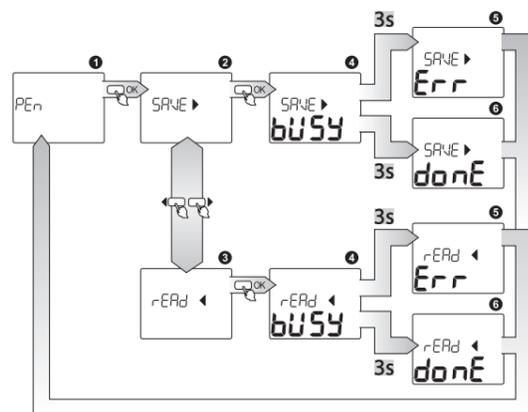


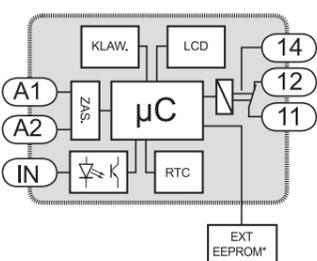
EXTERNAL MEMORY OPERATION*



External memory allows for an easy record / reading of the adjusted programs into the external memory, so they can be easily copied to other programmers. It is very convenient in case if we want to program more ZCM programmers or archive the adjusted programs.

- 1 PE_n – sub menu to the external memory operation
- 2 SRWE – programs recording
- 3 rERd – programs reading from the external memory and storage in the programmer's memory
- 4 BUSY – the state of memory „busy” during a record / reading
- 5 Err – record /reading error
- 6 donE – correct record / reading

CASING MEASUREMENTS

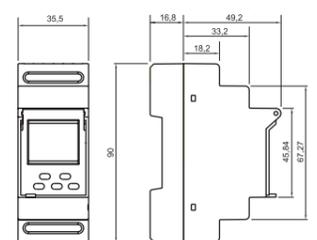


ASSEMBLY, OPERATION

1. Disconnect power supply circuit with a fuse, electrical energy redundant switch or insulation switch (all of them connected to adequate circuit).
2. **Check non-voltage status on power supply conductors, with an appropriate tool.**
3. Assemble the appliance ZCM-21 in the switching station on the TH 35 rail.
4. Connect conductors under clamps according to the connection scheme.

The contact will be ON at 00:00:00. The contact will be OFF the previously set day during an hour changing from 23:59:59 into 00:00:00 (the next day). If the contact is to be ON only one day, the same data should be set for ON and OFF date, e.g. ON - 02.02, OFF - 02.02. The lower program no. the higher program priority. The ON state has higher priority than the OFF state within the given program.

CASING MEASUREMENTS



FAMILY PRODUCT

Programator ZCM-22 należy do rodziny produktów ZCM.

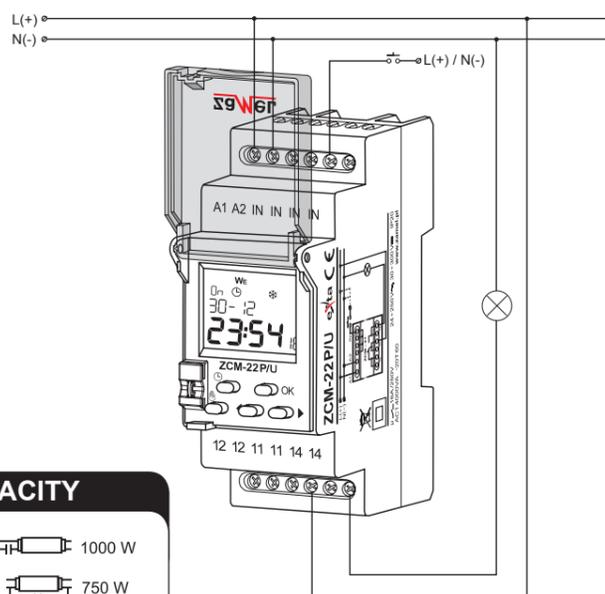
ZCM-xx/U

Napięcie zasilania:
ZCM-xx - 230 V~
ZCM-xx/U - 24 + 250 V~,
- 30 + 300 V~

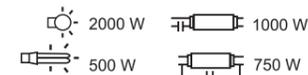
Typ programatora:
11 - tygodniowy (1 kanał)
12 - tygodniowy (2 kanały)
22 - tygodniowo-roczny
31 - astronomiczny

