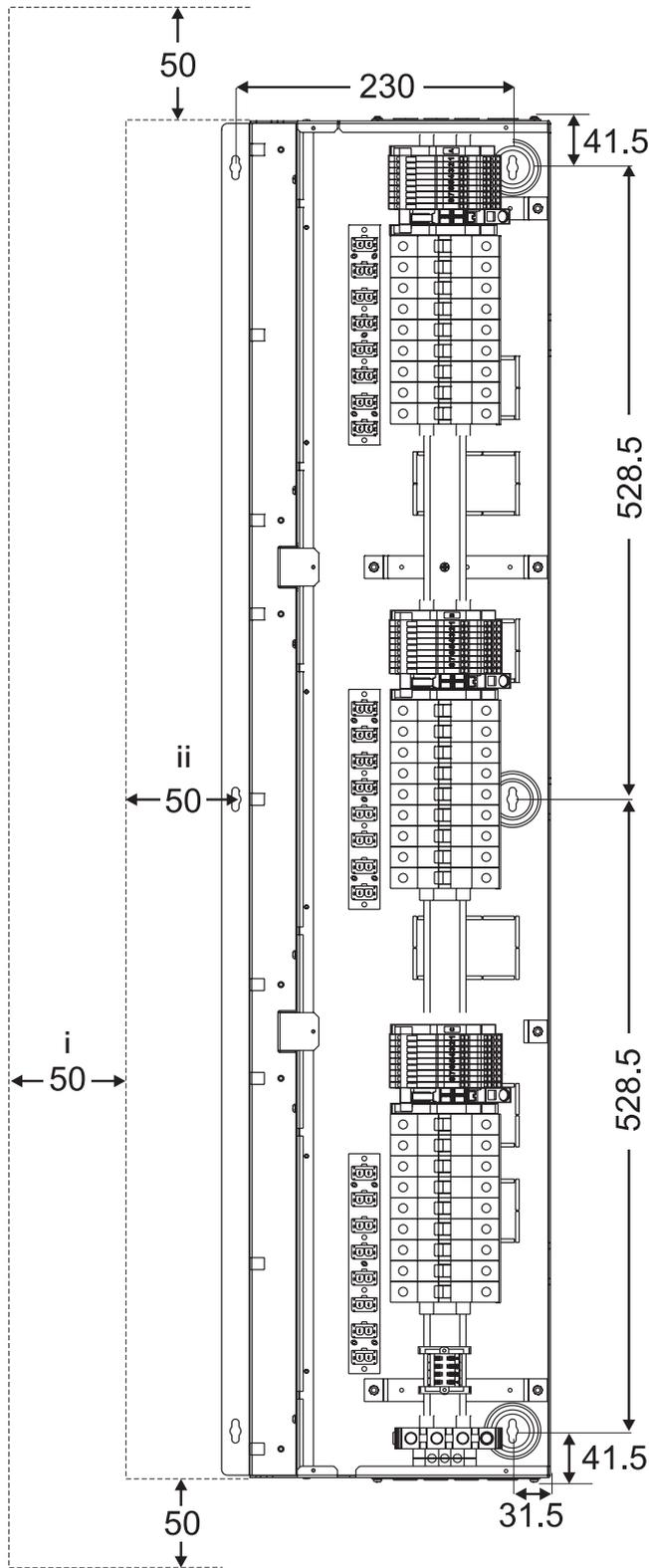
#### Clearance

- Make sure that enough space is left for ventilation and for attaching module(s): at least 5 cm above, below and to the right of the chassis, and 10 cm to the left. See 'Mounting Dimensions and Clearance' on page 4.
- Leave sufficient clearance to allow cables and trunking to be connected.
- When a Helvar module (e.g. a dimmer unit) is attached, the grilles must NOT be obstructed.



