PCZ-525.2 (Z)

PROGRAMMABLE CONTROL TIMERS
astronomic type

CE

5 908312 596219

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PURPOSE

Astronomical control timers is as for enclosing and switching off of illumination or according to other electric receivers 24 hours, astronomical points of west and sunrise
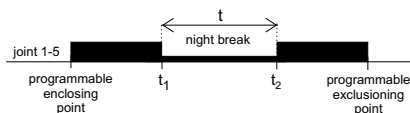
ATTENTION!

It touches east and they are defined sunset as moment, when it touches center of sunny disk horizon it (parameter h = - 0,583 °). Deviation of row several minute commits from the point of view of simplification of account relatively to data by indicated „HM Nautical Almanac Office".

DESCRIPTION OF WORK AND FUNCTIONS

AUTOMATIC WORK - according to program points of enclosures and switching off joint [sign ♦ on the left of display]
HANDIWORK- [ON] - enduring connection of joint (position1-5) or **[OFF]**- enduring switch off joint (position 1-6) by activated AUTOMATIC WORK [lack of sign ♦ on the left of display]
PROGRAMMABLE POINT OF ENCLOSURE - time of enclosure in foothold about astronomical point of sunset indicated joint (position 1-5) and HOUR SLIP by user program and TIME CORRECTION.
PROGRAMMABLE POINT OF EXCLUSION- time of exclusion in foothold about astronomical point of sunset indicated joint (position1 -6) and HOUR SLIP by user program and TIME CORRECTION.
CONFIGURATION - application of LOCALIZATION and assignment of POINT OF PROGRAM ENCLOSURE and EXCLUSION
LOCALIZATION - application of CODE COORDINATES or manual optional setups geographic coordinates (for CODE COORDINATES 86 - SITE USER)
COORDINATES CODE - for detailed cities assign city geographic facilitating inscription localization (coordinates and assign serve codes in table memorial)
HOUR SLIP - assignment of geographic time zone in range ±1÷12 relatively to universal time greenwich UT (00). For poland + 1 hour. Points of time east and sunset they undergo parallel slip about served value .
TIME CORRECTION - acceleration or delay of time of enclosure or relatively to astronomical time points of east exclusion (switching off) and sunset. Setups in range ±99min for point of west and sunrise are performed in apart.
DST - Daylight Saving Time - global name of summer time (free translation time of winning sunny light). Function enabling exclusion automatic change time.

FUNCTIONING

The astronomical timer activates and deactivates a device at certain hour, i.e. at sunrise and sunset. Should more settings that are precise be required for locations of different geographical co-ordinates, there is an option to set a given longitude and latitude or select a special code which entails automatic setting of these co-ordinates for a given place in Europe (list of locations and their codes may be found in the manual). Time points of enclosing and exclusion are set by user by HOUR SLIP MODE or TIME CORRECTION MODE it means , posible is speed up or delay a programmable time points of enclosing or exlusioning for sunrise and sunset. Posible is programming a night break between enclusion and exclusion programming points (take off the power for hour to austerity energy).

TECHNICAL DATA

supply	24÷264V AC/DC
current load	<16A
contacts	1P
display maintenance time	non
timer maintenance time	6 years
indication accuracy item	1sec
time deviation	±1s/24h
schedule time accurancy item	1min
corection activation and deactivation time	±0÷99min
power consumption	1,5W
working temperature	-20÷50°C
connection	screw terminals 2,5mm,
dimensions	2 modules (35mm)
fixing	on the rail TH-35

WIRING DIAGRAM

Chanell 1:
    joint 1-5 "ENCLOSE" [ON]
    joint 1-6 "EXCLUSION" [OFF]
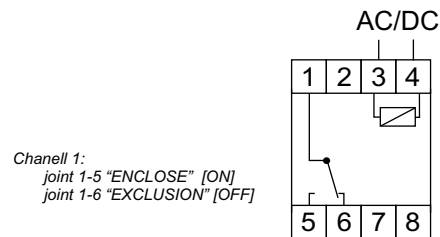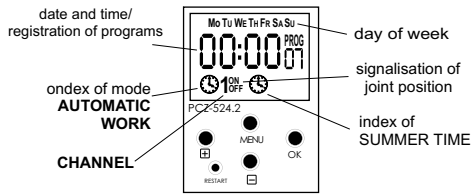
ASSEMBLY

1. Take OFF the power.
2. Put on the control timer on the rail in the switchgear box.
3. Connect the power cables with wiring diagram.
4 Connect the recuivers with wiring diagram.
5.Set a correct date (see p1) and time (see p3)
6.Set to user configuration (see p4)

