PDP buttons

description, assembly and connecting manual.

version 2, subtypes::

PDP-S
PDP-SG
PDP-S-NC
PDP-S-NO
PDP-SG-NC
PDP-SG-NO
PDP-S-2P
PDP-SG-2P

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Description of PDP buttons

The PDP-S, PDP-SG BUTTON

is a sensor pedestrian button with the illuminated inscription "WAIT" as confirmation of receivingt the notification by the traffic light controller.
Pressing the button is signaled acoustically (by a sound) in both the PDP-S and PDP-SG models.

The Button's power supply.
The PDP-S and PDP-SG buttons do not require an external power source. For work, they use the voltage from traffic controller present at the output terminals of the button .

The button's output.
The button is equipped with a "NO" semiconductor contact - basically open. Its structure is based on the MOSFET transistor. The button works correctly in the range of inter-contact voltages from 10V to 30V DC or AC. The button's output is electronically protected against overload and momentary overvoltage.

Confirmation input.
The illuminated inscription "CZEKAJ / WAIT" requires power supply from 20V to 30V DC or AC. The power consumption does not exceed 30mA. The backlight can be pulsating or permanent. To make it permanent, solder the jumper described as N-PUL. The confirmation input is protected against temporary overvoltage.

Speaker of leading
The PDP-SG version of the button has additionally built an acoustic leading speaker in. Its terminals should be connected to an external SA5 or SA6 sounder. The speaker's input has an 8 ohm resistance and it is not protected against overloading. The maximum power supplied to the speaker cannot exceed 2 watts.

Wiring.
The PDP-S button requires 4 wires, while the PDP-SG needs 6 wires, of which 4 are connected to the traffic light controller and 2 to the SA5 or SA6 sounder controller.

The PDP-S-NC/NO, PDP-SG-NC/NO BUTTONS

It is a sensor pedestrian button with illuminated inscription "WAIT" as confirmation of receiving the notification by the traffic light controller. Pressing the button is signaled acoustically in both the PDP-S-NC / NO and PDP-SG-NC / NO models. Both models have relay output with mechanical contacts.

Button's power supply.
The PDP-S-NC / NO and PDP-SG-NC / NO buttons require an external power source with voltage from 10V to 30V DC. The power consumption does not exceed 150mA when pressing the button.

The button's output.
The button's output is equipped with a mechanical contact (relay). The button can work in NC standard - basically closed or NO - basically open contacts.
The type of work is selected by soldering the appropriate jumper. The output of these buttons is not protected against overloading and can be damaged in case of a short circuit.

Confirmation input.
The illuminated inscription "CZEKAJ / WAIT" requires power supply from 20V to 30V DC or AC. The power consumption does not exceed 30mA. The backlight can be pulsating or permanent. To make it permanent, solder the jumper described as N-PUL. The confirmation input is protected against temporary overvoltage.

Speaker of leading.
The PDP-SG-NC / NO version has additionally built an acoustic speaker of leading in. Its leads should be connected to an external SA5 or SA6 sounder.
The speaker input has an 8 ohm resistance and is not protected against overloading. The maximum power supplied to the speaker cannot exceed 2 watts.

Wiring.
The PDP-S-NO / NC button requires 6 wires, while the PDP-SG-NO / NC needs 8 wires of which 6 are connected to the traffic light controller and 2 to the SA5 or SA6 sounder controller.

INSTALLING THE PDP BUTTONS

The PDP buttons should be installed at a maximum height of 130cm measured from the pavement's surface to the center of the button. The spacing of fixing screws is 139mm. The fastening holes must be threaded with M6 metric thread.
The hole for the cable should be made 75mm above the bottom mounting hole. Its diameter should not be smaller than 20mm. To facilitate hole routing, the self-adhesive template attached to each button can be used. When assembling, pay attention to the correct selection of the distance pad so that it matches the diameter of the pole. The fastening screws should not be tightened too much as this may break the base of the button.

Description of PDP-S-2P two-wires buton and PDP-MWW module

The PDP-S-2P, PDP-SG-2P BUTTONS

It is a sensor pedestrian button with an illuminated inscription "WAIT / WAIT" as confirmation of receiving the notification by the traffic light controller. The "2P" version requires only 2 wires to work. These wires are used to send signals controlling the backlit and notification from the button. An additional PDP-MWW module installed in the traffic controller is required for the traffic light controller to work with this button. This version of the button can be used in places where only 2 reserve wires of the existing cable are available, and the next one cannot be laid for technical or economic reasons.

Connecting the button.
The correct working of the PDP-S-2P and PDP-SG-2P buttons requires installing the PDP-MWW module in the traffic controller and connecting two wires between the button and the PDP-MWW module. The method of connecting the cables is important, so check the connection at included diagram. Up to 8 buttons working in parallel can be connected to one PDP-MWW module.

Speaker of leading.
The PDP-SG-2P version has additionally built an acoustic speaker of leading in. Its leads should be connected to an external SA5 or SA6 sounder.
The speaker input has an 8 ohm resistance andit is not protected against overloading. The maximum power supplied to the speaker cannot exceed 2 watts.
Wiring.