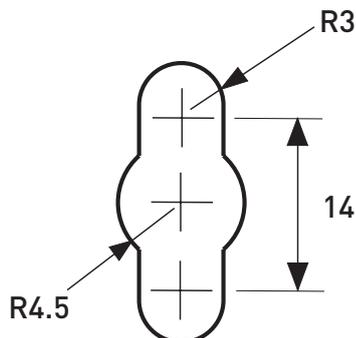
Module grilles and heat sink





i = Clearance for ventilation  
 ii = Mounted module outline

### Chassis Mounting Hole Dimensions (mm)



### 3. Electrical Installation

**WARNING:** *BEFORE STARTING ANY ELECTRICAL WORK, ISOLATE THE ELECTRICITY SUPPLY AT THE MAIN DISTRIBUTION BOARD.*

#### Cable Sizes and Strip Lengths

See 'Cable Requirements' on page 11 for cable sizes and required strip lengths.

#### Mains Supply Protection

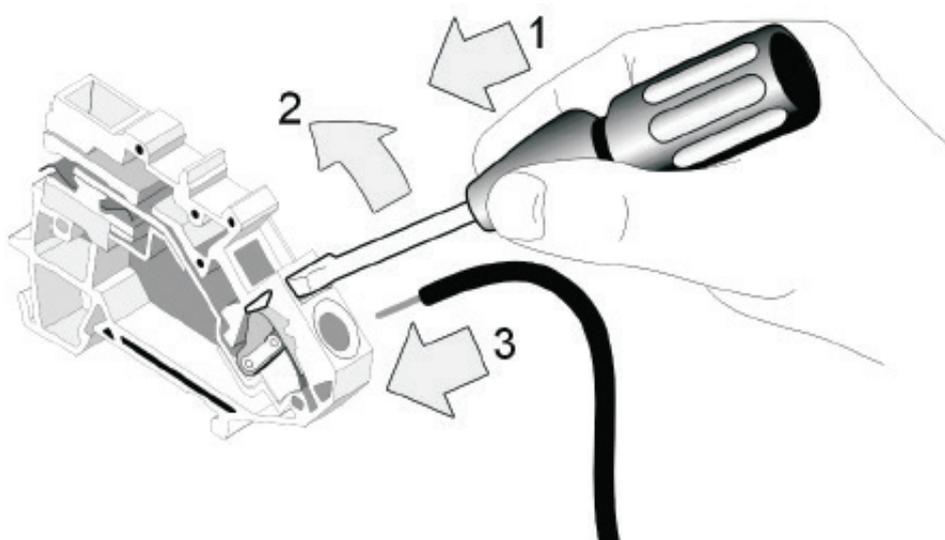
The mains supply must be externally protected by a MCB or fuse not exceeding 17 kA. The incoming protection level must not exceed 63 A for each position. Single phase operation is limited to 125 A maximum by the neutral terminal block rating.

**WARNING:** *THE SUPPLY INPUT EARTH MUST BE CONNECTED.*

#### Using Spring-Lever Cage Clamp Terminals

*Note: The supply earth, supply neutral and output terminals are spring-lever cage clamp terminals.*

1. Insert a screwdriver as far as it will go into the terminal release point.
2. Lever the screwdriver back. This opens the cage clamp.  
*(For output terminals, levering the screwdriver back is unnecessary).*
3. With the cage clamp open, do one of the following, as appropriate:
  - Insert the cable into the terminal.
  - Remove the cable from the terminal.
4. Release the pressure on the screwdriver, and then remove it. This closes the cage clamp.
5. If you have inserted a cable, make sure that the connection is secure.



### 3.1 Connect SDIM Cable Loom to Modules (If Applicable)

If you are not wiring a 458M chassis to a Helvar module via SDIM, go to section 3.2, 'Connect Loads' on page 8.

An SDIM cable loom is attached to the DIN-rail inside the chassis (see 'Wiring Diagrams' on page 9).

