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ASTRONOMICAL PROGRAMMABLE CONTROL TIMER with night break

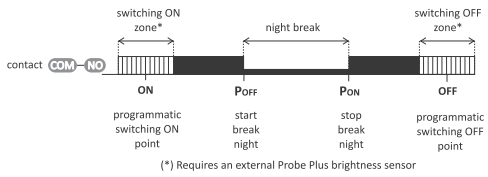
PCZ-525.3 PLUS

5 902431 673011

Do not dispose of the device to a garbage bin with other unsorted waste! In accordance with the Waste Electrical and Electronic Equipment Act any household electro-waste can be turned in free of charge and in any quantity to a collection point established for this purpose, as well as to the store in the event of purchasing new equipment (as per the old for new rule, regardless of brand). Electro-waste thrown in the garbage bin or abandoned in the bosom of nature pose a threat to the environment and human health.

1. Purpose

The PCZ-525.3 Plus astronomical clock is designed to switch on and off lighting or other electrical receivers according to the daily astronomical sunrise or sunset times calculated automatically based on the current date and the entered location of the controller. It is also possible to enter a fixed on/off time and define a night break during which the lighting will be switched off.
In combination with the external "Plus" probe brightness sensor the clock allows you to adjust the on/off moment according to the actual brightness level.



(*) Requires an external Probe Plus brightness sensor

2. Operating modes

2.1. AUTOMATIC MODE

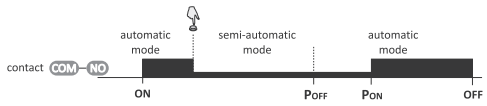
Automatic operation according to the preset programmed ON and OFF points. The clock allows for independent setting of switch-on and switch-off points according to the following criteria:
- sunrise or sunset;
- dawn or dusk (civilian dawn/ dusk);
- a constant shift in relation to sunrise and sunset (expressed in minutes or the position of the sun shield relative to the horizon);
- constant time.

Also, a night break between **POFF** and **PON** points can be set in the operating program during which the lighting will be switched off.
If an external brightness sensor of the "Plus" probe type is connected and activated, it is possible to specify an additional time interval around the switch-on points **ON** (Switch-on Zone) and switch-off points **OFF** (Switch-off Zone) in which the clock will analyze the actual brightness level and on this basis decide on an earlier or later switch-on/off. This makes it possible, for example, to switch the lighting on and off earlier in case of cloudy days.
Automatic operation is indicated by the clock symbol at the bottom left of the display.

For correct operation in automatic mode, it is necessary to correctly set the location, date, and time.

2.2. SEMI-AUTOMATIC MODE

Semi-automatic operation is the ability to manually switch the contact during automatic operation. The change will be effective until the next switching resulting from the automatic operation cycle. An example of how semi-automatic mode works is shown in the diagram below:



Switching between automatic and semi-automatic mode is done by pressing the external button connected to terminal 4 of the clock or by pressing the **"+"** or **"–"** button located on the facade of the clock. Semi-automatic operation is indicated by a blinking clock symbol at the bottom left of the display.

2.3. MANUAL MODE

In manual mode, the clock assumes a fixed on/off state set by the user by pressing the external button connected to terminal 4 of the clock, or by pressing the "+" or "–" button located on the facade of the clock. Manual operation is indicated by the switched off clock symbol.

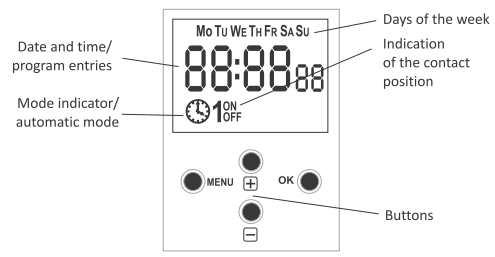
The status of the relay in manual mode is maintained in the non-volatile memory of the clock. This means that in the event of a power outage and return, the clock will restore the state of the relay from before the power outage.

3. Features

- 1-channel astronomical programmable control timer with night break;
- automatic transition between summer (daylight saving time) and standard time (with the ability to block the function in the event of a change in the applicable legislation);
- ability to connect an external brightness sensor to adjust the moment of lighting switching on and off;
- ability to connect an external button for manual control of the operation of the clock;
- backlit LCD for clock configuration and time and operating status indication;
- NFC WIRELESS COMMUNICATION – wirelessly read and write timer configuration from an Android phone equipped with the NFC module;
- PCZ CONFIGURATOR APP – free application for Android mobile phones and tablets equipped with the NFC module for wireless communication.