DESCRIPION OF DISPLAY AND PANEL STEERING

date and time/ registration of programs

day of week

ondex of mode **AUTOMATIC WORK**

signalisation of joint position

index of SUMMER TIME

CHANNEL

PCZ-524.2

Mo-monday;Tu-tuesday; We-wednesday;Th-thursday;Fr-friday; Są-saturday; Su-sunday

DESCRIPTION OFF BUTTONS FUNCTION

MENU:
- passing from **AUTOMATIC WORK** to **HANDIWORK** and inversely (preeser <2sec)
-passing in **CONFIGURATION** mode (preeser >3sec). Time must be in **AUTOMATIC WORK** mode
- acceptance of settings **DATE, TIME AND DST** and the rest of settings of **CONFIGURATION** mode.

OK:
- approve of registration and passage to next position
- to peep settings podgląd ustawień **PROGRAMMABLE POINTS OF ENCLOSURE AND EXCLUSION**

+:
- change setting position by +1 in choosen programable position (preesing a button make intennsive changes in settings by +1 in loop)
- in **HANDIWORK** mode:permanent enclosure **ON** and exclusion **OFF** a joint
- in **AUTOMATIC WORK** mode:to peepsertting of date (dd-mm-yy)
-:- change setting position by +1 in choosen programable position (preesing a button make intennsive changes in settings by +1 in loop)

ATTENTION! Change from winter time to summer time and inversely is make automaticly. Choose a date definite a time(winter time or summer tim).
SUMMER TIME- added a sign ⏱ on the right side of display
WINTER TIME- lack a sign ⏱ on the right side of display
ATTENTION! Posible is turn OFF automatic function of change a time (see p.4).

3. TIME

Changes of time (hour;minute) make by prees MENU >3sec.
ATTENTION! Changes of TIME mode are previoused by checking or changing a date (see p2.1)
3.1 Timer pass to setting mode of minutes.

By buttons +/- set to minutes and enter OK.

RESET:
- to reset a processor - in case of hook-up of function of work indispensable of timer. It does not erase setups of dates and time and registration settings.
-+ MENU ("hard" reset) simultaneously prees:
- delete of all settings of date and time and all registration from memory (preesing >3sec two buttons simultaneously).

PROGRAMMING

1. START
1.1 Take on the POWER
1.2 Timer stereted count time from hour. 00:00
ATTENTION! If after took the power timer show another time and date then it means, in memory timer are earlier setting.

1.3 In order to change of settings, preesing MENU >3sec.(see p2.1)
ATTENTION! If timer have got in memories earlier settings, they could be deleted by "hard" reset (-+ MENU simultaneously prees >3sec.).
ATTENTION! All earlier configuration will be delete . Timer autoamticly go to setting mode of date (see 2.1).

2. DATE

Prees a button MENU >3sec.
2.1 Timer pass to setting mode of year.

By buttons +/- set actual year and enter OK.

2.2 Timer pass to setting mode of month.

By buttons +/- set actual month and enter OK.
2.3 Timmer pass to setting mode a day of month.

By buttons +/- set to actual day of month
*by button OK pass to configuration mode of hour (see p3.1)
*by button MENU accept to registry and out of programming mode.

3.2 Timer pass to setting mode of hour.

By buttons ↑/ⅢⅬ set a hour.
*By button OK enter a hour .Timer automaticly pass to configuration mode of DST (see p4.1)
*By button MENU accept all of registry and out of programming mode.

4. DST - automatic change of time winter/summer.

Changes in option DST prees MENU >3sec.
ATTENTION! Changes of DST mode are previoused by checking or changing a date (see p2.1) and time (see p3.1).
4.1 Timer pass to configuration mode of DST.

By button +/- set to :
ON - automatic change time function
OFF - lack of automatic change time function
*Enter to option by button OK. Timer automaticly pass to CONGIGURATION mode (see p5.1).
*By button MENU/DELETE accept settings and out of programming mode.