The PDP-S-2P button requires 2 wires, while the PDP-SG-2P requires 4 wires of which 2 are connected with the traffic light controller and two with the SA5 or SA6 acoustic controller

PDP-MWW module.
The "2P" buttons version requires fitting in the traffic light controller of the PDP-MWW input / output module.
It is used as interfce to adjust the transmission lines of the PDP-(2P) buttons to the standards required by the traffic light controller.

PDP-MWW module power supply
The PDP-MWW module requires 24V DC power supply. The power consumption does not exceed 160mA with 8 buttons connected in parallel.

Output from the PDP-MWW module.
PDP-MWW is equipped with a notification output from the pressed button. This output should be connected to the notification input in the traffic light controller. The voltage at the "open" notification input in the traffic light controller should not be higher than 30V. The notification output can work in the NO or NC standard. The output type is changed by changing the PDP-MWW module supply voltage polarization.
The notification output from the PDP-MWW module is electronically protected against overloading.

Confirmation input. The PDP-MWW is equipped with a confirmation input through which the traffic light controller controls the backlit of the "WAIT" sign in the PDP buttons. This input requires a voltage from 20V to 30V DC. The power consumption does not exceed 20mA.
Depending on the voltage polarity at the PDP-MWW module input, the backlit in the button can be turned on or turned off when this voltage is applied. This allows to adjust it easily to any type of traffic light controller.
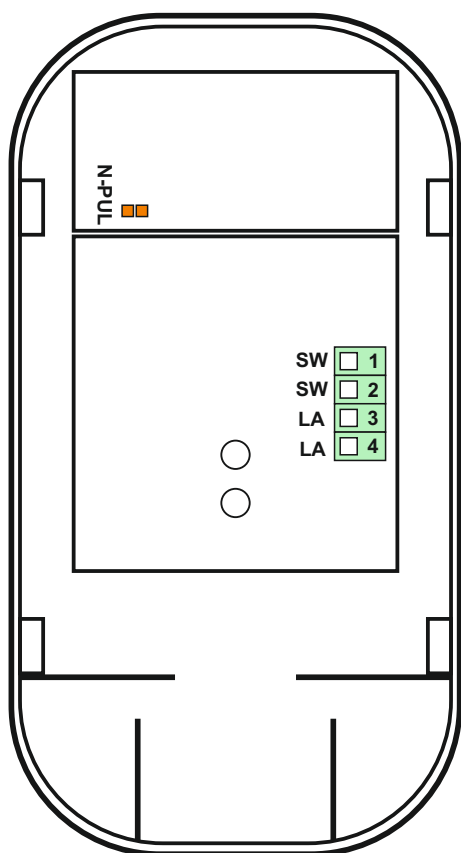
Connecting PDP buttons to the PDP-MWW module.
The PDP-MWW module can be connected to 8 buttons in the PDP-S-2P or PDP-SG-2P version. The buttons are connected in a parallel way. One PDP-MWW module can only support one logical channel (one notification input in the street signaling controller). The connection method is important – look at the diagram. The transmission line to the buttons is electronically protected against overvoltages and against possible effects of short circuits in the PDP button.
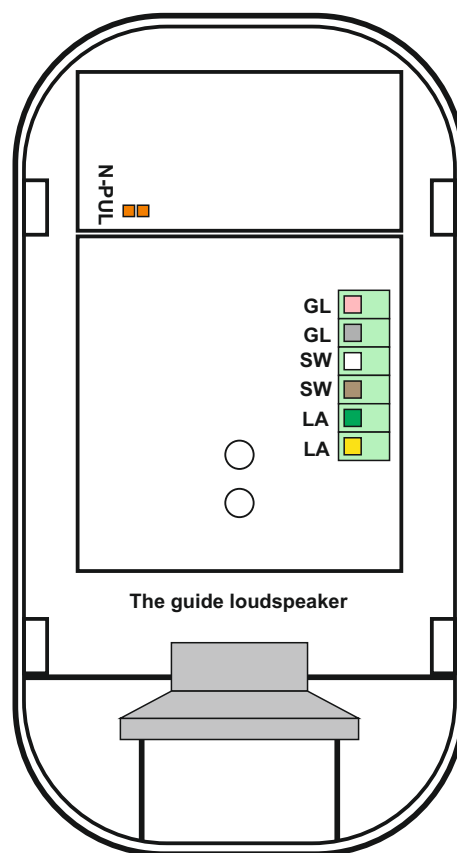The input, output and power lines of the PDP-MWW module are galvanically separated from each other.