Features:
  - » timer configuration in offline mode (without the connection with the timer);
  - » coordinates settings by selecting the preset location (code coordinates), a direct indication of the location on a map on your phone or copying the current position recorded by the GPS in your phone;
  - » read and write the configuration of the controller;
  - » quick programming of multiple controllers using a single configuration;
  - » read and write the configuration from and to a file;
  - » sharing the configuration via e-mail, Bluetooth, network drives...
  - » identification of the connected timer and the ability to name individual devices;
  - » automatic backups of the configuration. Along with a unique identifier for each timer, user can easily restore previous configuration;
  - » set the time and date according to the clock in mobile phone.
- predefined lighting switch-on and off points:
  - » sunrise and sunset – the moment when the solar disc crosses the horizon,
  - » civilian dawn and dusk – the moment when, according to legal conditions, the lighting of, for example, streets should be switched off/on;
- ability to set your own switch-on/off point interpreted as a sunrise/sunset shift by:
  - » preset time (within ± 180 minutes).
  - » preset position of the center of the solar disc (within ±15°);
- ability to set the width of the time zone (in relation to the program switch-on/off point) in which the moment of switch-on will be determined by the brightness level measured by the "Plus" probe sensor;
- location table – the geographical coordinates of more than 1,500 localities from 51 countries of the world are encoded in the memory of the timer, allowing you to precisely select the location of the timer and ensure high accuracy of the position of the sun calculation;
- a preview of the switch-on and switch-off points and location information – if the timer operates in automatic mode, then in the date preview mode the successive presses of the Up/Down buttons will display information about the current time, the actual switch-on and switch-off times of the relay and about the set location (geographical coordinates are displayed) and the UTC zone;
- LCD configuration – ability to set the backlight level (separately for standby and button-pressed condition) and display contrast;
- relay state memory – the relay state in manual mode will be stored in the read-only memory of the relay at the time of a power outage and will be restored when the power returns;
- 2032-type replaceable battery – the controller is equipped with control of the battery status that maintains the timer operation in case of main power failure. If the battery is low, you will be notified if it needs to be replaced;
- clock frequency correction – the ability to freely accelerate/slow the clock operation. For example, if, over time, the controller starts to be 5 seconds late per month, this deviation can be corrected.

4. Display and control panel description



4.1. DAYS OF THE WEEK

MO – Monday; **TU** – Tuesday; **WE** – Wednesday; **TH** – Thursday; **FR** – Friday; **SA** – Saturday; **SU** – Sunday.

4.2. OPERATION MODE INDICATOR

MANUAL MODE – no clock icon,
AUTOMATIC MODE – lighted clock icon,
SEMI-AUTOMATIC MODE – flashing clock icon.

4.3. CONTACT POSITION INDICATION

- OFF – relay off, closed connection between COM (terminal 1) and NC (terminal 5) contacts,
- ON – relay on, closed connection between COM (terminal 1) and NC (terminal 6) contacts.

4.4. BUTTONS

MENU
- enter the program menu
- return to the previous position (back).

OK
- move to the next setting
- accept setting
- preview of the date and the scheduled points of switch on/off and the location;

"+" [UP]
- While displaying the home screen:
  - » in automatic mode – switching on/off semi-automatic mode and switching the contact;
  - » in manual mode: permanent on and off contact switching.
- In parameter edit mode:
  - » changing the setting state by "+1" in the selected programming position (holding down the button changes the setting by "+1" continuously in the loop).

"–" [DOWN]
- While displaying the home screen:
  - » in automatic mode – switching on/off semi-automatic mode and switching the contact;
  - » in manual mode: permanent on and off contact switching.
- In parameter edit mode
  - » changing the setting state by "-1" in the selected programming position (holding down the button changes the setting by "-1" continuously in the loop).

5. Operation

Connect the power supply. The timer will start its operation from the main screen displaying the current time and information on the operating mode and switch-on/off of the output relay.

- From the home screen, you can monitor and configure the operation of the device.
- Pressing the **MENU** button displays the menu of the controller that allows you to configure the clock.
- Pressing the OK button displays the set date. In addition, after pressing the **OK** button in automatic mode, by pressing the **UP** or **DOWN** buttons you can display the subsequent details of the timer: the set date, the location of the controller (longitude and latitude), the points of lighting switch-on and off.

