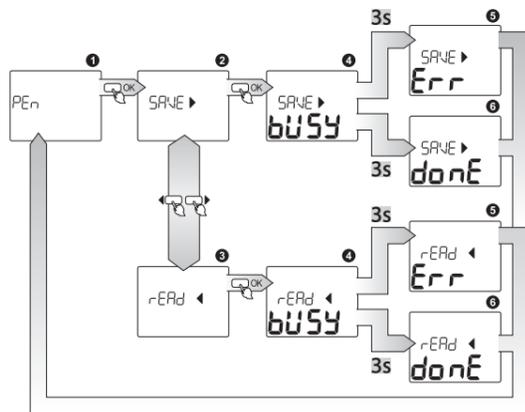## EXTERNAL MEMORY OPERATION*

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.

❶ PEn – sub menu to the external memory operation
❷ SAVE – programs recording
❸ rEAd – programs reading from the external memory and storage in the programmer's memory
❹ bUSY – the state of memory „busy" during a record / reading
❺ donE – correct record / reading
❻ Err – record /reading error

INNER DIAGRAM
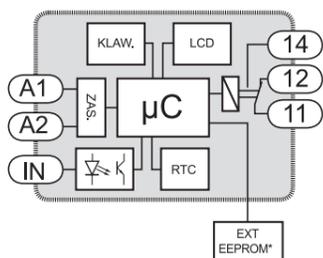
MOUNTING, OPERATION

1. Disconnect power supply by the phase fuse, the circuit-breaker or the switch- disconnector combined to the proper circuit.
2. Check if there is no voltage on connection cables by means of a special measure equipment.
3. Install the ZCM-22 on the TH 35 DIN rail in the switchboard.
4. Connect the cables with the terminals in accordance with the installing diagram.
5. Switch on the power supply from the mains.

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.

DIMENSIONS
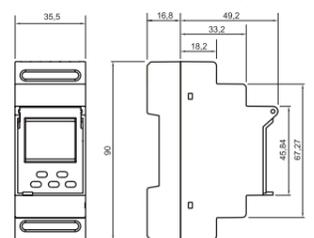
CONNECTION*

PRODUCT FAMILY

ZCM-22 Programmer belongs to ZCM family of products.
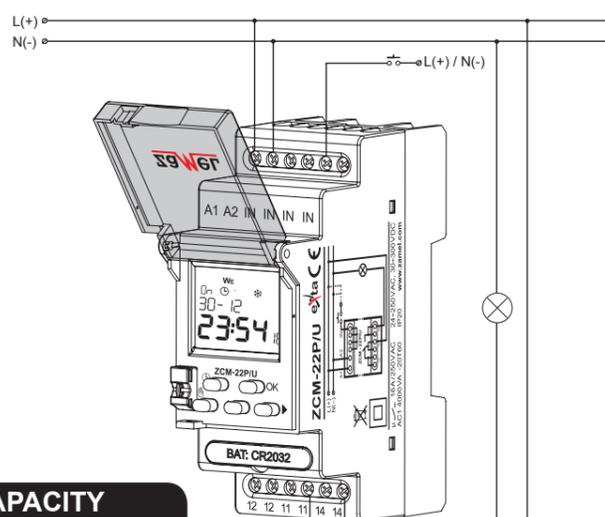
ZCM-xx/U

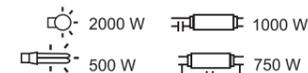|	
Power supply:	ZCM-xx - 230 V AC ZCM-xx/U - 24 ÷ 250 VAC 30 ÷ 300 V DC
Programmer type:	11 - week (1 channel) 12 - week (2 channel) 22 - weekly - year 31 - astronomical
Device type	

RELAY CAPACITY

2000 W   1000 W
500 W   750 W

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.zamel.com, e-mail: export@zamel.pl

