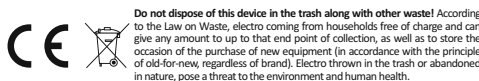
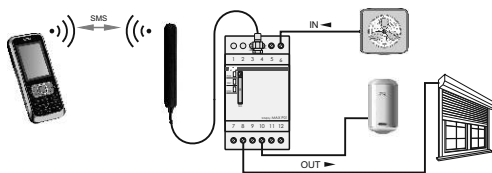


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[www.ff.com.pl/reklamacja](http://www.ff.com.pl/reklamacja)



## Purpose

P01 relay with built-in GSM communicator is used to remote control via mobile phone. It allows an easy way to manage and monitor outputs status devices connected to the inputs and outputs of the relay.



## Features

- \* 2 ON/OFF control outputs (8 A 250 V AC)
- \* time control of the outputs, for example for 30 s (1 s ÷ 600 min.)
- \* 2 alarm inputs (160 ÷ 260 V AC of direct connection)
- \* optional triggering with both the appearing and fading of the signal (0/1)
- \* notifications to 5 phone numbers for each input
- \* queries about the status of inputs and outputs
- \* redefinition of the names of inputs and outputs, for example: IN1-> PUMP; IN2-> BREAK-IN
- \* optional automatic replies about execution of the commands
- \* optional automatic restore of the status of the outputs after power returns
- \* access control by password
- \* unlocked (no Simlock blockade)

## Functioning

The relay works in GSM 900/1800 cellular networks of any operator operating in Poland (device is unlocked). In order to make the calls and execute the predefined functions, the device must have an active SIM card. The relay has two controllable relay outputs through which the controlled receivers are enabled and disabled as well as two high-voltage inputs through which are implemented functions of the notifications about the actuation of controlled devices. Commands and notifications are defined text messages (SMS) exchanged between the controller and the user of the telephone.

## SMS commands and messages

### CONTROLLING OUTPUTS

OUT1 ON - switch ON output 1  
OUT1 OFF - switch OFF output 1  
OUT2 ON - switch ON output 2  
OUT2 OFF - switch OFF output 2

## TEMPORARY SWITCHING OF OUTPUT

OUT1 / OUT2 ON S [x] - temporary switching output at time x, where x is in the range 1 ÷ 300sec.

Example: OUT1 ON 45 - switching output 1 time for 45 seconds.

OUT1 / OUT2 ON M [x] - temporary switching output at time x, where x is in the range 1 ÷ 600min.

Example: OUT1 ON 45 - switching output 1 time for 45 seconds.

## SMS ALERTS ON MOBILE ABOUT ACTUATION OF INPUT

IN1 ON - high state (voltage) Input 1

IN2 ON - high state (voltage) Input 2

IN1 OFF - low state (no voltage) Input 1

IN2 OFF - low state (no voltage) Input 2

## REQUEST ABOUT STATE

STATUS - query about the state all of the inputs and outputs.

Example:

Command: STATUS Answer: WE1 ON WE2 OFF WY1 OFF WY2 ON

PASSWORD (4÷8 digits)

If you are working with a password option command must precede password, eg. 1234 OUT1 ON.

SMS configuration commands:

**PASS ON <password>** - setup or change password, <password> - enter the number of passwords, e.g. 12345678.

**PASS OFF** - disable the password

## Note!

**Reset of a forgotten password is possible through the administrator ADMIN feature. It is recommended to pre-define the number of the administrator.**

## ADMINISTRATOR FUNCTION

Restore factory settings and unlock access in case of a forgotten password. Before entering the password the phone number of the administrator should be defined. Definition:

**ADMIN <phone no.> <phone no.>**

Example: ADMIN +48123456789 +48123456789

Enter the administrator number twice in order to verify it and set it correctly. You automatically get a return text message (SMS) reply: OK ADMIN: <phone> - definition accepted

ERROR ADMIN: WRONG PHONE - numbers do not match

ERROR ADMIN: MISSING PHONE - number is not repeated

ERROR ADMIN: WRONG FORMAT - wrong format of the numbers

ERROR ADMIN: ALREADY DEFINED - ADMIN already defined

## SETTINGS AND ADMINISTRATOR RESET

Sending the RESET command from any phone without a password (even though it is set) will automatically send a reply on a phone number of the administrator. He receives a message with the generated one-time code, for example RESET 12345678. Within 3 minutes the command with the code should be send to the relay (RESET 12345678).