In the case of operation with an active outdoor light sensor, the switch-on and switch-off points are approximate and indicate at what time it will be switched on/off in the case of the currently measured brightness level.

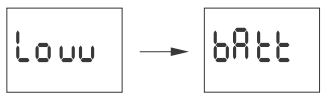
- Pressing the **UP/DOWN** button: When operating in automatic mode, the timer switches to the semi-automatic mode and switches the contact to the opposite position. This state will be maintained until the next program switching point occurs.
- During manual operation, the relay contact is permanently switched to the opposite position.

The status of the relay in manual mode is maintained in the non-volatile memory of the clock. This means that in the event of a power outage and return, the clock will restore the state of the relay from before the power outage.

The clock can also be controlled via an external momentary button connected to terminal 4. Short press (<1 s) of the external button has a similar function to the **UP/DOWN** button pressing described above. Long press (>2 s) of the external button, when operating in automatic or semi-automatic mode, forces the clock to return to automatic mode.

In specific cases, additional messages may appear on the screen to inform about errors or requiring user intervention.

5.1. LOW BATTERY

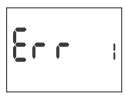


The **LOW BATT** message indicates that the battery backup clock is too low after a power outage. In this case, battery replacement is recommended.
The user can replace the battery by himself with a new, type 2032 lithium coin cell battery.
The low battery level is no obstacle during normal clock operation.
However, if the clock is not powered, it may result in loss of date and time settings.

All settings, except for time and date, are saved in non-volatile memory and are not lost in the event of a power outage and low battery.

Under proper operating conditions, a new, charged battery is sufficient for approx. 6 years of operation. Low temperatures or long periods of operation without AC power can shorten this period.

5.2. DEVICE ERROR



Internal PCZ timer error indication. The error may be caused by external interference, configuration error, or it may indicate a controller failure.

If the message Err ... appears, turn off the power supply of the timer, wait about 10 seconds and turn the power on again. If the error is repeated, please contact the service.

6. Configuration

The operation of the timer can be configured using the timer control panel and the configuration menu, or via the PCZ Konfigurator app for Android mobile devices equipped with NFC communication module.

6.1. DATA

Press MENU. The timer will enter program menu.
Using the **+/–** buttons select the date setting mode **DATE**.

Confirm with **OK**. Timer will show settings for the next parameters: year, month, and day. Use the **+/–** keys to set the parameters; move to the next parameter with the **OK** button. Go back to the previous item by pressing **MENU**.

The day of the week is set automatically based on the year, month and day you entered.

Press **OK** to accept date setting. The timer will automatically exit from the date setting mode and go to the program menu
Choosing a date means that the correct time is also set at the same time: standard (winter) or summer (daylight saving time).

The automatic time change can be turned off.
More information see section 6.7.1.

6.2. HOUR

Press **MENU**. The timer will enter the program menu.
Using the **+/–** buttons select the mode for time setting **HOUR**.

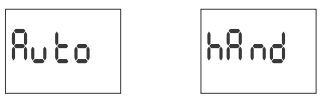
Confirm with **OK**. Timer will show settings for the next parameters: hour and minutes. Set the parameters with the **+/–** buttons. Move to the next parameter with the **OK** button. Go back to the previous item by pressing **MENU**.

Press **OK** to accept time entry. The timer will automatically exit from the date setting mode and go to the program menu.

6.3. OPERATION MODES

Press **MENU**. The timer will enter program menu.
Using the **+/–** buttons select the mode for time setting **MODE**.

Select operation mode using the **+/–** buttons.



AUTO – automatic mode
HAND – manual mode
Press **OK** to accept. The timer will automatically exit from the date setting mode and go to the program menu.

6.4. LOCATION

Setting the correct location of the timer is one of the key elements responsible for the operation of the astronomical clock and the correct calculation of sunrise and sunset times.

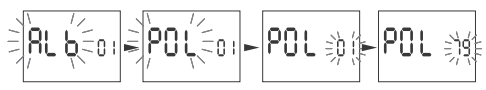
Press **MENU**. The timer will enter program menu.
Using the **+/–** buttons select the mode for time setting **LOCATE**.

- **LIST** – select location from the list of coordinate codes,
- **USER** – manual setting of the user geographical position and time zone.

