

## 1. GENERAL FEATURES:

**Control points:** 4;  
**Control:** Per MD BUS;  
**Applications:** LED and Halogen lamp brightness control;  
**Installation:** DIN Rail distribution board;  
**Type of regulation:** By phase angle (*Leading-edge / Trailing-edge*).

## 2. GENERAL SPECIFICATIONS:

**Supply Voltage:** 12VDC;  
**Current consumption:** 100mA @ 12VDC;  
**Storage Temperature:** -10°C to 60°C;  
**Operating Temperature:** 10°C to 50°C;  
**Maximum humidity:** 80%, non-condensing;  
**Operating Voltage:** 115VAC / 230VAC +/-10%;  
**Operating Frequency:** 50HZ / 60HZ;  
**Output specifications:**

Rated Load:

### 230V~

Incandescent/halogen Lamps	250W
Inductive Transformers	125VA
Electronic transformers	125W
HV LED Lamps	50W

### 115V~

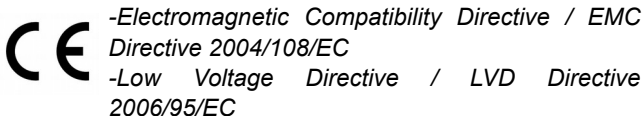
Incandescent/halogen Lamps	125W
Inductive Transformers	62VA
Electronic transformers	62W
HV LED Lamps	25W

### Inbuilt Protection:

Electronic protection against overheating and overload.

### Physical specifications:

**Dimensions:** 157mm X 90mm X 70mm, DIN Rail mounting, (9 modules);  
**Casing:** Self-extinguishing plastic UL-94 V0;  
 IP Grade: IP20, for indoor use.  
 Directivas:



## 3. CCOMPATIBILITY:

**PCCWd Compatibility:** V3.2 or later;  
**Mordomus Software compatibility:** Software Mordomus v2015.2 or later.

## 4. SAFETY:

Read these instructions carefully before attempting to perform any connections to the module.

Do not remove the circuit board from its casing.

Do not touch the inside of the module, mains voltage is present.

Only remove the module's cover after disconnecting it from mains power.

## 5. CONNECTIONS:

Cross-section and specification of conductors:

Load circuit:

Solid wire 2.5mm<sup>2</sup>;  
 Stranded wire 2.5mm<sup>2</sup>;

Bus Circuit:

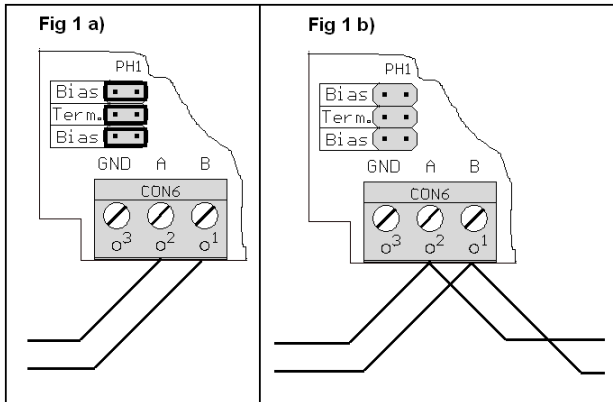
CAT6 F/UTP Cable shielded, twisted;

Supply circuit:

Solid or stranded wire with at least 0,5mm<sup>2</sup>;

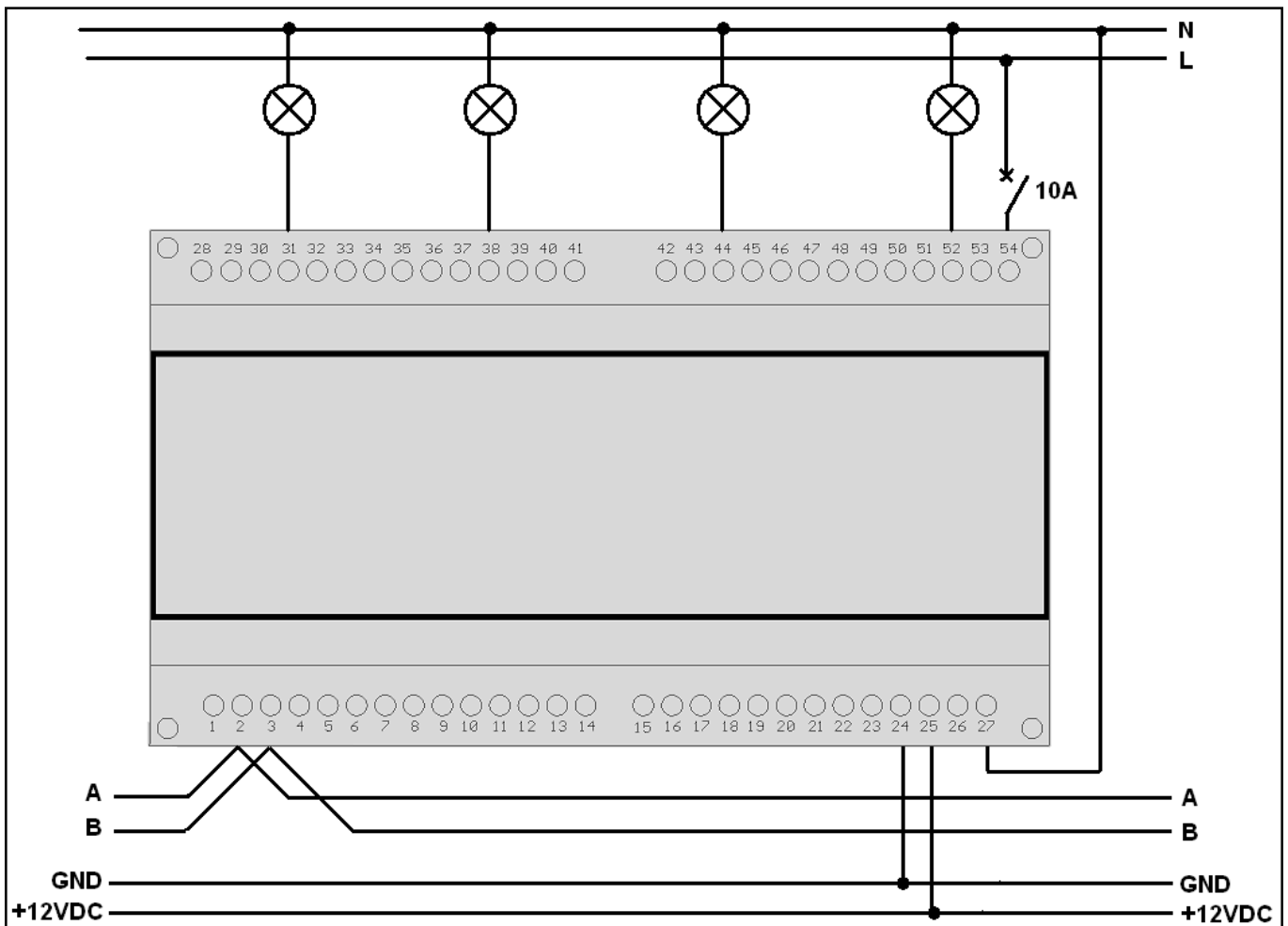
### Table of connections:

Number	Function	Number	Function
1	GND	45	Not connected
2	MD BUS TX (A)	51	Output Ch1
3	MD BUS TX (B)	52	Output Ch1
24	GND	53	Mains Phase
25	+12VDC PSU	54	Mains Phase
26	Not connected		
27	Mains Neutral		
30	Output Ch4		
31	Output Ch4		
32	Not connected		
37	Output Ch3		
38	Output Ch3		
39	Not connected		
43	Output Ch2		
44	Output Ch2		



Place the Jumpers according to Fig 1 a) in order to close the Bus circuit if the module is the last on the line. On Bus circuits with many modules it might be necessary to only place the jumper *Term.*

In all other circumstances the jumpers should be placed as shown by Fig 1 b).



### Communication Bus:

The Bus connection should be carried out by means of one pair of twisted wire (CAT6). For example: Green for **A** and Green/White for **B**.

The shield must be connected to GND.

### Connection of the Outputs:

The mains power input to the module (53 - 54) must be protected by a circuit breaker with a current rating according to the connected loads.

**When connecting low voltage lamps, do not connect more than one transformer per output. Look up in the manual of the transformer if it is compliant with dimming.**

**Do not connect fluorescent lamps or any different lamp types than those specified in this manual.**

**Do not connect different load types to the same output (for example: inductive transformers and electronic transformers). Danger – Module and loads might be destroyed!**

**Do not mix up different types of load on the same output.**

**Always define the correct regulation type for the loads connected to each output. Danger – Module and loads might be destroyed!**

**Trailing-edge**, this mode should be used with **C** type loads (electronic transformers) and HV LEDs. Might also be used with incandescent/halogen lamps.

**Leading-edge**, this mode should be used with **L** and **R** type loads, (iron core transformers and incandescent/halogen lamps).

### 12VDC power supply connection:

The use of *Mean-Well DR60-12* ou *DR30-12* power supplies is recommended.

## 6. ADDRESSING AND CONFIGURATION:

Proceed as follows in order to assign an address to the module:

1. In Mordomus software open the window “Hardware Registration”;
2. Press the button “Addressing” on the inside of the module (remove cover). The Green LED will start blinking and the red LED will flash once.
3. On the now visible pop-up screen in the Mordomus software chose the desired address.

Note that if no address is assigned, after 3 minutes the learning mode will time out and the module will return to normal operating mode.

**The chosen address must not be shared with any other module.**

## 7. FUNCTIONING:

### LED Codes:

**Green lit:** Module powered up;

**Green flashing briefly:** Module receiving data from Bus;

**Green blinking steady:** Module waiting for address;

**Red flashing:** Module sending data to Bus.

### Interruption to 12VDC power supply:

After an interruption to the power supply, the outputs default to the OFF state. A brief flash of the loads connected, which should be ignored, might occasionally be observed in this circumstance.

### Short-circuit protection:

In the event of a short-circuit at an output, this protection is activated interrupting the flow of electrical current to this specific output. This protection is also activated in case of an overload condition.

To rearm the circuit it is necessary to switch the output on again.

### Thermal protection:

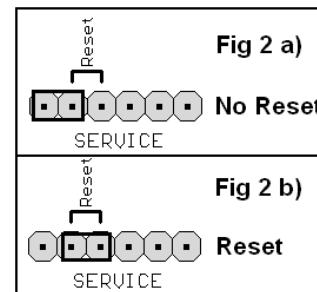
The overheat protection shuts the whole module down in case of excessive temperature.

The circuit is rearmed automatically when a safe operating temperature is reached.

### Regarding the quality of the regulation:

- When dimming lamps these might be subject to permanent or temporary scintillation. This scintillation can be caused by: instability of the mains grid;
- Noise in the mains grid or installation;
- Module not set according to the connected load type;
- Too many or too few lamps connected to the module;
- Output level set to low;
- Non dimmable lamps connected;
- Ripple control impulses from the power plant;

These scintillations cannot be seen as a defect of the module.



**Reset:** In order to perform a Reset to the module, interrupt the power supply for a few seconds or place the jumper according to Fig 2 b) for 3 seconds and place it again as shown in Fig 2 a).