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 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-module casing with a protection flap,
- additional control input IN,
- many programmes enabling various applications,
- LCD display illumination,
- mounted on TH 35 rail,
- a possibility to copy and read programs from the external memory*.
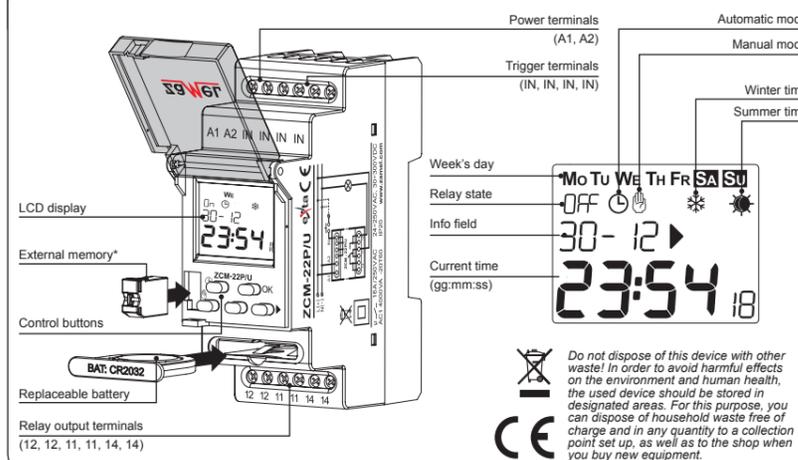

CAUTION

The device should be connected to a singlephase system according to current standards. The device connections will be described in this manual. Only qualified electricians are allowed to mount, connect and adjust the device. It is necessary to read this manual and know the unit functions before the device mounting. Do not disassembly the device casing or you will lose any warranty rights and expose yourself to the electric shock hazard. Before mounting operation make sure of disconnecting the connection wires from the electric network. Use a cross-head screwdriver of 3.5 mm diameter to mount the device. The relay should be carried, stored and used in an appropriate way. Do not mount the device in case of any device parts lack, damage or deformation. In case of malfunction please notify the manufacturer.

TECHNICAL DATA

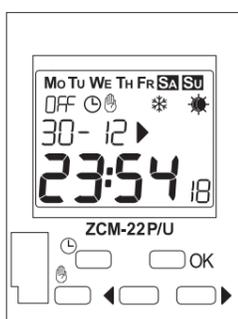| ZCM-22, ZCM-22P/U	
Power supply clamps:	A1, A2
Rated voltage:	ZCM-22: 230 V AC (-15 ÷ +10 %) ZCM-22P/U: 24 ÷ 250 V AC, 30 ÷ 300 V DC
Rated frequency:	50 / 60 Hz
Rated power consumption:	ZCM-22: 1,6 W /17 VA ZCM-22 P/U: 1,5 W /3 VA
Number of channels:	1
Program quantity:	400 (200 On/Off pairs)
Programme:	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 mm²
Temperature of work:	-20 ÷ +60 ºC
Position of work:	any
Fixing of casing:	TH 35 rail (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) 90x35x66 mm
Weight:	0,14 kg
Compatibility with norms:	PN-EN 60730-1; PN-EN 60730-2-7; PN-EN 61000-4-2,3,4,5,6,11

APPEARANCE*

OPERATING MODE CHANGE (AUTOMATIC, MANUAL)

❶ 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;
❺ ❻ Successive ⏱ pressing will force the relay state changeover without the op mode toggle.

❶ 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;
❷ ❸ Successive ⌚ key pressing will force the relay state change-over without the op mode toggle;

PROGRAM SETTING
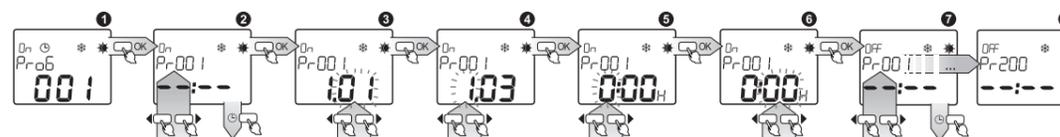
❶ Pro6 - defining ON-times and OFF-times for the given week's days for the given programs running in the automatic mode; messages on busy ON and OFF programs quantities are being showed alternatively in the current window: On OFF (e. g. 00); edition entering by pressing OK; the programs are numbered as pairs (On / OFF). Max programs quantity is equal to 200 On / OFF pairs;
❷ With ◀ ▶ ursors select a program (e.g. Pr 00 ! On) for its parameters editing and enter edition with OK;
❸ MONTH - with ◀ ▶ cursors select the month, acknowledge with OK;
❹ DAY - with ◀ ▶ cursors select the day, acknowledge with OK;
❺ The next stored program will be displayed (e.g. Pr 00 ! OFF) - Press OK. to enter edition; in order to select the other program use ◀ ▶ cursors, to exit programming press ⏱ or ⌚;
❻ The last program is Pr 200 OFF.