Press **OK** to accept

6.4.1. SELECTING A LOCATION FROM THE LIST

Check the table of coordinate codes located at the diagram of programming.
Find the country and the city closest to your location and the corresponding code.
The timer will enter country selection menu. Using the +/– buttons select the country. Accept by pressing OK. The timer will enter the coordinate code selection. Using the +/– buttons select desired code from the list. Press OK.



The timer will automatically go to the location settings menu.
Pressing the **MENU** button will move you to a higher level.

After selecting a location from the list of locations, there is no need to write common geographical ordinates. The full list of locations (writed in timer memory) you find from the product subpage on www.fif.com.pl. Scan QR code below.

6.4.2. MANUAL LOCATION SETTING

When you select a manual location setting, prepare the correct set of coordinates: latitude and longitude and the time zone related to UTC.

6.4.2.1. LATITUDE

When the User option is selected (see 6.4), the timer will move to the latitude setting, where, using the **+/–** buttons, you will be able to sequentially set:
- N – northern hemisphere;
- S – southern hemisphere;
- latitude in degrees and minutes of arc.

Switch to editing the next latitude element by pressing the **OK** button. Return to the previous position by pressing the **MENU** button.
Pressing the **OK** button after setting the minutes moves the program to the longitude setting.

6.4.2.2. LONGTITUDE

Ustawienie długości geograficznej wprowadzenia kolejno, za pomocą przycisków **+/–** parametrów:
- E – półkula wschodnia;
- W – półkula zachodnia;
- długość w stopniach i minutach kątowych.

6.4.2.3. TIME ZONE

Setting the selected time zone t is done with the **+/–** buttons. Large digits indicate hours, small digits – minutes. A single push of the button moves the zone by 30 minutes.

For Poland, set up a time zone +1

Confirm the location setting by pressing the **OK** button – the timer will automatically go to the **LOCATE** menu. Pressing **MENU** will return to longitude editing.

6.5. PROGRAM ON/OFF POINTS AND NIGHT BREAK

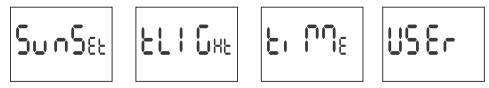
The PCZ-525.3 Plus timer allows you to define 4 independent switch-on and switch-off points:
- ON – controls the moment the light is switched on in the evening;
- POFF – the beginning of the night break, which is the period in the middle of the night when the light is to be switched off;
- PON – the end of the night break, which is the moment from which the light in the morning is to switch on again;
- OFF – controls the moment the light is switched off in the morning.

The entered night interruption times are a permanent pair that executes switching on and off of the contact. They are treated as single commands and are executed according to the chronology of the set time.

6.5.1. SWITCH ON

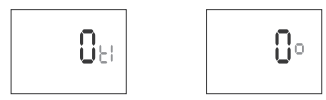
Press **MENU**. The timer will enter program menu.
Using the **+/–** buttons select the mode for time setting **ON.**

Use the **+/–** buttons to select the correct moment of activation:



- **SUNSET** – astronomical sunset
- **TLIGHT** – civil twilight
- **TIME** – setting of the "rigid" hour of the switching on that is independentfrom the sunset
- **USER** – ustawienia użytkownika.

The switch-on time in the user settings is set as a shift of the switch-on point in relation to the sunset time. When selecting the **USER** option, first of all, you should choose whether the switch-on time shift in relation to sunset will be expressed as time (ti) or as the angular position of the sun disc (°). Confirm the selected unit by pressing the OK button and then, using the **+/–** buttons, enter the numerical shift value (within ±180 minutes for the time shift or ±15° for the sun angle position shift).



Due to the different length of dawn/dusk depending on the season of the year and latitude, it is recommended to adjust the correction to the position of the center of the sun disc (°) to ensure switch-on/off at a similar brightness level.

Confirm selected setting by pressing the **OK** button, the timer will then return to display the **ON** menu.

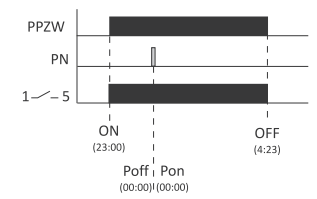
When operating with the external light sensor switched on, the **ON** switch-on point is approximate, as the actual moment of switch-on will depend on the set width of the operating zone of the **TLIGHT** brightness sensor (6.6.3) and will be, depending on the brightness level (6.6.4 and 6.6.5), between (**ON** – **TLIGHT**) and (**ON** + **TLIGHT**).