## CONFIGURATION OF INPUTS

Set the phone number to which the message is to be sent and at what state.

**IN1! / IN2! <phone number 1> ... <phone number 5> ON / OFF / NF**

IN1! / IN2! - input number 1/2

ON - notification about high state (voltage) at the input

OFF - notification about low state (no voltage) at the input

NF - notification about low and high state at the input number 1

<phone number> - phone number with prefix, for example +48123456789 (without the brackets <>)

Example:

Input 1 - on the first phone number: IN1! +48123456789 ON

Input 2 - on the second phone number: IN1! +48123456789 +48987654321 NF

## AUTOMATIC REPLY

The optional auto-reply on the phone the user with a message that reaches and adoption of SMS.

**ANSW** - request an automatic response.

The word served after the main command. The answer is and confirmation of the status of inputs, outputs and functions.

Example

Command: OUT2ON ANSW. Content response: OK OUT2 ON

Command: PASS ON 1234 ANSW. Content response: OK PASS ON 1234

Command: IN1!+48123456789 ANSW. Content response: OK IN1!+48123456789

## REDEFINITION OF INPUTS, OUTPUTS AND STATES NAMES

The function of giving the inputs and outputs (IN/OUT) individual names in place of pre-defined phrases and their corresponding states of activation on and deactivation (ON/OFF). After defining the name the content of the text message (SMS) will contain the name given to the input or output and the phrase corresponding to the given state. Query about the status of the input or output is created by adding a question mark "?" to the defined name. Outputs control remains the same and is carried out by the ON and OFF commands, which means that after the defined name you should enter the standard command ON/OFF.

Definition:

**TEXT! IN1/IN2 <input\_name> <state\_ON> <state\_OFF>**

**TEXT! OUT1/OUT2 <output\_name> <state\_ON> <state\_OFF>**

## Note!

A single phrase of the definition is a continuous (without spaces) string of up to 10 characters.

Examples

INPUT 1

TEXT! IN1 GATE OPEN CLOSE

Question: GATE?

Answer: GATE OPEN

OUTPUT 2

TEXT! OUT1 pump\_2 turnedON turnedOFF

Question: pump?

Answer: pump turnedOFF

Commands: pump\_2 ON

## Note!

Both the factor names and user-defined names operate in parallel. The content of text message (SMS) reply is adequate to the question.

## MEMORY OF OUTPUTS

Automatic restoration the status of outputs after the disappearance and when power is restored (restart).

**MEMORY ON** - on the option.

**MEMORY ON** - disable option.

## STATUS SIM CARD [USSD]

Execution of maintenance tasks, such as activation and deactivation of services, check the status and recharge of account, etc., using the operator service USSD (Unstructured Supplementary Service Data).

USSD? <USSD\_code>

In response to a user's phone will come SMS with the response operator, which would be consistent with the information given USSD command, such as the current charge state and the expiry date (the content and format of the notification depends on the operator).

Example

USSD? \*111#

state and the expiry date

USSD? \*123\*12345678909876#

recharge of account

Above there are examples of commands USSD codes. In fact, they are determined individually by mobile network operators.

## CONFIGURATION PARAMETERS

Obtaining software version and configuration information via SMS commands for phone user.

**CONFIG** - query about configuration parameters.

Example.

CONFIG:

VER:1.13

IN1 +48123456789 NF

IN2 +48987654321 +48123456789 ON

MEMORY OFF

PASSWORD ON 1234

## LANGUAGE

The option to select the language for automatic SMS notification.

**LANG PL - Polish;**

**LANG EN - English**

Example

LANG PL: WE1ON LANG EN: IN1ON

Commands in English are executed parallel to commands in Polish.

Equivalents of words:

**WE <-> IN**

**WY <-> OUT**

**ON <-> ON**

**OFF <-> OFF**

**KONFIG <-> CONFIG**

**MEMORY <-> MEMORY**

**HASLO <-> PASS**

**ODP <-> ANSW**

**ADMIN <-> ADMIN**

The answer to the query is automatically set to the language in which the relay got the query.

## NOTATION

Relay recognizes commands in lowercase and uppercase letters. Also in the case of mixed character command.

Example proper record of commands: OUT1ON/out1on/Out1oN

Between the command words combined to put a space. The otherwise, the command will be confusing for the relay and will be ignored.

