



finder[®]
RELAYING INNOVATION

12.B2 - User Manual

Type 12.B2.8.230.0000

Setup and Operation



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GENERAL INFORMATION

The Bluetooth ASTRO annual time switch Type 12.B2 allows the programming of events on an annual basis - either by specifying one or more periods within the year or by specifying one or more individual days.






The type 12.B2 can be expanded using the Type 13.21.8.230.B000 relay (max 4) set as outputs, and via the input interface Type 1Y.P2.8.230.B000 (max 4) which can be set as inputs.

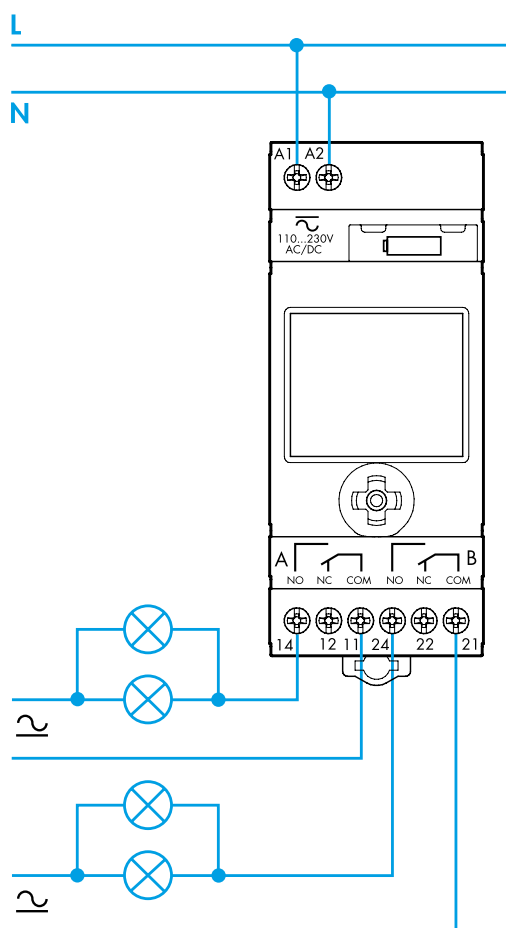
The type 12.B2 is configurable via the joystick or via the Finder TOOLBOX app.

With the Finder TOOLBOX app, it is possible to use the NFC to configure the 12.B2 even if it is not powered, or Bluetooth to configure the external Bluetooth modules.

It is also possible to use the external GPS antenna Type 012.BG.8.230 to synchronize the time of the clocks, once a day, that are within the Bluetooth range of the antenna.

TECHNICAL INFORMATION

EN 60669-1/EN 60669-2-1	
	12.B2.8.230.0000 U_N 110...230 V AC (50/60 Hz)/DC $U_{min} - U_{max}$ 90 V - 264 V (AC/DC) P 2.8 VA (50 Hz)/0.9 W
	2 CO (DPDT) 16 A 250 V AC
	AC1 4000 VA AC15 (230 V AC) 750 VA
	 (230 V) 2000 W  (230 V) 750 W CFL-LED (230 V) 400 W
	(-20...+50)°C
IP20	



AVAILABLE FUNCTIONS

JOYSTICK	APP
TIMER	RANDOM
ASTRO	CYCLIC
PULSE	TIMER WITH CORRECTION
ASTRO PULSE	

Table 1

NOTE

All functions that can be set from the joystick are also included in the fINDER toolbox app.