6.5.2. POFF (BEGINNING OF THE NIGHT BREAK)

Press the **MENU** button. The clock will enter the program menu. Press the **+/–** buttons to select the **POFF** setting.

Confirm your selection by pressing **OK**. Use the **+/–** buttons to set the hour first and then the minute at which the night break should start. Confirm the edited value by pressing the **OK** button.
After confirming the minute, the clock will return to display the **POFF** menu. Return to the previously edited value by pressing the **MENU** button.

Setting the beginning and end of the night break to the same time blocks the activation of the night break, as shown in the diagram below:



PPZW – program points of switching on and off
PN – night break

6.5.3. PON (END OF THE NIGHT BREAK)

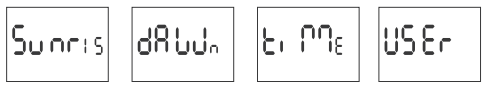
Press the **MENU** button. The clock will enter the program menu. Press the **+/–** buttons to select the **PON** setting.

Confirm your selection by pressing **OK**. Use the **+/–** buttons to set the hour first and then the minute at which the night break should end. Confirm the edited value by pressing the **OK** button.
After confirming the minute, the clock will return to display the **PON** menu. Return to the previously edited value by pressing the **MENU** button.

6.5.4. SWITCH OFF – SUNRISE)

Press **MENU**. The timer will enter program menu.
Using the **+/–** buttons select the mode for time setting **OFF**.

Press **OK** to accept. The timer will enter to the switch option selection (**SUNRISE/DAWN/TIME/USER**).
Select mode using the **+/–** buttons



- **SUNRIS** – astronomical sunrise
- **DAWN** – civil twilight
- **TIME** – setting of the "rigid" hour of the switching on that is independent from the sunset;
- **USER** – user settings.

The switch-off time in the user settings is set as a shift of the switch-off point in relation to the sunrise time.
For a description of the setting, see 6.5.1.
Confirm selected setting by pressing the **OK** button, the timer will then return to display the **ON** menu.

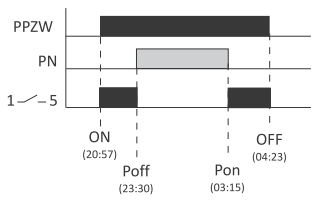
When operating with the external light sensor switched on, the **OFF** switch-on point is approximate, as the actual moment of switch-off will depend on the set width of the operating zone of the **TLIGHT** brightness sensor (6.6.3) and will be, depending on the brightness level (6.6.4 and 6.6.5), between (**OFF** – **TLIGHT**) and (**ON** + **TLIGHT**).

6.5.5. SCENARIOS

The following are examples of settings combinations for some of the most common applications of the PCZ-525 clock.

6.5.5.1. NIGHT BREAK

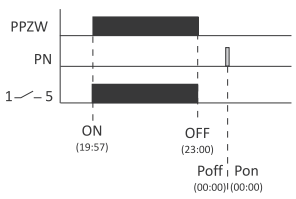
In this case, the light is switched on in the evening (according to the astronomical settings), in the middle of the night (from the preset time to the preset time) the light is switched off and then on again until morning. The operating diagram for this case is shown in the following figure:



PPZW – program points of switching on and off
PN – night break
Settings:
- Set the evening switch-on time of the lighting with the **ON** parameter. If the light is to be switched on at the desired sun position in relation to the horizon, select **SUNSET**, **TLIGHT** or **USER** (6.5.1).
- The beginning of the night break (the time when the light switches off at night) should be set using the **POFF** parameter (6.5.2).
- The end of the night break (the time when the light switches on again before dawn) should be set using the **PON** parameter (6.5.3).
- The morning light switch-on time should be set using the **OFF** parameter. If the light is to be switched on at the desired sun position in relation to the horizon, select **SUNSET**, **TLIGHT** or **USER** (6.5.4).

6.5.5.2. SWITCHING ON IN THE EVENING AND SWITCHING OFF AT THE PRESET TIME

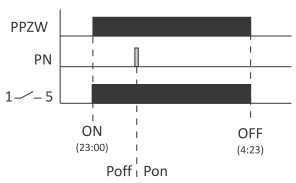
The lighting is to be switched on in the evening and switched off at a certain fixed time.



