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SHORT INSTRUCTION MANUAL
DIGITAL RELAY MC2X2

1. DIP SWITCH CONFIGURATION AND MODES

The DIP switches can be provide the following 4 modes of operation:

- 1=On, 2=On – the duration of the 100V overcharge impulse is as follows:

Config 1	Config 2	Duration of the overcharging impulse
0 VDC	0 VDC	1 ms
24 VDC	0 VDC	2 ms
0 VDC	24 VDC	5 ms
24 VDC	24 VDC	10 ms

- 1=Off, 2=On – not used at the moment
- 1=On, 2=Off – Test mode 1
  "OUTPUT 2" generates test pulses with active interval 500ms and pause of 500ms. In order to start the test, must be connected the following::
  - "0V OUTPUT" with "0V INPUT"
  - "OUTPUT 2" with "INPUT 1"
- 1=Off, 2=Off – Test mode 2
  Simulates actuation of "OUTPUT 1" with active interval 500ms and pause of 500ms.

2. TERMINAL ALLOCATION

Terminal 1 – 0V INPUT (coupled with Terminal 6)
Terminal 2 – INPUT 1
Terminal 3 – INPUT 2
Terminal 4 – CONFIG 1
Terminal 5 – CONFIG 2
Terminal 6 – 0V INPUT (coupled with Terminal 1)

Terminal 7 – 0V OUTPUT (coupled with Terminal 11)
Terminal 8 – OUTPUT 1
Terminal 9 – OUTPUT 2
Terminal 10 – +24V POWER SUPPLY
Terminal 11 – 0V OUTPUT (coupled with Terminal 7)
Terminal 12 – +100V OUTPUT (DO NOT CONNECT)

3. LED INDICATION

There are 7 LEDs for indication as follows:

- Input 1 – Yellow LED
- Input 2 – Yellow LED
- Config 1 – Yellow LED
- Config 2 – Yellow LED
- Power – Green LED
- Failure – Red LED
- Output 1 – Green LED
- Output 2 – Green LED

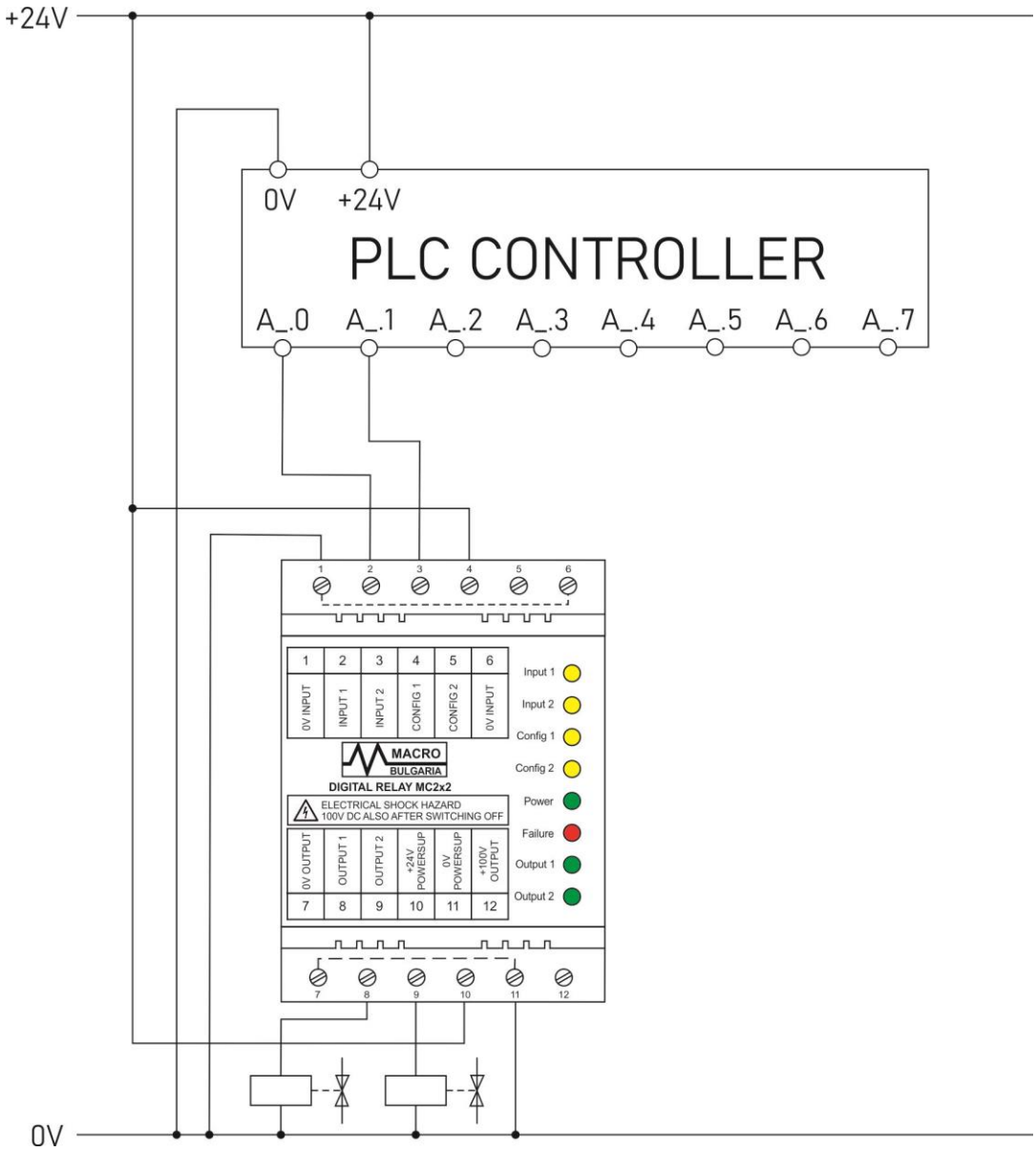
3.1. The green Power LED is turned ON when there is a supply voltage of +24V ±10%. Outside this tolerance, the module continues to work, but indicates a failure.
3.2. The yellow LEDs for the Inputs are turned ON, when the corresponding input is active.
3.3. The green LEDs for the Outputs are turned ON, when the corresponding output is active or are blinking fast If there is a failure.
3.4. The red Failure LED is turned ON or is blinking in case of a failure.
3.5. Depending on the failure type, the following LEDs light up as follows:

- In case of a failre of the power supply +24V: the red LED blinks fast (5 times per second).
- In case of a failre of the overcharging impusle +100V: the red LED blinks slow (one time per second).
- In case of a failre in Output_1: the green LED of Output 1 is blinking fast and the red LED is turned ON.
- In case of a failre in Output_2: the green LED of Output 2 is blinking fast and the red LED is turned ON.
- If an active impulse arrives during a failure, the red LED is turned OFF.

3.6. In case of several failures at the same time, the indication of the LEDs is overlayed

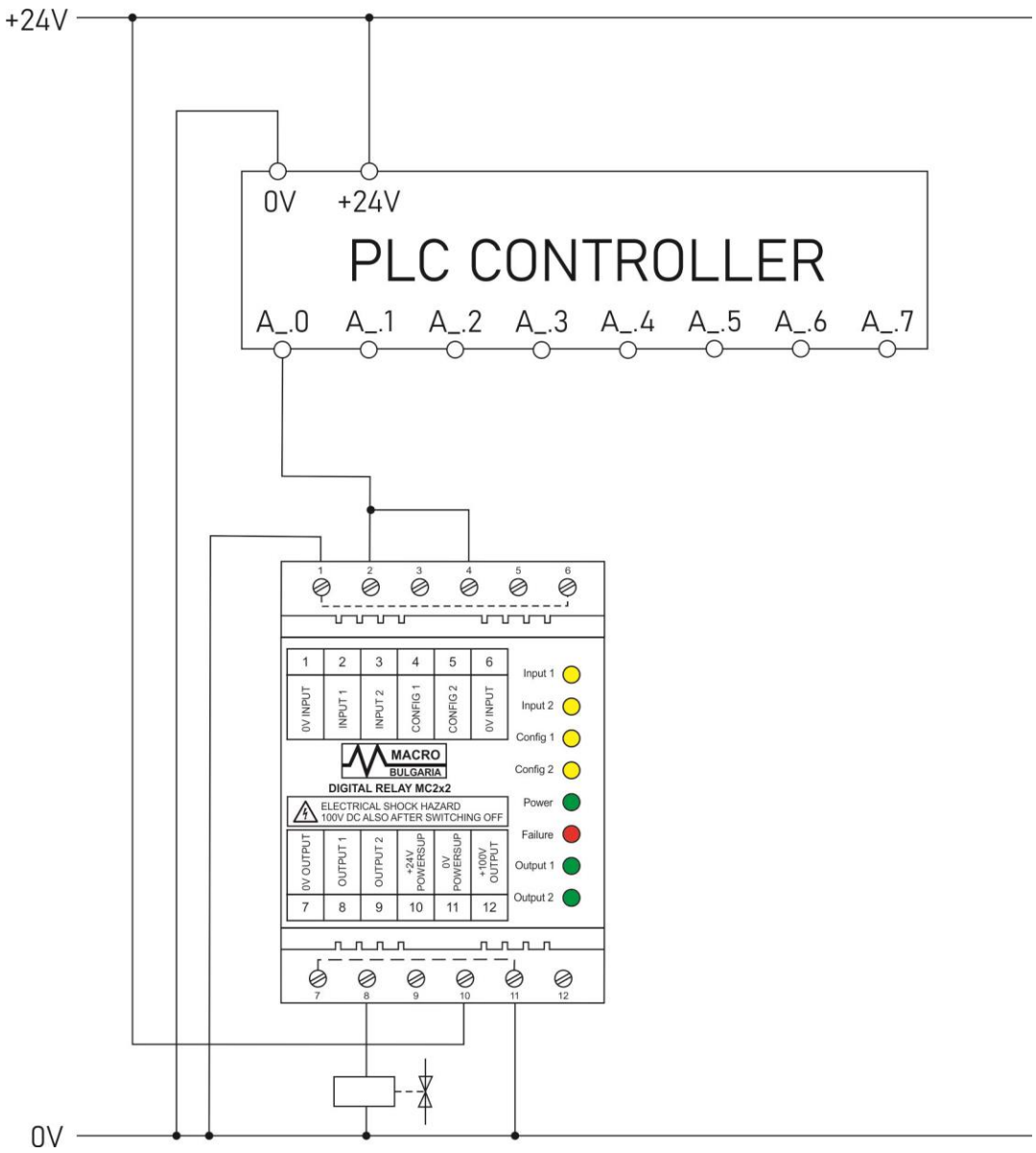
4. EXAMPLES FOR CONNECTION

4.1 CONNECTION USING 2 CHANNELS



Note: In this example are used both inputs for control of 2 valves with a configuration of 2ms of the +100V Overcharging impulse, without galvanic separation at the PLC controller

4.2 CONNECTION USING 1 CHANNEL



Note: In this example is used only one input (INPUT 1) for control of one valve connected to OUTPUT 1, with a configuration of 2ms of the +100V Overcharging impulse, without galvanic separation at the PLC controller. The control signal to termina CONFIG 2 is sent together with the start of the impulse to INPUT 1. In this way, the Config 1 LED is less used and will last longer.