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OUTPUTS OF THE PDP-S / PDP-SG BUTTON
- sensor version without power supply

PDP-S

PDP-SG

The guide loudspeaker

Mark	Wire colour or number	Function and parameters
GL	pink	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 11 of the SA-5 module
GL	grey	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 12 of the SA-5 module
SW	1 - white	Button's output terminal - electronic contact NO (Us = 10..30V, Imax <100mA)
SW	2 - brown	Button's output terminal - electronic contact NO (Us = 10..30V, Imax <100mA)
LA	3 - green	Sign backlit input's terminal - (Up = 18V..30V - 20mA)
LA	4 - yellow	Sign backlit input's terminal - (Up = 18V..30V - 20mA)

N-PUL - jumper for switching the backlit's flashing off

OUTPUTS OF THE PDP-S-NC / PDP-SG-NC BUTTON
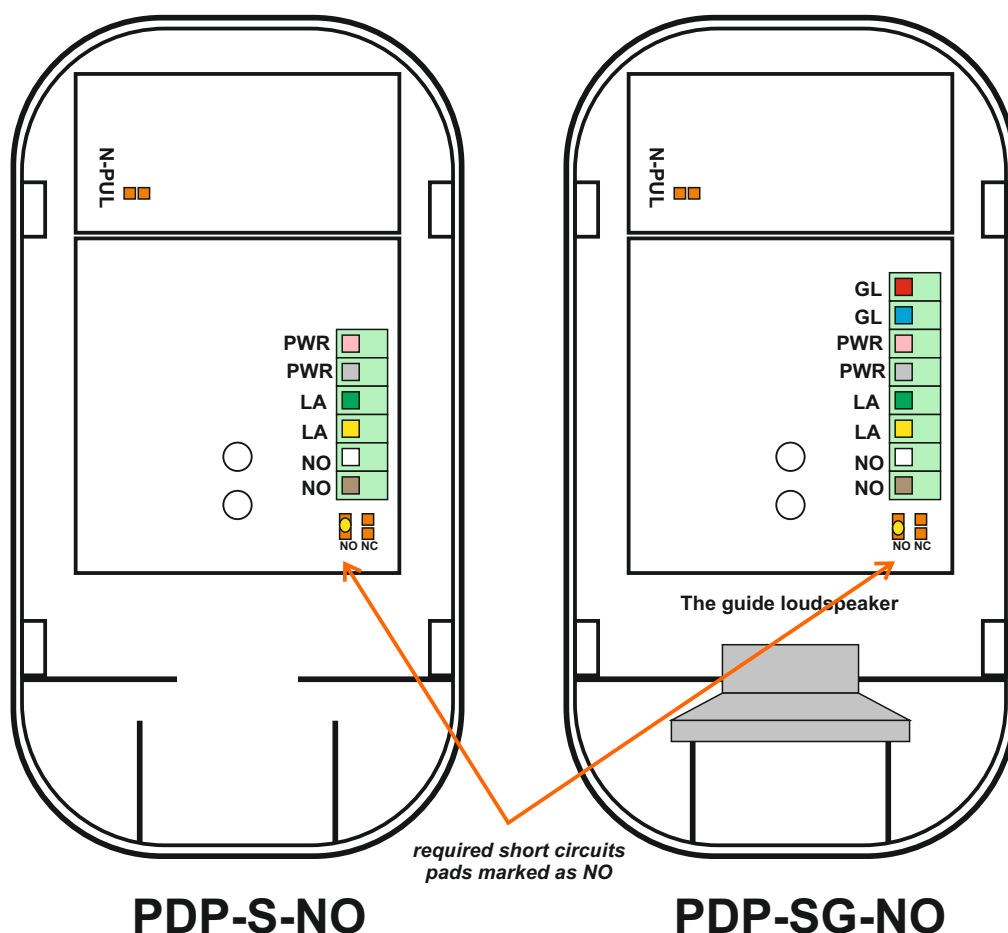## - version with relay (contact basically closed)

PDP-S-NC

PDP-SG-NC

N-PUL

N-PUL

PWR
PWR
LA
LA
NC
NC

NO NC

GL
GL
PWR
PWR
LA
LA
NC
NC

NO NC

The guide loudspeaker

required short circuits pads marked as NC

Mark	Wire colour or number	Function and parameters
GL	red	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 11 of the SA-5 module
GL	blue	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 12 of the SA-5 module
PWR	pink	Power supply input's terminal - (Uz = 10V..30V - Imax150mA)
PWR	grey	Power supply input's terminal - (Uz = 10V..30V - Imax150mA)
LA	green	Sign backlight input's terminal - (Up = 18V..30V - 20mA)
LA	yellow	Sign backlight input's terminal - (Up = 18V..30V - 20mA)
SW-NC	white	Button output's terminal - mechanical NC contact (Imax <300mA)
SW-NC	brown	Button output's terminal - mechanical NC contact (Imax <300mA)

N-PUL - jumper for switching the backlit's flashing off

OUTPUTS OF THE PDP-S-NO / PDP-SG-NO BUTTON
## - version with relay (contact basically open)