5. CONFIGURATION - *set to CORRECTION OF TIME, LOCALIZATION AND HOUR DELAY.*

Change CONFIGURATION by prees MENU >3sec.
ATTENTION! *Changes of CONFIGURATION mode are previoused by checking or changing a date (see p2.1), time (see p3.1) and option.*

5.1 Timer pass to CORRECTION MODE for sunset point.
ATTENTION!
Range from -99min to +99min. Value "-" (minus) to speed up to enclose by put number of minutes. Value "+" (plus) delay to enclose by put number of minutes .

```
Mo Tu          PROG
    00
   1ON
```

By buttons +/- set to number of minutes and enter OK.
5.2 Timer pass to CORRECTION TIME mode for sunrise point
ATTENTION!
Range from -99min to +99min. Value "-" (minus) to speed up switching off by put number of minutes. Value "+" (plus) to delay switching off by put number of minutes..

```
Mo Tu We       PROG
    00
   1OFF
```

By buttons +/- set to number of minutes and enter OK.
5.3 Timer pass to configuration mode of LOCALIZATION.
ATTENTION!
Check coordtinates code table and find a city which is near your localization and put suitable code. Standard set code is code 79 for Warsaw
ATTENTION!
Choose and accept of code 86 (USER COORDINATES) to cause pass to handiwork mode (see p7.2).

By buttons +/- set to a minutes and enter OK.
Timer pass to setting mode of start minutes of NIGHT BREAK..

```
            PROG
00:30 P
   2OFF
```

By buttons +/- set to a hour and enter OK.
6.2 Timer pass to setting mode of end minutes of NIGHT BREAK. (sign 2ON on right side).
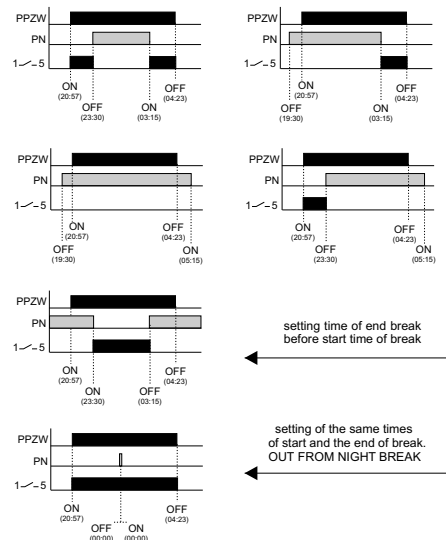
```
        PROG
00 P
 2ON
```

By buttons +/- set to a hout and enter OK.
*Timer again pass to setting mode of date.(see p2.1)
*By button MENU acept allow registry and out of programming mode.

By buttons +/- set to a minutes and enter OK.
Timer pass to setting mode of hour of end of NIGHT BREAK

```
            PROG
00:45 P
   2ON
```

ATTENTION!
* Set a time of NIGHT BREAK make a enclosing and exclusioning of iont. They are treat as orders and realized in chronology of set time. Posibility of setting of enclosing and exclusioning time of joints with accordance PROGRAMMING ENCLOSING AND EXLUSIONIN POINTS with NIGHT BRAK times are ilustarte by following diagrams

```
Mo Tu We Th     PROG
c   79
```

By buttons +/- set to code and enter OK.
5.4 Timer pass to HOUR SLIP mode..
ATTENTION!
Standard setting for POLAND +01. Range from -12hours to +12hours. Value "-" (minus) to move "for rear" parallel astronomical points of sunrise and sunset time by put of number hours. Value "+" (plus) to move "forword" parallel astronomical point of sunrise and sunset time by number of put hours.

```
Mo Tu We Th Fr Sa Su  PROG
    01
```

By buttonsi +/- set to a value of delay and enter OK.
*Timer automaticly pass to setting mode of NIGHT BREAK. (see p6.1)
*By button MENU accept allow registry and out of programming mode.

6. NIGHT BREAK

Change in option of NIGHT BREAK mode prees MENU >3sec.
ATTENTION! *Out of settings from NIGHT BREAK is previoused by checking and changing of date (see p2.1), time (see p3.1), option DST (seep 4.1) and KONFIGURATION (see p5.1).*

ATTENTION!
If timer have to work out from NIGHT BREAK set the same value of start and end times.

6.1 Timer pass to setting mode of start minutes of NIGHT BREAK (sign 2OFF on the right side).

```
        PROG
00 P
 2OFF
```


PPZW - programmable points of enclosing and excusioning
PN - night break
*⌒– - joint position (■ - joint enclosed)*

7. HANDIWORK SETTING GEOGRAFICAL COORDINATES

7.1 Pass to handiwork setting mode of geografical coordinates is previoused by pass of CONFIGURATION MODE (see p5). In setting mode of COORDINATES CODE set to code of number 86 (USER COORDINATES) and enter OK.Timer pass to setting mode of geografical coordinates
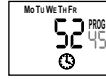
ATTENTION!
Standarts setting coordinates for Warsaw (52°15'N 21°00'E)

*7.2 Timer pass to setting mode of width minutes (sign **L** on the left).*

```
Mo Tu We Th Fr      PROG
L              15
        🕐
```
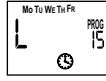
By buttons +/- set to minutes and enter OK..