PPZW – program points of switching on and off
PN – night break
Settings:
- **ON** – if the light is to be switched on at the desired sun position in relation to the horizon, select **SUNSET**, **TLIGHT** or **USER** (6.5.1);
- **P ON** = **P OFF** = **0:00** – night break disabled (6.5.5.2 and 6.5.5.3);
- **OFF** – select the option to switch off at a fixed time **TIME** and then enter the time at which the switch off is to take place (6.5.4).

6.5.5.3. SWITCHING ON AT THE PRESET TIME AND SWITCHING OFF IN THE MORNING

The lighting switches on at a fixed, selected time and switches off in the morning.

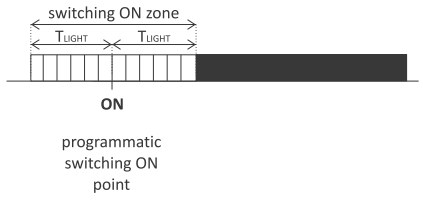


PPZW – program points of switching on and off
PN – night break
Settings:
- **ON** – select the option to switch off at a fixed time **TIME**, and then enter the time at which the switch off is to take place.
- **P ON** = **P OFF** = **0:00** – night break disabled (6.5.5.2 i 6.5.5.3)
- **OFF** – if the light is to be switched off at the desired sun position in relation to the horizon, select **SUNRIS**, **DAWN** lub **USER** (6.5.4).

6.6. BRIGHTNESS SENSOR

An external brightness sensor of the "Plus" probe-type can be connected to the PCZ-525.3 Plus clock (to terminals 7 and 8). The use of an element that measures the actual brightness level allows adjusting the moment of switching on/off the lighting to actual conditions. And so, for example, on a dark and cloudy day, the switching-on should take place earlier and the switching-off later directly resulting from the position of the sun and astronomical calculations.
To properly configure the connected brightness sensor, set the following parameters:
- Switch on the sensor (6.6.2);
- Determine the **TLIGHT** time zone around the programmed switching points where brightness measurement will be taken into account (6.6.3);
- Set the brightness level below which the lighting can be switched on (6.6.4);
- Set the brightness level which, if exceeded, will switch off the lighting (6.6.5).

The operating principle is shown in the diagram below:



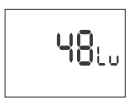
If in the selected switching zone the measured brightness level drops below the value set in parameter 6.6.4, switching-on will take place before the **ON** time. If the measured brightness level is greater than the value set in parameter 6.6.5, switching-on will take place after the **ON** time.
To enter the brightness sensor configuration menu, press the **MENU** button. The clock will enter the program menu. Press the **+/–** buttons to select the **SENSOR** setting.

6.6.1. BRIGHTNESS LEVEL READING

A parameter that allows you to read the brightness level measured by the sensor connected to the clock.
To display the parameter, enter the **SENSOR** menu, then select the **LU** option using the **+/–** buttons and confirm the selection by pressing the **OK** button.

The indication on the display can now take one of three forms: brightness sensor off, no reading

Measured brightness level [lx]



Exceeding the acceptable measuring range of the transmitter

Since the brightness measurement is carried out with a photoresistor, its accuracy may be relatively low. Therefore, when setting the brightness level for switching on (6.6.4) and off (6.6.5) the values measured by the PCZ should be used.

6.6.2. SENSOR ACTIVATION

To enter the brightness sensor activation option, enter the **SENSOR** menu, then select the **ON-OFF** option using the **+/–** buttons and confirm the selection by pressing **OK**.

Use the **+/–** buttons to select the appropriate option: **LS ON** – sensor on, **LS OFF** – sensor off.
Confirm your selection by pressing **OK**.

Activation of the sensor when it is not physically connected to the clock will be interpreted as a very low level of brightness and will each time cause the light to be switched on earlier and then switched off late.

6.6.3. SWITCH-OFF ZONE

TLIGHT time before and after the programmed switching points, which will take into account the brightness level to speed up or delay the switching-on time.
To enter the switch-off zone length setting, enter the **SENSOR** menu, then select the **TIME** option using the **+/–** buttons and confirm the selection by pressing **OK**.

Use the **+/–** buttons to set the desired width of the switch-on zone and confirm the selection by pressing the **OK** button.