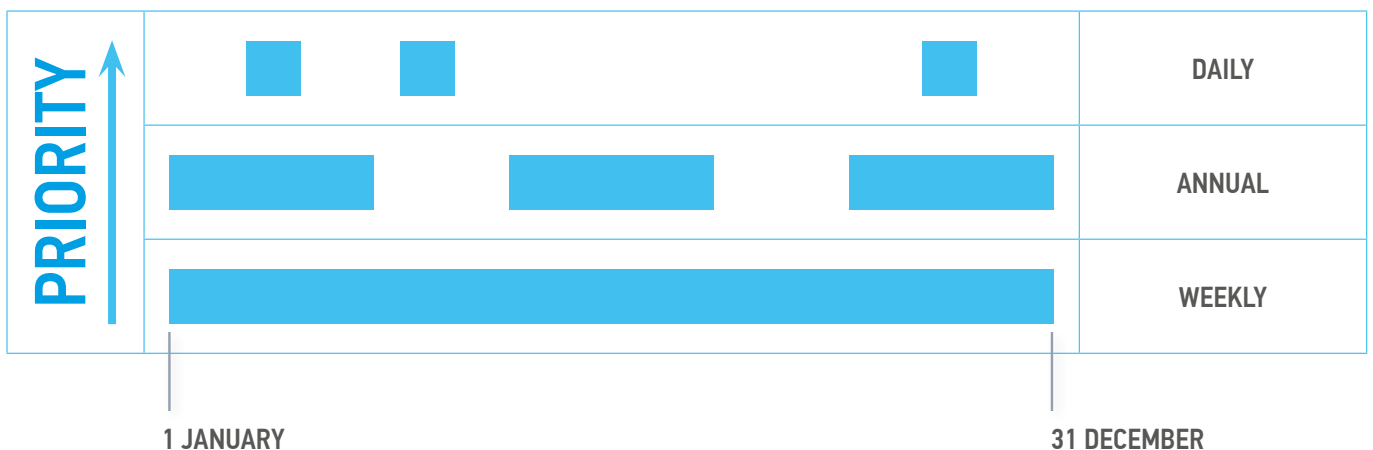
DESCRIPTION OF FUNCTIONS

- **TIMER:** set the channel to ON or OFF at a specific time
- **TIMER WITH CORRECTION:** if used together with the ASTRO function, this allows you to set a priority to OFF or ON in the event of times overlapping
- **ASTRO:** turn the channel on at sunset or turn the channel off at sunrise with a settable offset
- **PULSE:** the channel will output a pulse [1s – 90m] at a specific time
- **ASTRO PULSE:** the channel will output a pulse [1s – 90m] at sunrise or sunset, with a settable offset
- **RANDOM:** turns the channel on and off randomly at a specific time of day
- **CYCLIC:** turns the channel on and off for defined times in a specific period of the day

TYPES OF SCHEDULE

Schedules can be of three different types:

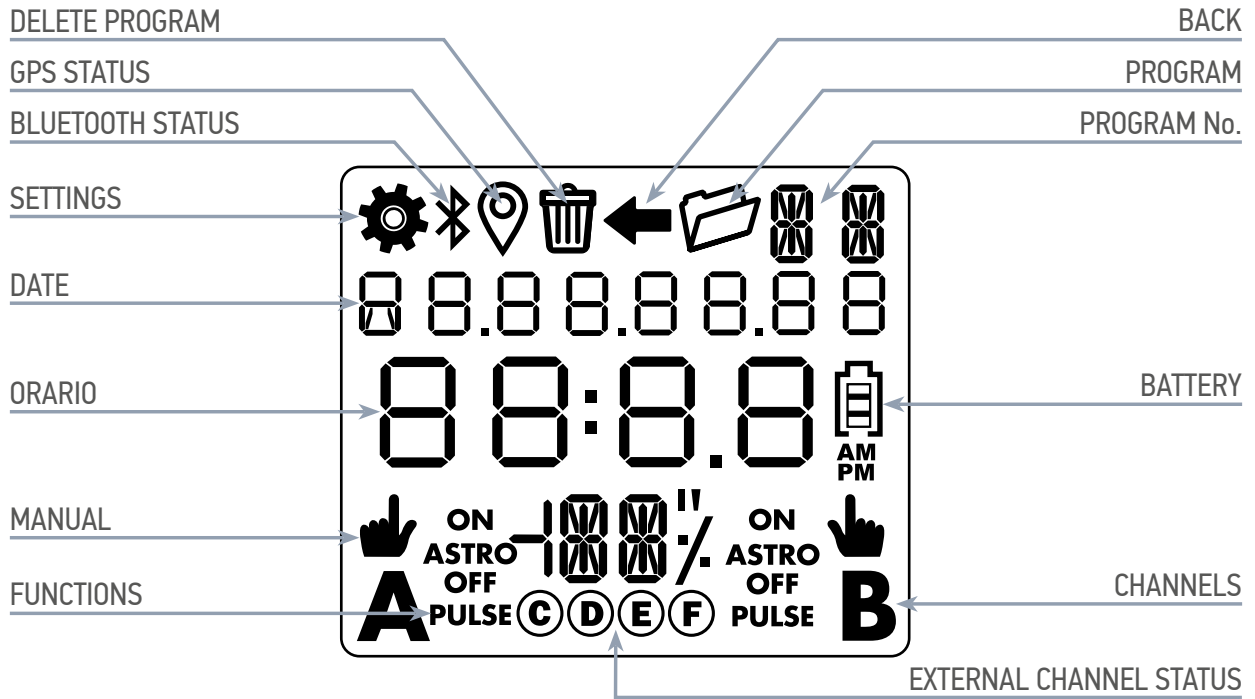
- **WEEKLY:** “standard” scheduling that runs all year round, low priority. Max 60
- **ANNUAL:** scheduling that runs over specific periods of the year medium priority. Max 20
- **DAILY:** scheduling that runs for single day(s), high priority. Max 20