N-PUL

PWR
PWR
LA
LA
NO
NO

NO NC

PDP-S-NO

N-PUL

GL
GL
PWR
PWR
LA
LA
NO
NO

NO NC

The guide loudspeaker

required short circuits pads marked as NO

PDP-SG-NO

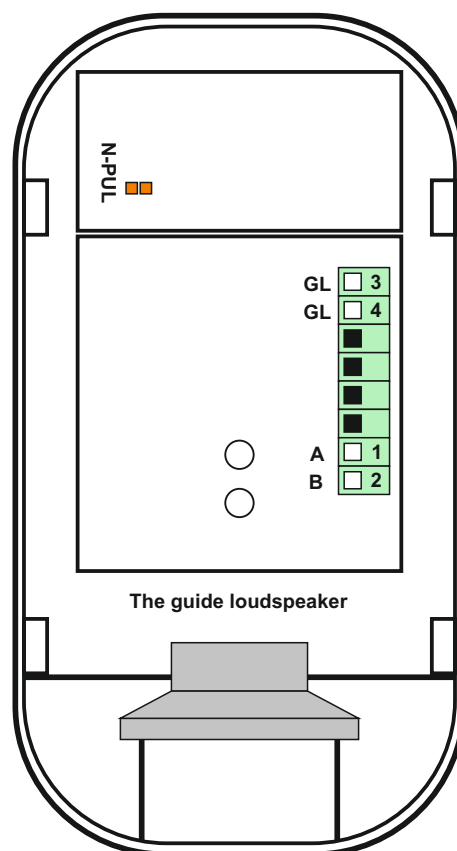| Mark	Wire colour or number	Function and parameters
GL	red	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 11 of the SA-5 module
GL	blue	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 12 of the SA-5 module
PWR	pink	Power supply input's terminal - (Uz = 10V..30V - Imax150mA)
PWR	grey	Power supply input's terminal - (Uz = 10V..30V - Imax150mA)
LA	green	Sign backlight input's terminal - (Up = 18V..30V - 20mA)
LA	yellow	Sign backlight input's terminal - (Up = 18V..30V - 20mA)
SW-NO	white	Button output's terminal - mechanical NO contact (Imax <300mA)
SW-NO	brown	Button output's terminal - mechanical NO contact (Imax <300mA)

N-PUL - jumper for switching the backlit's flashing off

OUTPUTS OF THE PDP-S-2P / PDP-SG-2P BUTTON
- two-wire version
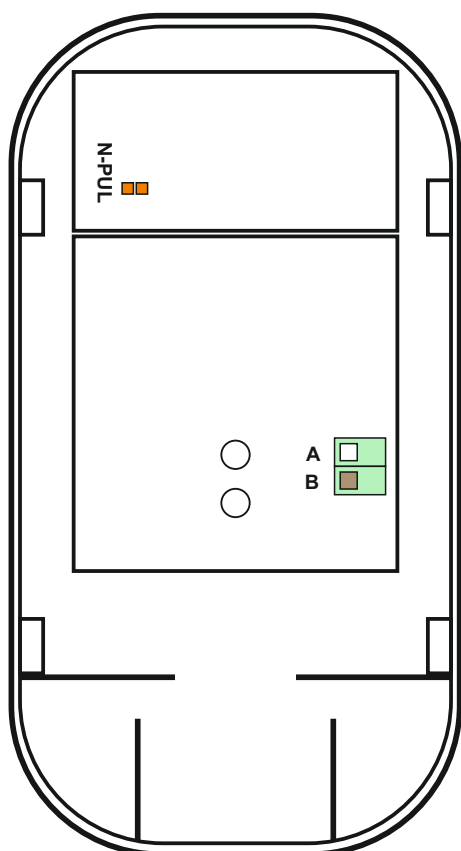
PDP-S-2P   **PDP-SG-2P**

Attention:
the traffic light controller is connected directly to the PDP-MWW module,
while terminals A and B in the button are only used for communication with the PDP-MWW module
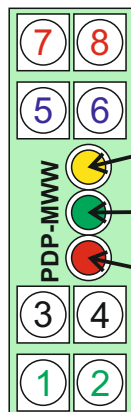**and they cannot be used in any other way.**

Mark	Wire colour or number	Function and parameters
GL	3 -	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 11 of the SA-5 module
GL	4 -	Connection terminal for loudspeaker (8Ω, 2W) - pin No. 12 of the SA-5 module
A	1 - biały/white	PDP-MWW module's connection terminal - pin 1
B	2 - brązowy/brown	PDP-MWW module's connection terminal - pin 2

N-PUL - jumper for switching the backlit's flashing off

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PDP-MWW MODULE
for cooperation with PDP-S-2P and PDP-SG-2P

The meaning of LEDs on the PDP-MWW module

Turning the backlit of pdp button on
(Yellow LED)

Notifying of pressing the pdp button
(Green LED)

ERROR (!)
Short circuit or overload in the button's circuit - terminals 1-2,
Short circuit or overload in the output circuit - terminals 5-6
(LED in red)

Connection terminals and hardware configuration of the PDP-MWW module

[1] **Connecting the PDP-S-2P / PDP-SG-2P button - the terminal marked "A"**
[2] **Connecting the PDP-S-2P / PDP-SG-2P button - the terminal marked "B"**

[3] - [4] **POWER SUPPLY CONNECTION for PDP-MWW module and output configuration:**
    Operation in **NO mode**
    [3](+)
    [4] (-)