6.6.4. BRIGHTNESS LEVEL FOR SWITCHING-ON

Brightness level **LU ON** [lx] below which the speed-up of the light switching-on and the delay of the light switching-off will occur.
To set the value of the **LU ON** parameter, enter the **SENSOR** menu, then select the **LU ON** option using the **+/–** buttons and confirm the selection by pressing the **OK** button.

Use the **+/–** buttons to set the desired brightness level and confirm the selection by pressing the **OK** button.

The brightness level can be set in the range of 2÷500 lx.
The **LU ON** < **LU OFF** condition must always be met.

6.6.5. BRIGHTNESS LEVEL FOR SWITCHING-OFF

Brightness level **LU OFF** [lx] above which the delay of the light switching-on and the speed-up of the light switching-off will occur.
To set the value of the **LU OFF** parameter, enter the **SENSOR** menu, then select the **LU ON** option using the **+/–** buttons and confirm the selection by pressing the **OK** button.

Use the **+/–** buttons to set the desired brightness level and confirm the selection by pressing the **OK** button.

The brightness level can be set in the range of 2÷500 lx.
The **LU ON** < **LU OFF** condition must always be met**.**

6.7. SYSTEM SETTINGS

The system settings menu contains a group of parameters designed to configure auxiliary controller parameters. To enter the system settings, press the **MENU** button, then use the **+/–** buttons to select **SYST** and confirm the selection by pressing **OK**.

6.7.1. AUTOMATIC TIME CHANGE

In Poland, according to the current law, there is a change of time from standard to summer time (**DST**) on the last Sunday of March at 2.00 a.m. (by adding 1 hour to the current time).
The change of time from summer to standard time is made on the last Sunday of October at 3.00 a.m. (by subtracting 1 hour from the current time).
In the PCZ-525.3 Plus timer, the automatic time change function (**DST**) is enabled by default. To change the settings of the **DST** mode, select the **SYST** menu (6.7), then select **DST** with the **+/–** buttons and confirm the selection with the **OK** button.

With **+/–** keys select desired mode::

- **AUTO** – with automatic time change;
- **OFF** – without automatic time change.

Confirm selected option by pressing **OK**.
To exit the parameter without saving the changes, press the **MENU** button.

6.7.2. BATTERY CHARGE INDICATOR

The clock includes checking the battery charge status.
To check the battery level, enter the **SYST** (6.7), then use the **+/–** buttons to go to **BATT** and confirm by pressing **OK**.

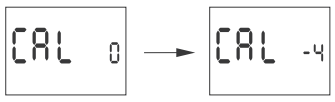
The clock will display information about battery charge level:

- **HIGH –** fully charged, new battery
- **GOOD –** in good condition, provides long-term operation
- **LOW –** low battery level, recommended replacement
- **EMPTY –** discharged, it must be replaced immediately

6.7.3. SYSTEM CLOCK TIME ADJUSTMENT

If you notice that the time is measured incorrectly by the timer, you can correct it yourself. To do this, you first need to estimate the error of time measurement in seconds on a monthly scale. Next press **MENU** button and go to **SYST** (p. 6.7).
Using **+/–** select **CAL** parameter and confirm **OK**.

Using **+/–** select desired correction value.
For example:
If the clock is fast 4 seconds per month, set the parameter value -4.



Confirm by pressing **OK**, to exit edit mode without making any changes – **MENU** button.

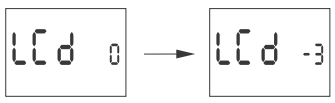
The operation of the timer is based on a quartz resonator, the natural feature of which is aging causing a change in the resonance frequency and thus reducing the accuracy of time measurement.

6.7.4. DISPLAY

6.7.4.1. CONTRAST

Contrast setting allows you to adjust the display method to the location of installation – liquid crystal displays have a low viewing angle and by modifying the contrast level, you can ensure that the digits are correctly visible from the top (high contrast setting), front and bottom (low contrast setting).
To change the contrast, enter the **SYST** menu (6.7) and then use the **+/–** buttons to select **CONTR**. Confirm your selection by pressing **OK**..

Using **+/–** select contrast parameter.



A preview of the changes is visible already during editing. To confirm the changes, press the OK button, to exit the edit mode without making changes – press the **MENU** button.

6.7.4.2. BACKLIGHT (ACTIVE)

Each time you press a button on the panel of the controller, the backlight of the display gently brightens to the active level.
To set the brightness level for active backlight, enter the **SYST** menu (6.7) and use the **+/–** buttons to select **LCD ON**.
Confirm your selection by pressing **OK**.