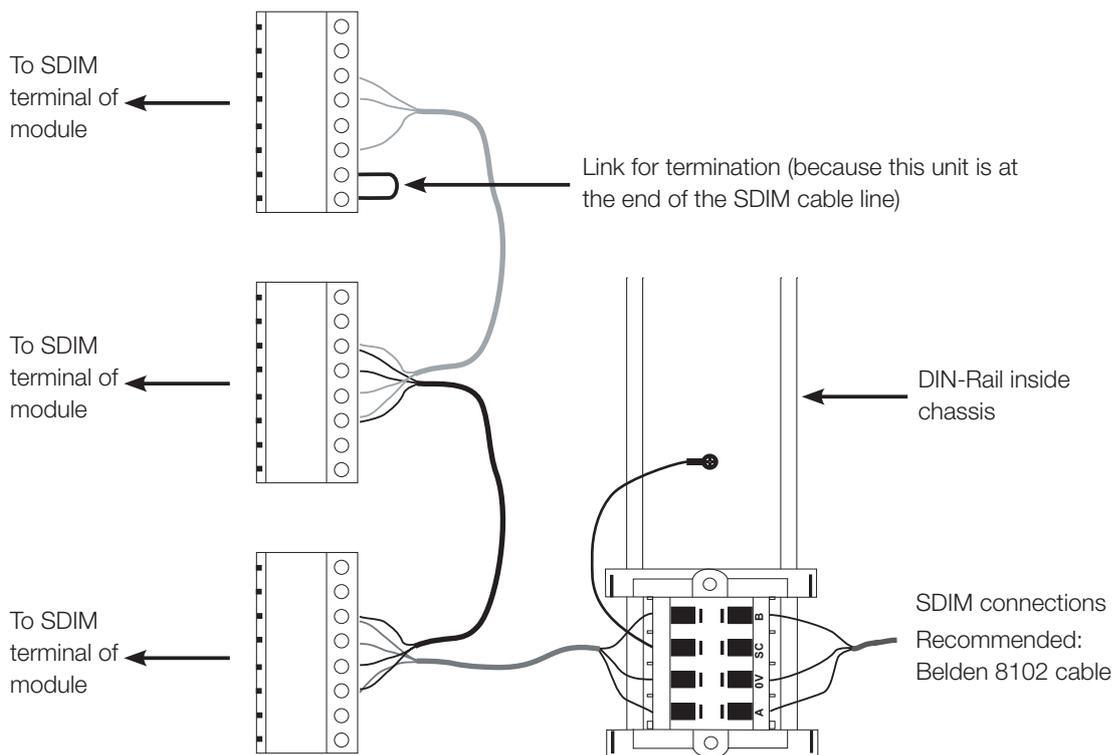
This can be connected to the SDIM terminals of the module(s) to enable connection of the module(s) to a Helvar Imagine system (see diagrams below). The eight-terminal connector block is included with the 458Mx, wired to the cable loom.

#### SDIM Termination

If a unit is at the end of the SDIM cable line, you must link between terminals 'TERM' and 'B' for termination.