7.3 Timer pass to of setting mode of geografical coordinates.

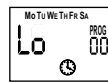```
Mo Tu We Th Fr   PROG
52   45
        🕐
```

**ATTENTION!**
*Value up than "zero" mean north of geografical width coordinates.*
*Value down than "zero" mean south geografical width coordinates .*

*By buttons +/- set to value and enter OK..*

*7.4 Timer pass to of setting mode of minutes of geografical lenhgt coordinates.*

```
Mo Tu We Th Fr Sa      PROG
Lo              00
        🕐
```

PEEP TO A PROGRAMMABLE POINT OF ENCLOSURE AND EXCLUSION

*In **AUTOMATIC WORK** mode next preeser a button **OK.** see a next seetings in configuration:*
- programmable point of enclosure
- start of night break
- end of night break
- programmable point of exclusion
After 5 sec. timer automaticly pass to central level

Example table with enclosure and exclusion points on 22.06.2006 for choosen settings of CONFIGURATION				
ASTRONOMICAL POINT	WEST	19:59		
	EAST	3:16		
TIME CORRECTION	ENCLOSURE	+20min		
	EXCLUSION	-15min		
HOUR SLIP		+01	00	-02
PROGRAMMABLE POINTS	ENCLOSURE	21:19	20:19	18:19
	EXCLUSION	4:01	3:01	1:19

By buttons +/- set to minutes and enter OK..

7.5 ZTimer pass to of setting mode of minutes of geografical lenght coordinates..