Symbol urządzenia

CONNECTION*



RELAY CAPACITY



WARRANTY CARD

There is 24 months guarantee on the product

1. ZAMEL provides a two-year warranty for its products.
2. The ZAMEL warranty does not cover:
 - a) mechanical defects resulting from transport, loading / unloading or other circumstances;
 - b) defects resulting from incorrect installation or operation of ZAMEL products;
 - c) defects resulting from any changes made by CUSTOMERS or third parties, to products sold or equipment necessary for the correct operation of products sold;
 - d) defects resulting from force majeure or other aleatory events for which ZAMEL is not liable;
 - e) power supply (batteries) to be equipped with a device in the moment of sale (if they appear);
3. All complaints in relation to the warranty must be provided by the CUSTOMER in writing to the retailer after discovering a defect.
4. ZAMEL will review complaints in accordance with existing regulations.
5. The way a complaint is settled, e.g. replacement of the product, repair or refund, is left to the discretion of ZAMEL.
6. Guarantee does not exclude, does not limit, nor does it suspend the rights of the PURCHASER resulting from the discrepancy between the goods and the contract.

Salesman stamp and signature, date of sale

TIME PROGRAMMER ZCM-22, ZCM-22P/U

ANNUAL, SINGLE-CHANNEL

INSTRUCTION MANUAL

exta

ZAMEL Sp. z o.o.

ul. Zielona 27, 43-200 Pszczyna, Poland
Tel. +48 (32) 210 46 65, Fax +48 (32) 210 80 04
www.zamelcet.com, e-mail: marketing@zamel.pl

zAMEL

DESCRIPTION

Digital control time switch ZCM-22 is used to realise the time functions in automation and control systems. The programmer realises the output relay control operations according to program adjustments (day, month, hour, minute). All systems are equipped with a control input function, which is used to change the operating mode of a system by means of an external push-button. The design of the casing allows the system to be mounted on a TH-35 rail and eventually to seal the device. The design of the system provides a battery back-up system for all adjustments in case of no voltage supply.

In order to protect the battery during storage, the ZCM-22 series programmers have a default setting, the so-called storage mode in which the battery power consumption is limited to a minimum.

FEATURES

- Control depending on current date, hour and minute,
- double modular casing with a protective cover,
- an additional IN input,
- number of programs with different application,
- LCD display backlight,
- TH-35 rail mounting,
- a possibility to copy and read programs from the external memory*



CAUTION

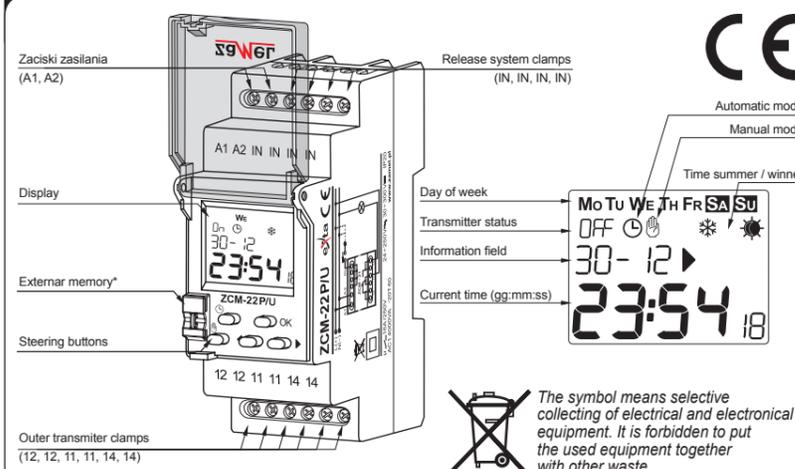
The device is designed for single-phase installation and must be installed in accordance with standards valid in a particular country. The device should be connected according to the details included in this operating manual. Installation, connection and control should be carried out by a qualified electrician staff, who act in accordance with the service manual and the device functions. Disassembling of the device is equal with a loss of guarantee and can cause electric shock. Before installation make sure the connection cables are not under voltage. The cruciform head screwdriver 3.5 mm should be used to install the device. Improper transport, storage, and use of the device influence its wrong functioning. It is not advisable to install the device in the following cases: if any device part is missing or the device is damaged or deformed. In case of improper functioning of the device contact the producer.