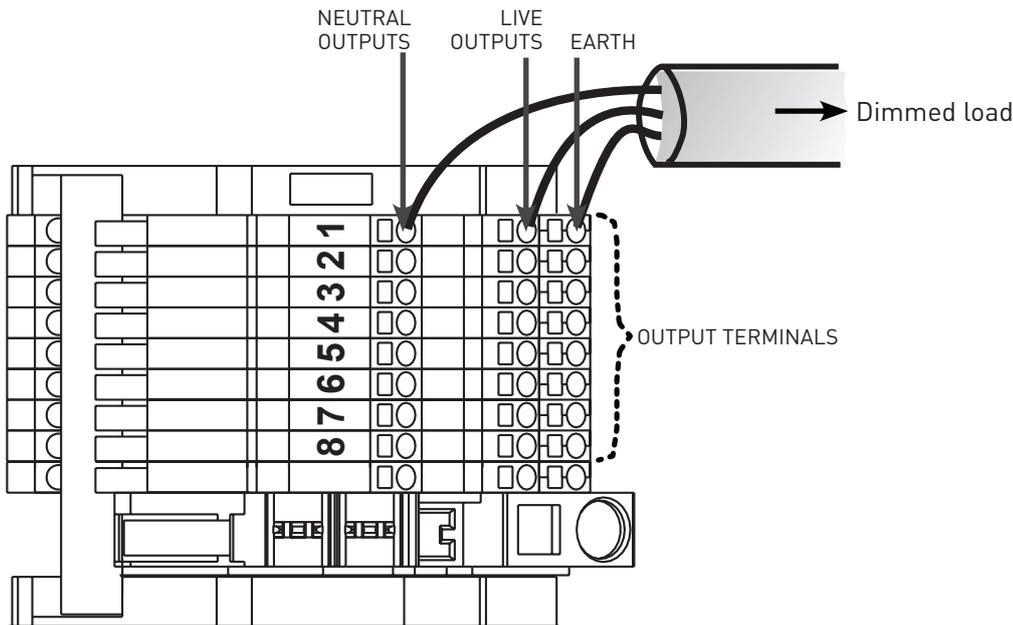
*Note: The SDIM cable line needs two terminations: one at the beginning, and one at the end.*

The following figure shows how to connect a 458M3 chassis to three modules:



### 3.2 Connect Loads

Connect the loads to the output terminals as shown in the following figure (see separate 'Wiring Diagrams' for 458M1, 458M2 and 458M3 on page 9).



### 3.3 Connect Mains Supply

Connect the mains supply to the appropriate terminals (see separate 'Wiring Diagrams' for 458M1, 458M2 and 458M3 on page 9):

1. Connect live to the appropriate MCB block(s):

- In the 458M1, connect L.
- In the 458M2, connect L1 and L2.
- In the 458M3, connect L1, L2, and L3

2. Connect neutral (N) to the neutral terminal block.

*In the 458M1, the neutral terminal block is located between the output terminal block and the MCB block.*

*In the 458M2 and in the 458M3, the neutral terminal block is located at base of the unit, under the SDIM cable loom.*

3. Connect earth (E) to the earth terminal block.

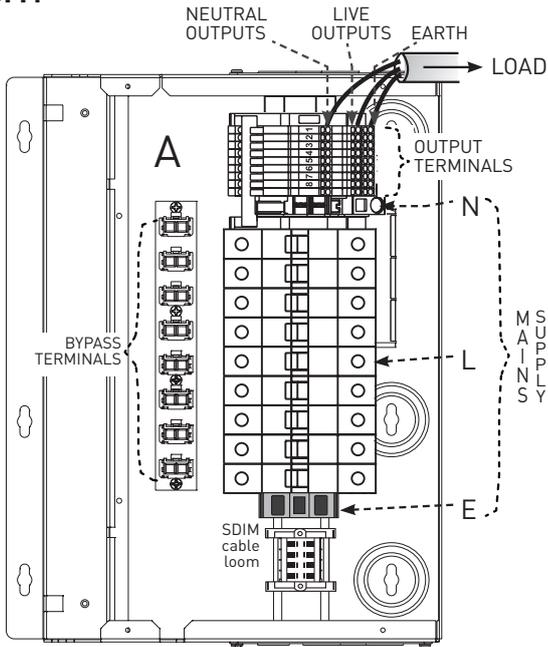
*Note 1: The bypass terminals allow you to operate and test the lights and the installation wiring without (a) module(s) connected to the chassis.*