    Operation in **NC mode**
    [3](-)
    [4] (+)

[5] - [6] **OUTPUT** - notification press from pdp buttons:

[7] - [8] **POWER INPUT** and ILLUMINATION of Sign on the BUTTON configuration:
    The lamp is **light** when there is voltage at terminals 7 and 8
    [7](+)
    [8] (-)

    The lamp does **not light** when there is voltage at terminals 7 and 8 *)
   [7](-)
    [8] (+)

) Configuration is active only after the first voltage supplying to terminals 7 and 8.

| Function	Parameters
Terminals for connecting the PDP "2P" buttons [1-2]	————
Power supply terminals [3-4]	U_z= 20V..30V, Imax < 160mA (peak), DC
Notification output terminals from buttons [5-6]	U_{sw}= 10V..30V, Imax < 100mA, DC/AC
Lamp indicator input terminals to buttons [7-8]	U_{LA}= 10V..30V, Imax < 20mA, DC

THE CORRECT WAY OF CONNECTING THE PDP-S-2P BUTTON TO THE PDP-MWW MODULE
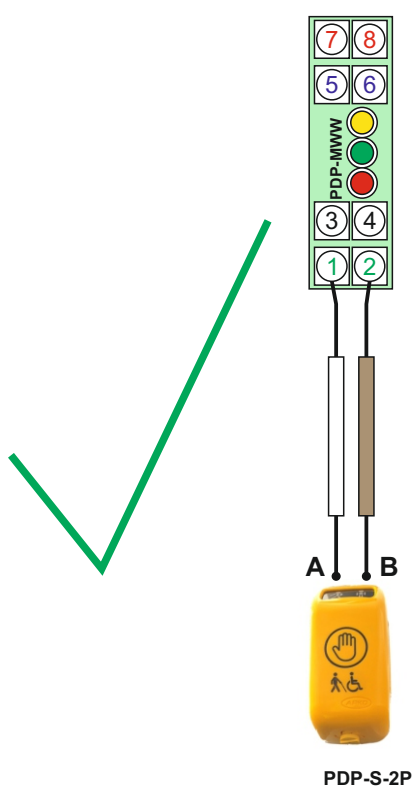
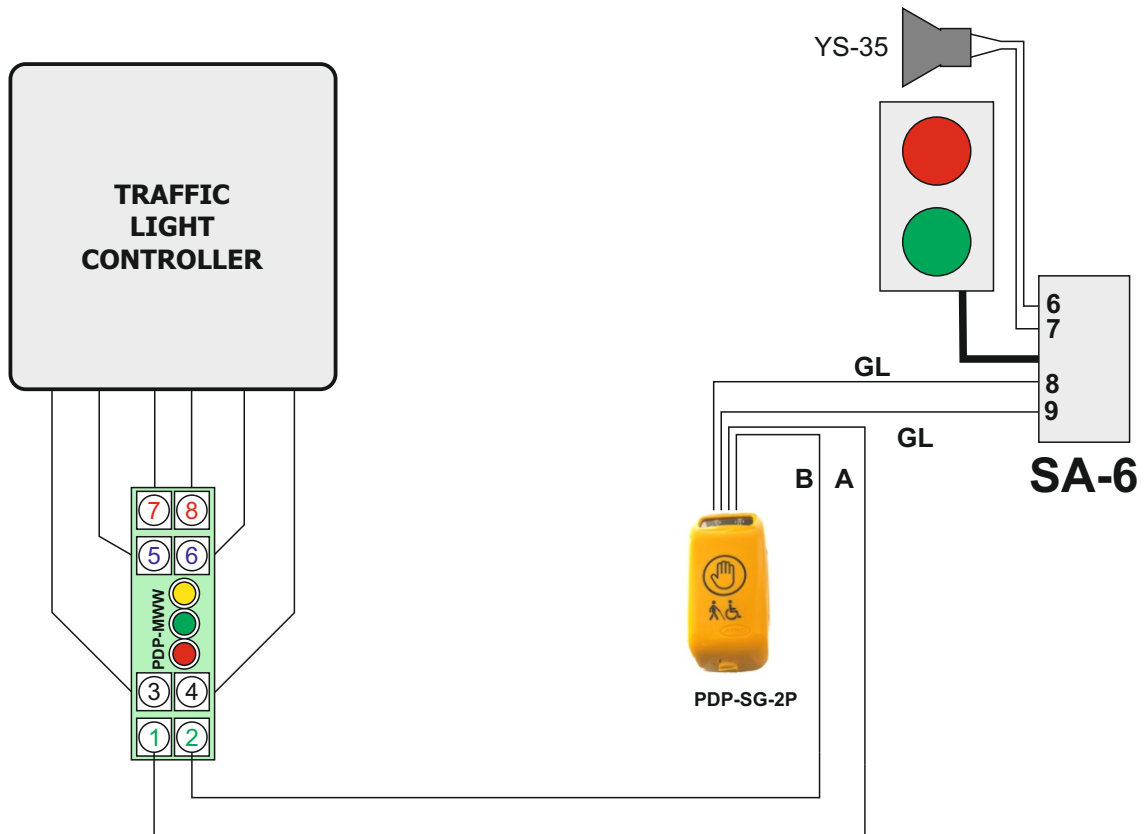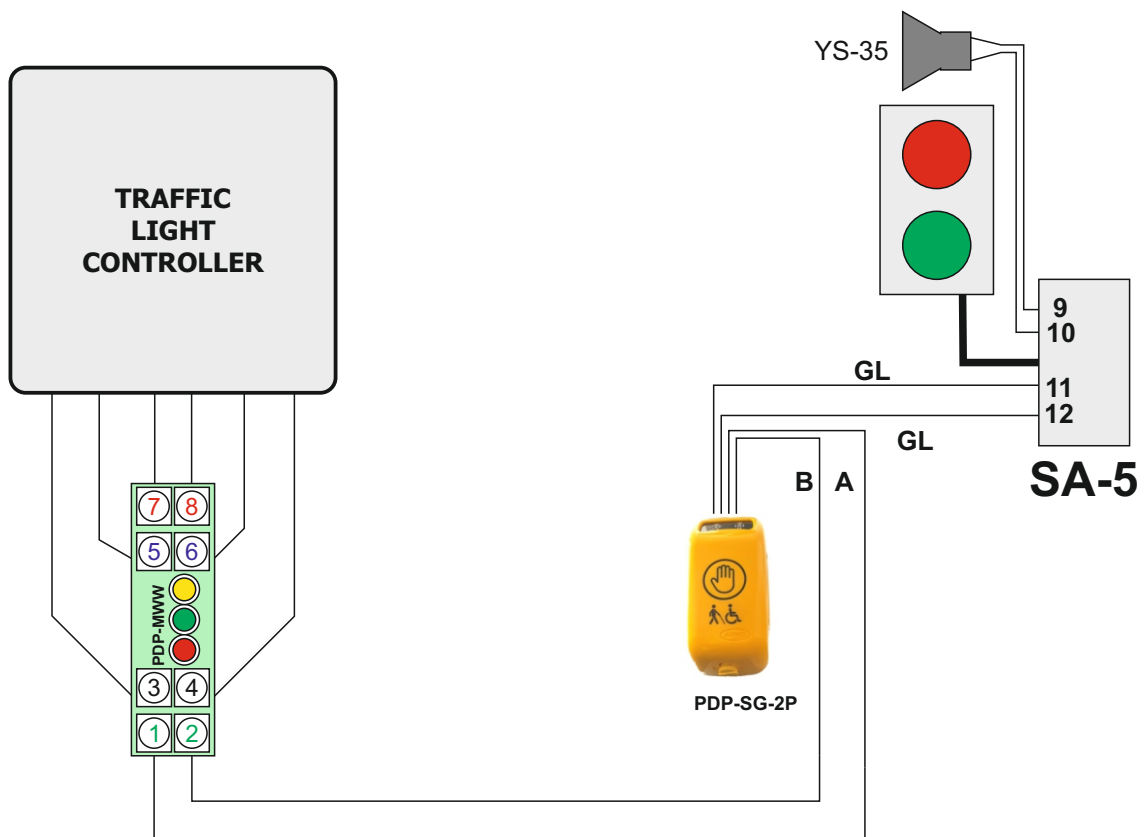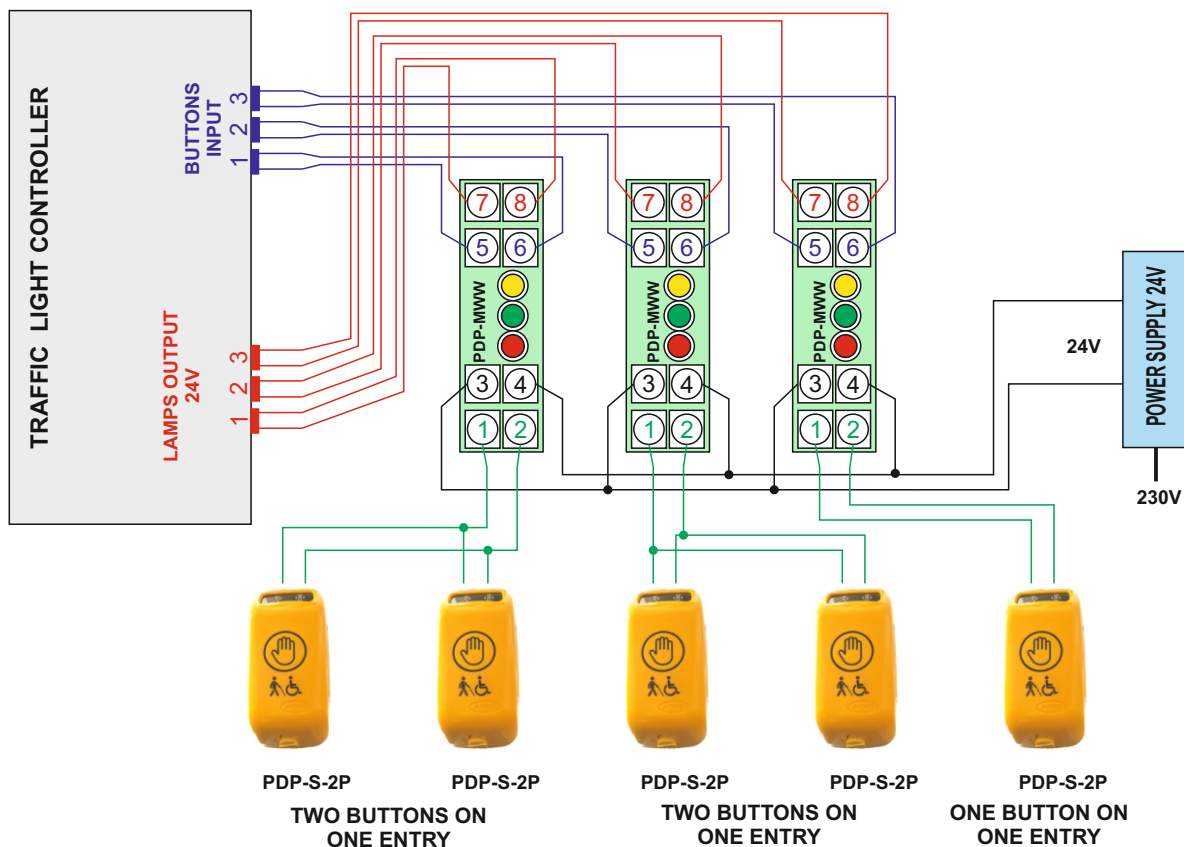**THE CORRECT WAY OF CONNECTING THE PDP-S-2P BUTTON TO THE PDP-MWW MODULE**
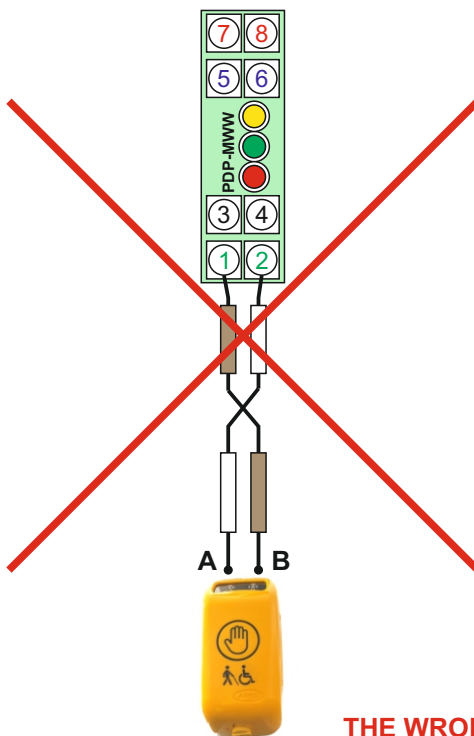
PDP-S-2P

