

The panel is designed to control operation of 24V Direct Current motor in automatic gate installation in which opposite motor rotation (gate movement) is achieved by reverse of power supply polarity. Below listed are features of the STB24VM1 panel:

- **highest security KEELOQ® dynamic code** with the use of key-fob hand transmitters,
- superheterodyne receiver allowing better signal selectivity as well as better operation range with up to 112 Elmes made hand transmitters,
- **motor soft start and stop function** guaranteeing protection against mechanical overload thus extending operation life of the gate,
- mechanical tension reduction by short pulsing the motor in reverse direction,
- motor sensitivity to overload level adjustable in both movement directions of the gate,
- parking mode of operation with hand transmitter command opening gate only,
- terminals for installation of NC (normally closed) type photo cell,
- terminals for connection of end of line (EOL) contacts type NC (normally closed) or NO (normally opened),
- terminals for installation of flashing warning lamp or courtesy lamp,
- **additional functions extending operation security of automatic gate:** STOP input (NO type) for connection of miscellaneous protective devices, auto close function with three seconds warning lamp flashing, programmed motor rotation time allowing additional protection in case of EOL contact failure.

Operation modes and functions of the control panel are selected by on board jumpers JP1...JP10 (where CLOSE meaning jumper shorted).

JP1 – gate's lamp functioning:

CLOSE – warning lamp, flashing at gate's movement – slower in opening direction and faster in closing direction,

OPEN – courtesy lamp lighting continuously at gate's movement;

Functioning of the gate's lamp depends on selection made by JP1 and JP2:

Gate's auto closing	Warning lamp: JP1 – CLOSE	Courtesy lamp: JP1 – OPEN
Set ON: JP2 – OPEN	opening-slow flashing, PAUSE-lights cont., end of PAUSE –slow flashing, gate's closing-flashing fast, gate's closed-lamp off	Lamp lights at gate movement, at PAUSE and 60s after gate stop
Set OFF: JP2 – CLOSE	opening – slow flashing, closing – flashing fast, on gate's stop lights for programmed time span	Lamp lights at gate's movement and after gate's stop at time equal to PAUSE time

JP2 – automatic gate closure. After gate opening PAUSE time starts and the gate will automatically close on pause time lapse. Functioning of the control panel in PAUSE time depends on settings made with jumpers JP3 and JP4.

CLOSE - auto closure off – after opening the gate's panel is awaiting signal command to close from hand transmitter or WR switch,

OPEN - auto closure on – after gate opening PAUSE time starts and the gate will automatically close on pause time lapse.

JP3 – parking mode of operation.

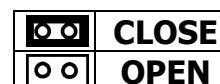
CLOSE - standard mode: hand transmitter or WR switch commands consecutive open-stop-close-stop-open... operation of gate;

OPEN - parking mode: hand transmitter or WR switch commands opening of gate only. Command made at gate closed will start opening. Command made at gate opening would have no reaction. Command made at PAUSE would repeat the pause time. Command made at gate's closing would stop the gate and start opening. This mode requires gate's auto close function set off (JP2 – OPEN).

JP4 – response mode to photo cell signaling at PAUSE. Photo cell signaling at gate's opening would have no response from control panel while signaling at gate's closing would reverse movement and open the gate. At PAUSE time (with auto close function on) signal from photo cell would stop pause time count. With photo cell signal disappearance, the control unit response would depend on JP4 settings:

CLOSE – PAUSE time count will restart,

OPEN – the gate will close after 5 seconds.



JP5 - define EOL contacts type:

CLOSE - EOL contacts NO (normally open) type,

OPEN - EOL contacts NC (normally closed) type.

JP6 – gate's soft stop. Gate's stop commanded by EOL contact, hand transmitter or photo cell is preceded by motor's 1-2s slowdown rotation.

Advice: To secure gate's proper functioning in case of power supply failure or power cut off, the control panel records current gate's position (opened, partly opened, closed) in non-volatile memory. Therefore, manual opening of gate at power failure requires also its manual closing so, that its original position at failure is restored. If the original position is unknown, the gate should be manually positioned in middle of moving way and then commanded from hand transmitter or wall switch.

CLOSE – function set OFF

OPEN – function set ON

JP7 – slowdown rotation timing at EOL:

CLOSE - ca 1 second; OPEN - ca 2 seconds.

JP8 – soft start. With this function set on gate's start is accelerated in one second time span protecting against violent pull out.

CLOSE - soft start off; OPEN – soft start on.

JP9 – mechanical tension loosening - is obtained by applied short pulse command in opening direction, after closing the gate.

CLOSE - set off; OPEN – set on.

JP10 – Reaction to overload. Potentiometers marked „OTWIER.” (OPEN) and „ZAMYK.” (CLOSE) installed on controller's board adjust overload detection sensitivity level in both directions of gate's movement. The sensitivity should be practically adjusted at gate's installation to level protecting humans or objects that may collide with moving gate against personal injury or damage. Too sensitive level may stop and reverse gate's movement even at slightest obstruction on gate's way such as snow. Jumper JP10 defines the way panel reacts to overload:

CLOSE – detected overload at closing would fully open the gate while at opening would reverse to close direction for 1 second.

OPEN – detected overload stops the moving gate only.

www.elmes.pl mail: elmes@elmes.pl