TECHNICAL DATA

ZCM-22, ZCM-22P/U

| | |
|---|---|
| Power supply clamps: | A1, A2 |
| Rated voltage: | ZCM-22: 230 V AC (-15 + +10 %) ZCM-22P/U: 24 + 250 V AC, 30 + 300 V DC |
| Rated frequency: | 50 / 60 Hz |
| Rated power consumption: | ZCM-22: 1,6 W / 17 VA ZCM-22 P/U: 1,5 W / 3 VA |
| Number of channels: | 1 |
| Program quantity: | 400 (200 par On/Off) |
| Programme: | weekly - annual |
| Mode of work: | manual, automatic |
| Change of season summer/ winter: | automatic, manual |
| Colour of LCD panel lighting: | amber |
| Input: | yes |
| Accuracy of time measurement: | max. ±1 s / 24 h at temp. 25 °C |
| Time of clock maintenance: | 3 years |
| Time of programme maintenance: | 10 years |
| Clamps of release system: | IN, IN, IN, IN |
| Clamps of receiver power supply: | 11, 12, 14 |
| Parameters of transmitter contacts: | 1NO/NC-16 A/250 V AC1 4000 VA |
| Number of terminating clamps: | 12 |
| Intersection of terminating conductors: | 0,2 + 2,50 mm ² |
| Temperature of work: | -20 + +60 °C |
| Position of work: | any |
| Fixing of casing: | rail TH 35 (according to PN-EN 60715) |
| Level of protection of casing: | IP20 (PN-EN 60529) |
| Protectivity class: | II |
| Overvoltage category: | II |
| Level of pollution: | 2 |
| Measurements: | two-module (35 mm) 90 x 35 x 66 mm |
| Weight: | 0,14 kg |
| Zgodność z normami: | PN-EN 60730-1; PN-EN 60730-2-7; PN-EN 61000-4-2,3,4,5,6,11 |

APPEARANCE*

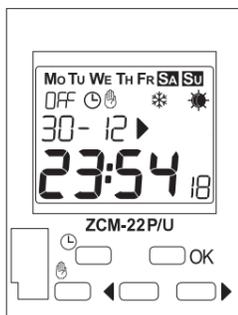


The symbol means selective collecting of electrical and electronic equipment. It is forbidden to put the used equipment together with other waste

*apply to the product ZCM-22P/U

*apply to the product ZCM-22P/U

DESCRIPTION



Description of displayed elements and messages

Mo Tu We Th Fr Sa Su - days of the week
 On OFF - relay status
 ☉ - automatic mode
 ☾ - manual mode
 ▶ - external input
 ❄ - winter time
 ☀ - summer time
 dAY - day, YEaR - year
 PrOb - program setting

Auto - automatic, USER - user's
 On OFF - switched on / switched off

Push-buttons description

- ☉ in the main window - enter into the automatic mode or change the relay status if the time switch is in the automatic mode;
- ☾ in other windows - exit to the previous level without data record;
- ☾ in the main window - enter into the manual mode or change the relay status if the time switch is in the manual mode;
- ☾ in other windows - exit to the previous level without data record;
- OK in the main window - enter the main menu;
- OK in other windows - enter the sub menu or confirm the adjusted value;
- ◀▶ switching the windows / menu options or increasing / decreasing the adjusted value;

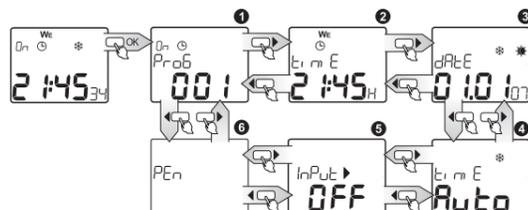
STORAGE MODE

ZCM series programmers have a default setting, the so called storage mode in order to protect the battery during storage.

In case of battery backup operation the storage mode is switched off during the first use of the programmer. It is done by means of a short pressing of the ☉ push-button and subsequent date and time adjustment. In case of a nominal power supply the storage mode is switched off during the first use of the programmer by means of date and time adjustment.

Adjusting the programmer into the storage mode is realised by means of a reset - in order to carry it out press at the same time the ☉ and ☾ push-buttons in the main window.