THE WRONG WAY OF CONNECTING THE PDP-S-2P BUTTON TO THE PDP-MWW MODULE

PDP-S-2P

HOW TO CONNECT THE PDP-SG-2P BUTTON
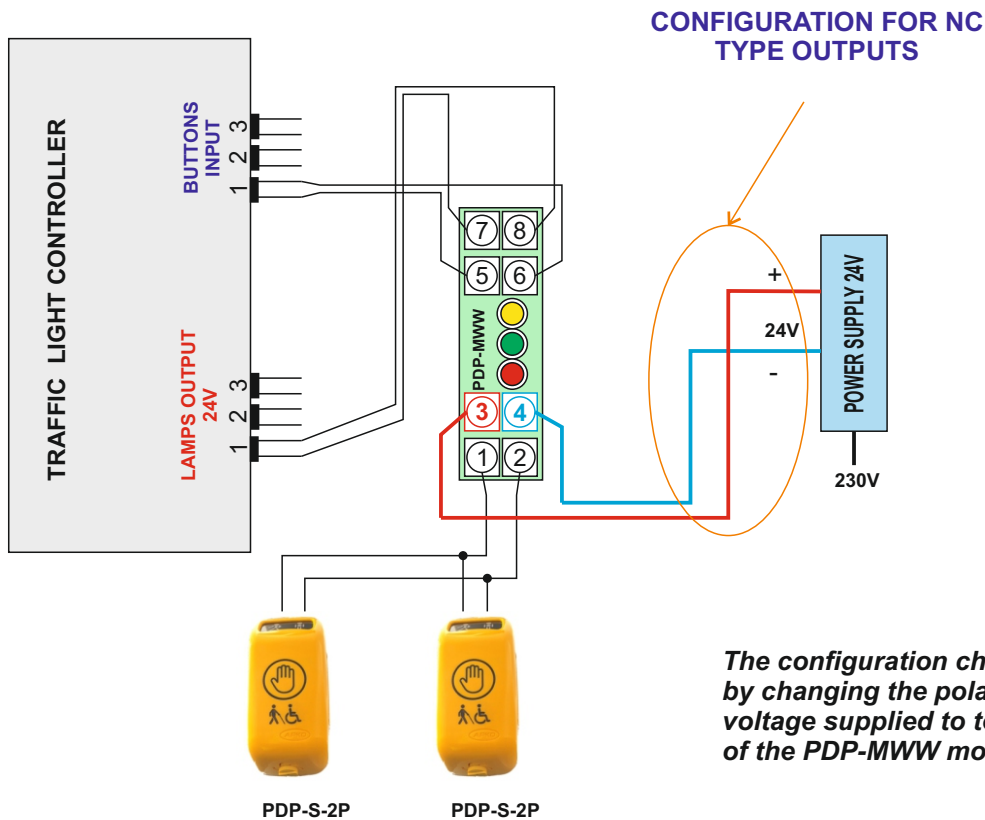# TO THE ACOUSTIC SIREN SA-5, SA-6

EXAMPLE OF CONNECTION PDP-S-2P BUTTONS TO TRAFFIC LIGHT CONTROLLER

The outputs circuits of the buttons to the inputs traffic light controller are marked in blue.
The circuits of confirmation signals output (so-called LAMP) from the traffic light controller are marked in red.
The circuits of the PDP-S-2P buttons are marked in green.
The power supply circuits for PDP-MWW modules are marked in black.

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CONFIGURATION OF THE PDP-S-2P BUTTON'S OUTPUTS FOR 'NO' AND 'NC' MODES

CONFIGURATION FOR „NO" TYPE OUTPUTS

CONFIGURATION FOR NC TYPE OUTPUTS
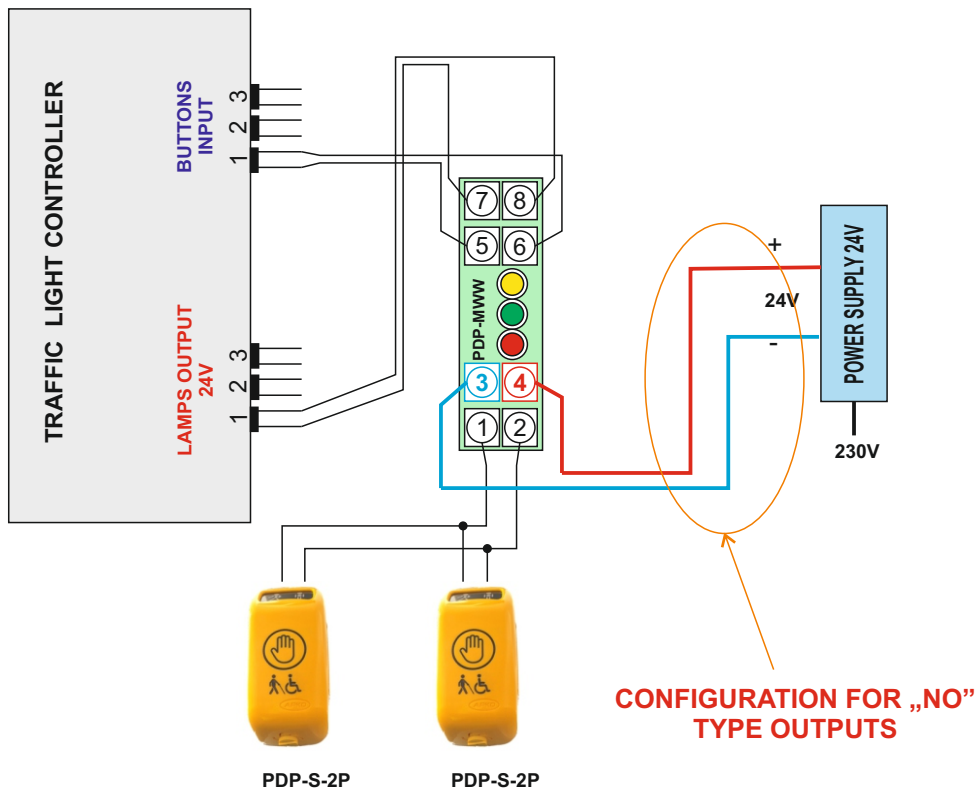
The configuration change is made by changing the polarity of the supply voltage supplied to terminals 3 and 4 of the PDP-MWW module

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CONFIGURATION OF CONFIRMATION WORKING IN THE PDP-S-2P BUTTONS

CONFIGURATION FOR THE ILLUMINATED "WAIT" INSCRIPTION AT THE BUTTON WITH NO VOLTAGE AT THE CONFIRMATION EXIT OF THE TRAFFIC LIGHT CONTROLLER

CONFIGURATION FOR ILLUMINATED "WAIT" INSCRIPTION AT THE BUTTON AT CURRENT VOLTAGE AT THE CONFIRMATION EXIT OF THE TRAFFIC LIGHT CONTROLLER

The configuration change is made by changing the polarity voltage supply applied to the terminals No. 7 and 8 of the PDP-MWW module. Note: the configuration is saved when the voltage was first applied on terminals 7 and 8.