Use the **+/–** buttons to set the required brightness level.

The preview of changes is already visible during editing. To confirm the changes, press the **OK** button. To exit the edit mode without making changes - press the **MENU** button.

The display remains active for 60 seconds from the last press of the button.

6.7.4.3. BACKLIGHT (STANDBY)

The standby backlight level is maintained throughout the entire operation of the clock (except when the button on the facade is pressed).
To set the brightness level of the backlight in standby mode, enter the **SYST** menu (6.7) and use the **+/–** buttons to select **LCD ON**.
Confirm your selection by pressing **OK**.

Use the **+/–** buttons to set the required brightness level..

The preview of changes is already visible during editing. To confirm the changes, press the **OK** button. To exit the edit mode without making changes – press the **MENU** button.

6.7.5. SYSTEM INFORMATION (INFO)

Information about the device type and software version are available in the **INFO** menu. To display them, enter the **SYST** menu (6.7), use the **+/–** buttons to select **INFO**. Confirm by pressing **OK**.

Using +/– select required parameter:

To exit the parameter, press the **MENU** button.

7. Technical data

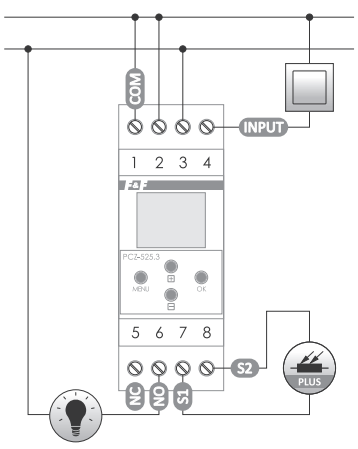
power supply	24÷264 V AC/DC
maximum load current (AC-1)	16 A
contact	separated 1×NO/NC
backup time clock operation	6 years*
battery type	2032 (lithium)
backup time display operation	none
accuracy of the clock	1 s
error time	±1 s/ 24 h
power consumption	1.5 W
terminal	2.5 mm² screw terminals (cord) 4.0 mm² screw terminals (wire)
tightening torque	0,5 Nm
working temperature	-20÷50°C
dimensions	2 modules (35 mm)
mounting	on TH-35 rail
protection level	IP20

* battery life addicted to weather coditions and frequency of mains failure

8. Installation

1) Turn off the power.
2) Mount the timer on the TH-rail in the distribution box.
3) Connect wires according to the diagram.
4) Connect receivers according to the diagram.
5) Set the correct date (see section 6.1.) and hour (see section 6.2.).
6) Perform clock software configuration.

9. Connection scheme



1	COM contact input
2-3	timer power supply
4	ON/OFF button
5	NC contact output ("standard closed" position)
6	NO contact output ("standard opened" position)
7-8	brightness sensor

10. Table of location codes

1	Albania	27	Italy
2	Armenia	28	Lichtenstein
3	Austria	29	Lithuania
4	Azerbaijan	30	Luxembourg
5	Belgium	31	Latvia
6	Bulgaria	32	Macedonia
7	Bosnia and Hercegovina	33	Monaco
8	Belarus	34	Moldova
9	Kazakhstan	35	Malta
10	Kyrgyzstan	36	Mongolia
11	Switzerland	37	Holland
12	Cyprus	38	Norway
13	Czech Republic	39	Poland
14	Danmark	40	Portugal
15	Germany	41	Romania
16	Spain	42	Russia
17	Estonia	43	San Marino
18	Finland	44	Serbia
19	France	45	Slovakia
20	Great Britain	46	Slovenia
21	Georgia	47	–
22	Greece	48	Sweden
23	Croatia	49	Tajikistan
24	Hungary	50	Turkmenistan
25	Ireland	51	Ukraine
26	Iceland	52	Uzbekistan

11. CE declaration

F&F Filipowski sp. j. declares that the device is in conformity with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.
The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at www.fif.com.pl on the product page.

12. Programming scheme

The programming scheme for the timer is available for download on the product's subpage. Website address: www.fif.com.pl.

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13. PCZ Konfigurator app

PCZ Konfigurator app available for download on website address: www.fif.com.pl.

Application available on:

https://play.google.com/store/apps/details?id=pl.com.fif.clockprogramer

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