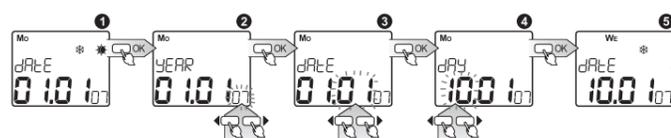
MAIN MENU



Menu enter by pressing OK; menu items scrolling by means of cursors ◀▶.

| Funkcja | Opis |
|------------|-------------------------------------|
| 1 PrOb | PROGRAM SETTING |
| 2 tImE ☉ | CURRENT TIME SETTING |
| 3 dAtE *** | CURRENT DATE SETTING |
| 4 tImE * | TIME SETTING (SUMMER/WINTER SEASON) |
| 5 InPUt ▶ | EXTERNAL INPUT SETTING |
| 6 PEr | EXTERNAL MEMORY ADJUSTMENT* |

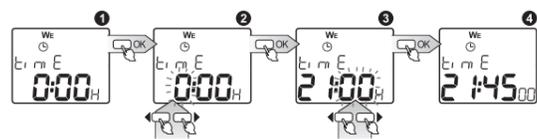
DATE SETTING



It is possible to exit every sub-menu window in any moment without saving settings by pressing the button ☉ or ☾.

- dAtE *** - Current date setting; entry after pressing OK;
- YEaR - choose adequate year with cursors ◀▶ confirm with OK, range of years: 2000÷2099;
- MONTH - choose month with cursors ◀▶ confirm with OK;
- DAY - choose day with cursors ◀▶ confirm with OK; the system has a protection against introducing incorrect parameter of a day for a given month (it takes into account leap years and it automatically calculates the day of the week on the basis of an arranged date);
- Confirmation causes movement to a date setting window and set-up of current summer/ winter time - if the option Auto is arranged.

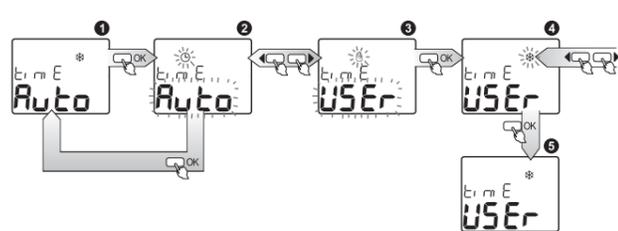
TIME SETTING



- tImE ☉ - setting the current clock time; entry after pressing OK;
- HOUR - choose adequate hour with cursor ◀▶ which you can set in 1-24 H or 1-12 P (AM) and 1-12 P (PM) format; confirm with OK;
- MINUTES - choose adequate parameter of minutes with cursors ◀▶ confirm with OK;
- Confirmation of the parameter of minutes causes simultaneous nullification of the parameter of seconds and movement to the window of time setting.

It is possible to exit every sub-menu window in any moment without saving settings by pressing the button ☉ or ☾.

TIME SETTING SUMMER / WINTER



- tImE* - choice of one of the two modes in which switching between winter and summer season time will occur. Auto - switching will take place in an automatic way, on the last Sunday of March, at 2.00 (for summer time) and on the last Sunday of October, at 3.00 (for winter time), USER - a user chooses between winter/ summer time, entry after pressing OK;
- setting the mode - choose mode Auto or USER with cursors ◀▶, confirm with OK; after choosing the mode Auto, the clock automatically sets the time as winter or summer one, depending on the arranged date; after choosing the mode USER you go to another window;
- Choose time for winter/ summer one with cursors ◀▶ where * is winter time and * is summer time, if change of marker has happened the system will change the current time by adding or subtracting 1 hour, confirm the operation with OK;
- After choosing the system moves to winter/ summer time shift window.

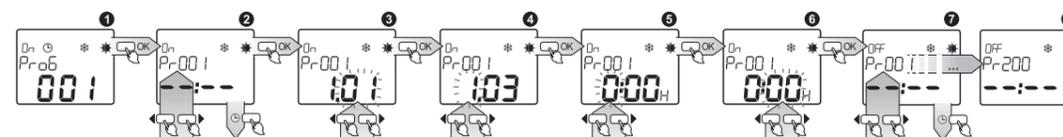
CHANGE OF MODE OF WORK (AUTOMATIC, MANUAL)



- AUTOMATIC MODE TOGGLE - if the main window is open and the timer is in the manual mode ☉ pressing key ☉ will force the unit to toggle into the automatic mode and the relay state changeover;
- Successive ☉ pressing will force the relay state changeover without the op mode toggle.