ATTENTION
If in mode of editing of minutes ❻ button POK will be pushed and hold for 3 s time programmer will go to edition of next programm where the field will be primarily filled with settings from previous programm. This is to shorten the programming time in case that the next programs follow after each other in short periods of time (for example the same month, day, hour, minute).

PROGRAM VIEWING
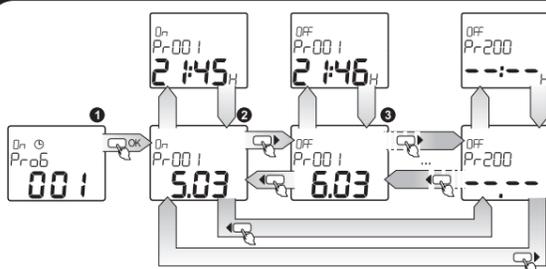
❶ PROGRAM VIEWING - viewing settings for the switching programs (On / OFF) i.e. hours, minutes; enter viewing with OK;
❷ ❸ In order to scroll the programs press successively cursors ◀ ▶; cursor ▶ increases the program number; ◀ cursor decreases the program no.;
❹ The programs are numbered in the form of ON / OFF (On / OFF) pairs, where every program may be treated independently; there are 400 programs (200 pairs On / OFF).

If the time programmer works in automatic mode then during checking the programs there is a possibility to proof which program will come as next one. This information is signalised by ⏱ icon next to this program.
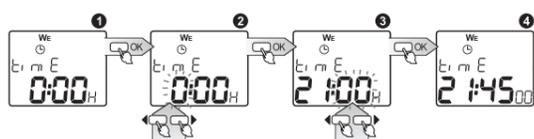
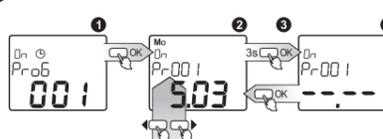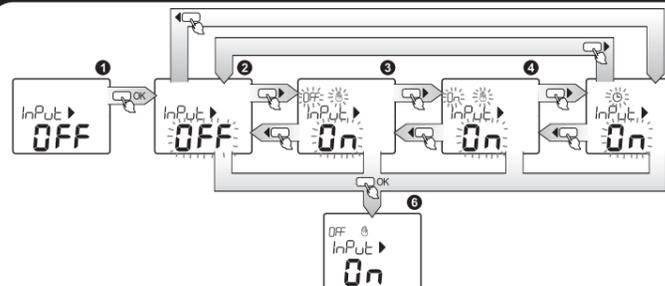**It is possible to exit every sub- menu window in any moment without saving settings by pressing the button ⏱ or ⌚.**

PROGRAM CANCEL / RESTORE

❶ PROGRAM CANCEL / RESTORE - the option is used during program setting and viewing for program cancelling (inactivation) and restoring; enter by pressing OK;
❷ With ◀ ▶ elect the program to be cancelled / restored;
❸ 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;
❹ In order to restore the cancelled program press OK (the saved settings will be displayed).

EXTERNAL INPUT SETTING

❶ 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:
❷ OFF - the external input function is OFF;
❸ ⌚OFF - the manual mode with the relay continuous switch-OFF;
❹ ⌚On - the manual mode with the relay continuous switch-ON;
❺ ⏱ - the automatic mode, the relay is being switched ON / OFF according to the preset programs;
❻ 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

❶ 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**;
❷ All the display fields will light up;
❸ After a while, the clock will automatically set date and time.