```
Mo Tu We Th Fr Sa      PROG
21           15
        🕐
```

ATTENTION!
Value up than "zero" mean east of geografical lenght coordinates.
Value down than "zero" mean west of geografical lenght coordinates

By buttons +/- set to value and enter OK.
Timer pass to setting mode of HOUR SLIP (see p5.4).

8. DELETED MEMORIES - "hard" reset

If you want to delete all settings of DATE, TIME and CONFIGURATION you must together preesing a buttons MENU and ∎ for >3sec.

9. RESET

Restart od procesor is needed when all function of timer are to stoped. Don't delete settings of DATE, TIME and CONFIGURATION MODE from memories. Prees a button RESET for <1sec.

AUTOMATIC FUNCTION OF TIME CHANGE !

Changes time from winter time to summer time is autmaticly make at the last sunday of march at 2 a.m. (add 1 hour to actual time) .

ATTENTION! *Possible is take OFF automatic function of tome change (see p.4).*

PEEP TO A DATE

*In **AUTOMATIC WORK** prees a button **+**. Timer displaing a set date (dd-mm-yy). After 5 sec timer automaticly pass to central level.*

CITY CODE	°N	°E
1. Albania Tiranë	41:20:00 °N	019:49:00 °E
2. Austria Salzburg	47:54:00 °N	013:03:00 °E
3. Austria Vienna	48:13:00 °N	016:22:00 °E
4. Belgium Brussels	50:50:00 °N	004:21:00 °E
5. Bosnia Sarajevo	43:52:00 °N	018:26:00 °E
6. Bulgaria Burgas	42:30:00 °N	27:28:00 °E
7. Bulgaria Plovdiv	42:18:00 °N	24:43:00 °E
8. Bulgaria Sofia	42:41:00 °N	23:19:00 °E
9. Croatia Osijek	45:33:00 °N	18:41:00 °E
10.Croatia Pula	44:52:00 °N	13:51:00 °E
11.Croatia Zagreb	45:48:00 °N	015:58:00 °E
12.Cyprus Nicosia	35:10:00 °N	033:22:00 °E
13.Czech Rep. Prague	50:05:00 °N	014:25:00 °E
14.Czech Rep. Olomouc	49:34:60 °N	17:15:00 °E
15.Denmark Copenhagen	55:43:00 °N	012:34:00 °E
16.Finland Helsinki	60:08:00 °N	025:00:00 °E
17.Finland Kuopio	62:54:00 °N	27:41:00 °E
18.Finland Rovaniemi	66:33:07 °N	25:50:51 °E
19.France Ajaccio	41:55:36 °N,	8:44:13 °E
20.France Bordeaux	44:50:00 °N	000:34:00 °W
21.France Brest	48:23:00 °N	004:30:00 °W
22.France Lyon	45:46:00 °N	004:50:00 °E
23.France Marseille	43:18:00 °N	005:22:00 °E
24.France Nantes	47:14:00 °N	001:35:00 °W
25.France Paris	48:52:00 °N	002:20:00 °E
26.France Strasbourg	48:35:00 °N	007:45:00 °E
27.Germany Berlin	52:30:00 °N	013:26:00 °E
28.Germany Frankfurt	50:06:00 °N	008:41:00 °E
29.Germany Hamburg	53:33:00 °N	010:00:00 °E
30.Germany Köln	50:53:00 °N	007:00:00 °E
31.Germany München	48:08:00 °N	011:35:00 °E
32.Germany Osnabruck	52:16:00 °N	008:02:00 °E
33.Greece Athens	38:00:00 °N	023:44:00 °E
34.Greece Iraklion	35:20:00 °N	25:09:00 °E
35.Greece Patra	38:14:40 °N	21:44:4 °E
36.Greece Thessalonika	40:38:00 °N	022:58:00 °E
37.Hungary Budapest	47:30:00 °N	019:00:00 °E
38.Island Reykjavik	61:09:00 °N	021:58:00 °W
39.Ireland Cork	51:54:00 °N	08:28:00 °W
40.Ireland Dublin	53:20:00 °N	006:15:00 °W
41.Italy Brindisi	40:38:00 °N	17:56:00 °E
42.Italy Cagliari	39:13:00 °N	009:08:00 °E
43.Italy Florence	43:47:00 °N	011:15:00 °E
44.Italy Milan	45:28:00 °N	009:12:00 °E
45.Italy Palermo	38:08:00 °N	013:23:00 °E
46.ItalyRome	41:53:00 °N	012:30:00 °E
47.Luxembourg Luxembourg	49:37:00 °N	006:08:00 °E
48.Macedonia Skopje	42:00:00 °N	021:26:30 °E
49.Moldavia Chisinau	47:14:11 °N	28:49:30 °E
50.NetherlandsAmsterdam	52:21:00 °N	004:54:00 °E
51.Norway North Cape	71:10:12 °N	025:47:24 °E
52.Norway Narvik	68:26:00 °N	017:25:00 °E
53.Norway Oslo	59:56:00 °N	010:17:00 °E
54.Norway Trondheim	63:36:00 °N	010:23:00 °E
57.Portugal Lisbon	38:44:00 °N	009:08:00 °W
58.Portugal Pôrto	41:09:00 °N	008:37:00 °W
59.Romania Bucharest	44:25:00 °N	026:07:00 °E
60.Romania Constanta	44:11:00 °N	28:39:00 °E
61.Romania Cluj	46:47:00 °N	23:36:00 °E
62.Slovakia Kosice	48:43:00 °N	21:15:00 °E
63.Slovenia Ljubljana	46:40:00 °N	014:30:00 °E
64.Spain Almeria	36:50:00 °N	2:27:00 °W
65.Spain Barcelona	41:25:00 °N	002:10:00 °E
66.Spain Bilboa	43:15:00 °N	002:56:00 °W
67.Spain La Coruna	43:22:00 °N	8:23:00 °W
68.Spain Seville	37:24:00 °N	005:59:00 °W
69.Spain Valencia	39:29:00 °N	000:24:00 °W
70.Sweden Goteborg	57:45:00 °N	012:00:00 °E
71.Sweden Lulea	65:36:00 °N	22:9:00 °E
72.Sweden Malmö	55:35:00 °N	013:00:00 °E
73.Sweden Stockholm	59:20:00 °N	018:05:00 °E
74.Switzerland Bern	46:57:00 °N	007:26:00 °E
75.Turkey Ararat	39:42:00 °N	44:17:00 °E
76.Turkey Istanbul	41:02:00 °N	028:59:00 °E
77.Turkey Izmir	38:25:00 °N	27:09:00 °E
78.Turkey Antalya	36:53:00 °N	30:42:00 °E
79.Turkey Diyarbakir	37:55:00 °N	40:14:00 °E
80.Turkey Samsun	41:17:00 °N	36:20:00 °E
81.UK Glasgow	55:52:00 °N	004:18:00 °W
82.UK London	51:30:00 °N	000:10:00 °W
83.UK Manchester	53:27:00 °N	002:15:00 °W
84.UK Plymouth	50:23:00 °N	004:08:00 °W
85.Yugoslavia Belgrade	44:45:30 °N	022:29:30 °E

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