*Note 2: Always dock unused dimmer feeds in bypass connectors.*

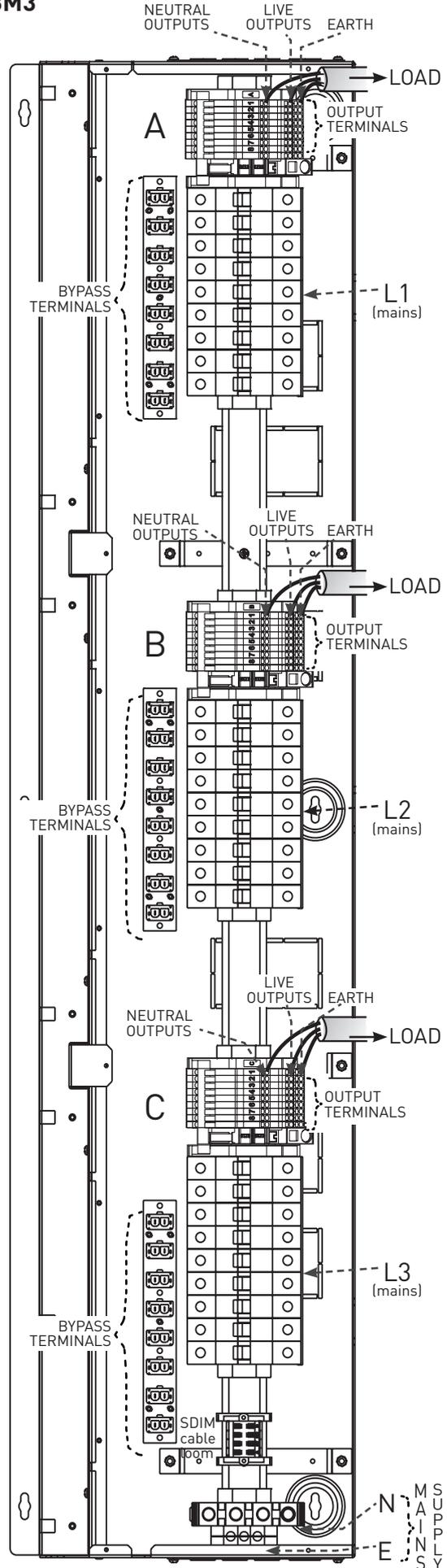
*Note 3: Make sure that the MCB terminals are clearly identified for load circuit connection.*