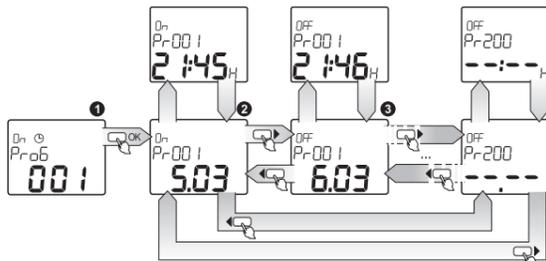
- MANUAL OP MODE TOGGLE - if the main window is open and the timer is in the automatic mode ☾ pressing key ☾ will force the unit to toggle into the manual mode and the relay state changeover;
- Successive ☾ key pressing will force the relay state changeover without the op mode toggle;

PROGRAM SETTING



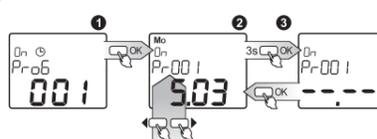
- PrOb - defining ON-times and OFF-times for the given week's days, hours and minutes for the given programs running in the automatic mode; messages on busy ON and OFF programs quantities are being showed alternatively in the current window: On OFF (e.g. 00); edition entering by pressing OK; the programs are numbered as pairs (On / OFF). Max programs quantity is equal to 200 On / OFF pairs;
- With ◀▶ cursors select a program (e.g. Pr-001 On) for its parameters editing and enter edition with OK;
- MONTH - with cursors select the month, acknowledge with OK;
- DAY - with cursors select the day, acknowledge with OK;
- HOUR - with cursors select an hour, acknowledge with OK;
- MINUTE - with cursors select minutes, acknowledge with OK;
- The next stored program will be displayed (e.g. Pr-001 OFF) - Press OK. to enter edition; in order to select the other program use ◀▶ cursors, to exit programming press ☉ or ☾;
- The last program is Pr-200 OFF.

PROGRAM VIEWING



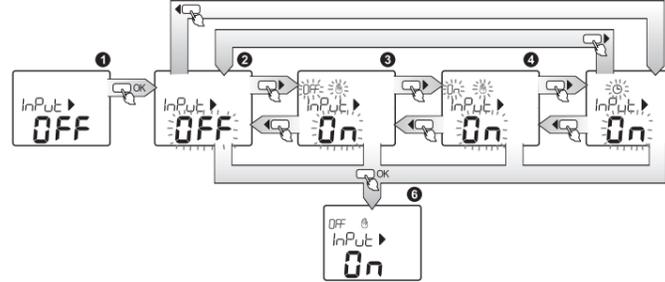
- PROGRAM VIEWING - viewing settings for the switching programs (On / OFF) i.e. months, days, hours, minutes; enter viewing with OK;
- + Day/month and hour/minute on/off is displayed alternately. In order to scroll the programs press successively cursors ◀▶; cursor ▶ increases the program number; ◀ cursor decreases the program no.;
- The programs are numbered in the form of ON / OFF (On / OFF) pairs, where every program may be treated independently; there are 400 programs (200 pairs On / OFF).

PROGRAM CANCEL / RESTORE



- PROGRAM CANCEL / RESTORE - the option is used during program setting and viewing for program cancelling (inactivation) and restoring; enter by pressing OK;
- With ◀▶ elect the program to be cancelled / restored;
- Press and hold OK for 3 seconds - if the program is active it will be cancelled (inactivated) and will not be checked during the timer operating in the automatic mode (however it will be saved in the storage and it will be possible to restore the program); horizontal lines will be displayed;
- In order to restore the cancelled program press OK (the saved settings will be displayed).

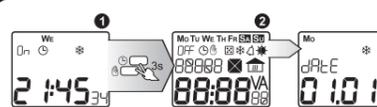
EXTERNAL INPUT SETTING



- InPUt ▶ - setting the unit mode after the IN external input triggering; enter edition by pressing OK; with ◀▶ cursors select an appropriate external input mode, where:
- ☾ the external input function is OFF;
- ☾ OFF - the manual mode with the relay continuous switch-OFF;
- ☾ On - the manual mode with the relay continuous switch-ON;
- ☉ - the automatic mode, the relay is being switched ON / OFF according to the preset programs;
- Acknowledge selection with OK; after acknowledgement the external input settings window will be entered.

It is possible to exit every sub-menu window in any moment without saving settings by pressing the button ☉ or ☾.

MAIN RESET



- In order to cancel the clock system (time, date, activity of given functions etc.) you should hold buttons ☉ and ☾ simultaneously in the main menu for 3 sec;
- All the display fields will light up;
- After a while, the clock will automatically set date and time.

Attention: In order to restore factory settings, you should additionally hold button OK