Example: L -space)

OUT1ON\_M\_10 -correctly

OUT1ON\_M10 -incorrectly

## LED indication

\* U - switched power relay

\* STAT blink 0.5s with period 0,1s, GSM off - there is no card SIM

\* STAT flashes 0.25s with period of 0.5s, GSM off - no SIM card logs on to the network operator. With an active SIM card with a PIN code. Deactivate the PIN code for the SIM card used.

\* STAT flashes 0.5s with period of 1.0s, GSM lights on - search GSM network.

\* STAT lights on / flashing, GSM blinking - Normal operation:

- Signalling power range by the number of LED flashes GSM: 0.15s with period 6s (from 1 to 5 flashes).

- Communication signals by the number of LED flashes STAT: 0.5s with period 6s:

1 blink - SMS input

2 blinks - SMS output

3 blinks - error SMS output

6 blinks - voice connection

\* STAT is off, GSM off - GSM module is not working. Suspension of work function or permanent fault. Make a restart of controller.

## Notes on SIM card

SIM of the P01 relay:

- \* It is recommended to use the SIM card with the so-called **telemetric tariff / m2m**. Ask at the GSM operator!
- \* The first activation of the SIM card of the controller should be made on any phone of the user (send SMS or make a voice call).
- \* Clear the memory of the inbox.
- \* In case of the usual tariff (not telemetric), it is recommended to turn off any additional operator services assigned to the SIM card, for example free text message alerts, voice mail, operator IVR voice menu for free notifications, etc.
- \* First run of the SIM card on the relay may take several minutes. This is due to the registration of the unknown device model and finding the correct configuration of the system by the operator.

SIM of the user's phone:

- \* Set the input mode of the text messages as TEXT (not UNICODE)!  
By default, the GSM operators set the TEXT mode. If the relay ignores text messages you should check the settings and adjust them correctly.

## Software version

The software version is published in the return text message of the CONFIG command.

Example.

CONFIG:

VER:1.13 [software version]

WE1 +48123456789 NF

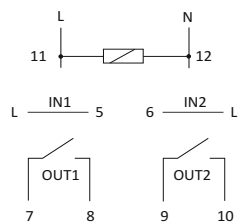
WE2 +48987654321 +48123456789 ON

MEMORY OFF

PASSWORD ON 1234

You will find the manual for the correct version of the software on our website [www.fif.com.pl](http://www.fif.com.pl)

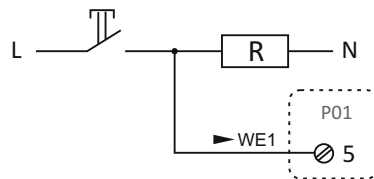
## Wiring diagram



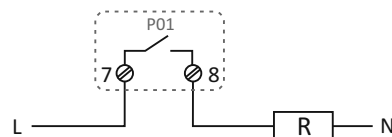
- 5 input no. 1
- 6 input no. 2
- 7-8 output no.1  
(separated contact)
- 9-10 output no. 2  
(separated contact)
- 11-12 power supply

## Realization of connections

Example of connecting the input signal to the input 1 (contact 5) for the notification of activation.



Example of connecting the receiver to the controlled output 1 for the remote control.



## Assembly and connection

1. Turn off the power.
2. Put the relay on the rail in the switchboard.
3. Connect the power supply to the relay: L to terminal 11; N to terminal 12.
4. Screw the supplied antenna to the transmitter and attach into the ground outside the switchgear, the site of GSM.
5. In place of the SIM port thin tool (eg. a screwdriver) press the yellow button. Remove the tray, load the SIM card and inserted into the port.
6. Connect the receiver and control input signals in accordance with the description of the I/O connections and examples of implementation.
7. Switch on the power supply.



## Technical data

supply	230V AC
inputs	
number	2
voltage tolerance	160÷260V AC
relay outputs	
number	2
type	1×NO
nominal voltage	230V AC
current load	<8A
ports	SIM
power consumption	
standby mode	1.3W
with GSM communication	<3W
working temperature	-10÷50°C
terminal	2.5 mm <sup>2</sup> screw terminals
dimensions	3 modules (52mm)
mounting	on the rail TH-35
GSM antenna	SMA connector / dim. 20×100mm /len. 2.5m
ingress protection	IP20