**Wiring Diagrams**

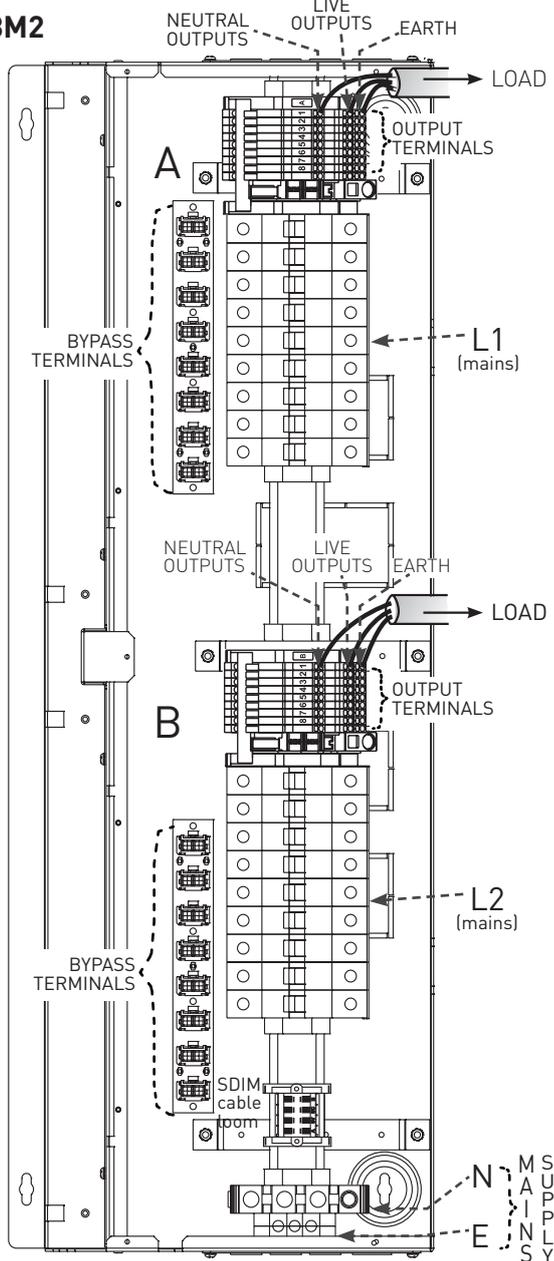
**458M1**



**458M3**



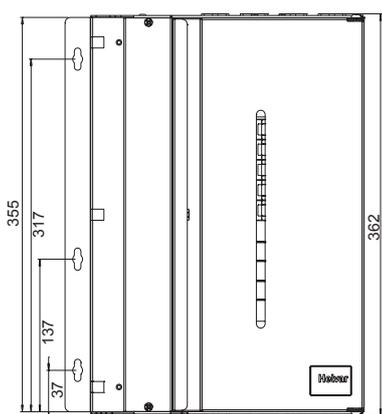
**458M2**



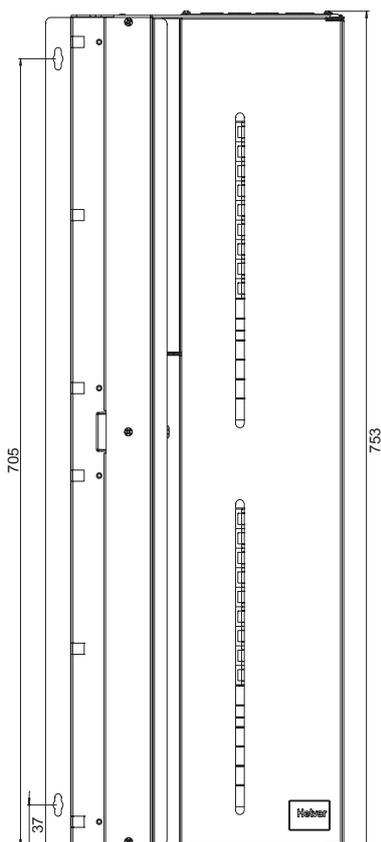
# Dimensions: Case (mm)



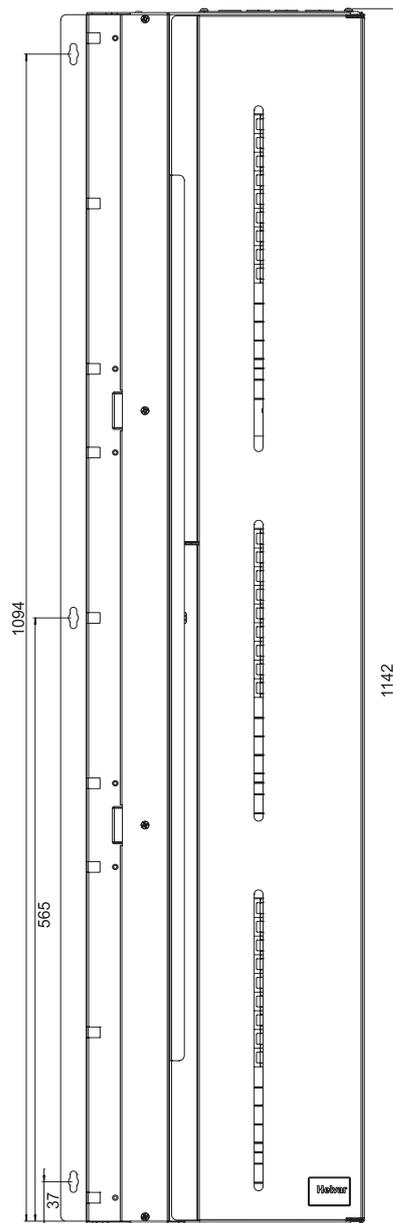
freedom in lighting



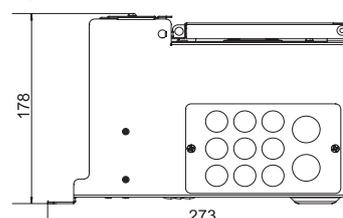
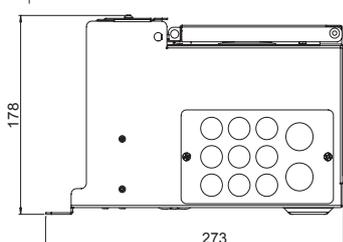
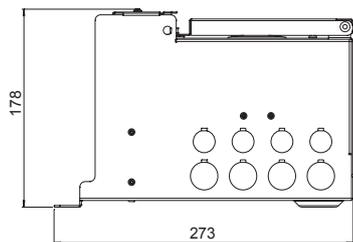
458M1



458M2



458M3



## Connections

|                           |  |
|---------------------------|--|
| <b>Mains supply:</b>      | 230 VAC / 400 VAC  |
| <b>Supply protection:</b> | External MCB or fuse<br>458M1, 458M2, 458M3: 63 A (max.)<br>for each position<br>Single phase use: 125 A (max.)<br><i>Note: Supplying multiple blocks of MCBs on the same phase requires this limit because of the neutral connection.</i><br>Rated $\leq$ 17 kA to meet<br>EN 61439-2 |
| <b>Load protection:</b>   | MCB type C 10 kA. Rating as specified for individual units.  |
| <b>SDIM cable loom:</b>   | An SDIM cable loom is attached to the DIN-rail inside the chassis. This can be connected to the SDIM terminals of the module(s), to enable connection of the module(s) to a Helvar Imagine system.   |

## Installation

|                  |   |
|------------------|---|
| <b>Mounting:</b> | Vertically wall mounted: 4.5 mm mounting holes.<br>Use No. 8 or No. 10 screws with head diameter of 6 mm to 9 mm. |
|------------------|---|

## Mechanical Data

|                    |                                   |
|--------------------|-----------------------------------|
| <b>Dimensions:</b> | See diagrams.                     |
| <b>Weight:</b>     |                                   |
| <b>458M1:</b>      | 5.9 kg (458M1 including 9 MCBs)   |
| <b>458M2:</b>      | 12.2 kg (458M2 including 18 MCBs) |
| <b>458M3:</b>      | 18 kg (458M3 including 27 MCBs)   |

## Operating Conditions

|                             |                          |
|-----------------------------|--------------------------|
| <b>Ambient temperature:</b> | 0 °C to +40 °C           |
| <b>Relative humidity:</b>   | Max. 90 %, noncondensing |
| <b>Storage temperature:</b> | -10 °C to +70 °C         |

## Conformity and Standards

|                     |   |
|---------------------|---|
| <b>Safety:</b>      | EN 61439-2                                    |
| <b>Environment:</b> | Complies with WEEE, RoHS and REACH directives |

## Cable Requirements

| Connection          | Cable type (Cu)  | Strip length                 |
|---------------------|--|------------------------------|
| Mains supply: 458M1 | Up to 16 mm <sup>2</sup>   | 16 mm – 17 mm (N); 12-13 (E) |
| Mains supply: 458M2 | 6 mm <sup>2</sup> – 35 mm <sup>2</sup>   | 12 mm – 14 mm (N), 17 (E)    |
| Mains supply: 458M3 | 6 mm <sup>2</sup> – 35 mm <sup>2</sup>   | 12 mm – 14 mm (N), 17 (E)    |
| Channel outputs:    | Solid core: 0.25 mm <sup>2</sup> – 4 mm <sup>2</sup> ;<br>Stranded: 0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup>  | 10 mm – 12 mm                |
| SDIM / DMX          | Low-loss 300 V RS485 type;<br>Multistranded, twisted and shielded;<br>3- or 4-core plus screen;<br>0.22 mm <sup>2</sup> – 1.5 mm <sup>2</sup><br>Recommended: two twisted pairs (overall screened), e.g. Belden 8102 CM. | Max. length: 1000 m          |