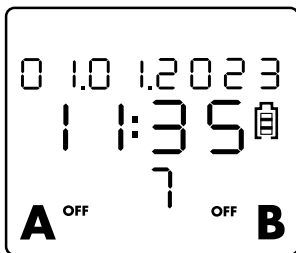
CONFIGURABLE COUNTRIES

ITALY	"IT"	
NETHERLANDS	"NE"	
POLAND	"PL"	
PORTUGAL	"PT"	
ROMANIA	"RO"	
SWEDEN	"SE"	
UNITED KINGDOM	"UK"	
AUSTRIA	"AT"	
BELGIUM	"BE"	
SWITZERLAND	"CH"	
CZECH REPUBLIC	"CZ"	
GERMANY	"DE"	
DENIMARK	"DK"	
SPAIN	"ES"	
FRANCE	"FR"	
HUNGARY	"HU"	
USA	"US"	Manual coordinate entry required
CANADA	"CN"	Manual coordinate entry required
MEXICO	"MX"	Manual coordinate entry required
MANUAL COORDINATES	"Coor"	Manual coordinate entry required

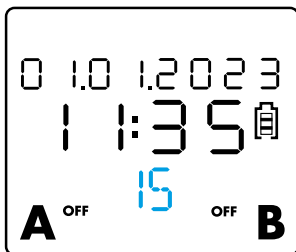
DISPLAY



*Battery icon always off when 230V supplied, otherwise blinking.



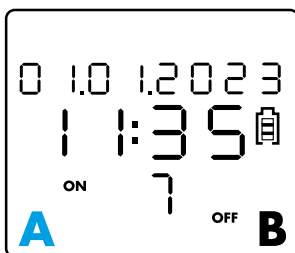
From the main screen, when the device is powered by battery only, holding the joystick to or from you can view the battery charge level




From the main screen, by moving the joystick upwards and then releasing it, instead of the day of the week (bottom center), the seconds of the time will be displayed, perform the same operation to return to the previous condition

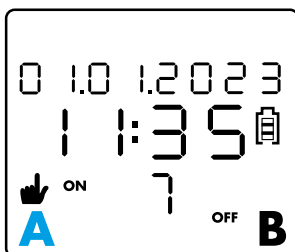
The status of channels A and B can be changed directly from the joystick.


CHANNEL A – TOGGLE



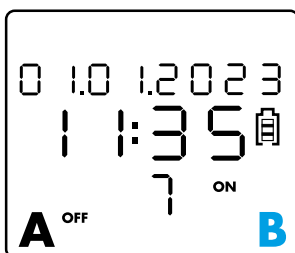
From the home screen, press left  once to change the status of channel A.
The channel will subsequently then follow the schedule.


CHANNEL A – FORCING



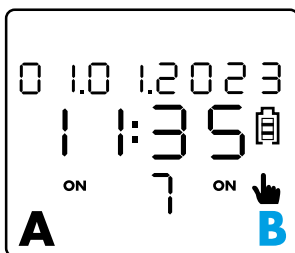
From the home screen, long press to the left  to change the status of channel A.
The channel will no longer follow the schedule - it will remain at the forced status.


CHANNEL B – TOGGLE



From the home screen, press right  once to change the status of channel B.
The channel will subsequently then follow the schedule.

CHANNEL B – FORCING

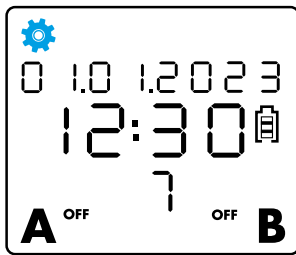



From the home screen, long press to the right  to change the status of channel B.
The channel will no longer follow the schedule - it will remain at the forced status.

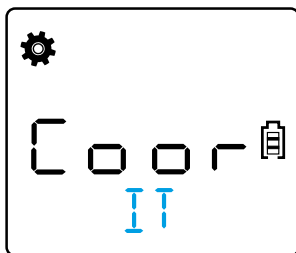
JOYSTICK CONFIGURATION



Type 12.B2 can also be set manually via the joystick. With this method it is possible to manage the general parameters (coordinates or postal code, perform a transmission test with the GPS antenna, set the date and time, display brightness, daylight saving time and the lock PIN) and set the programs for the operation of the channels on board the display. The only functions that can be set are those listed in Table 1.

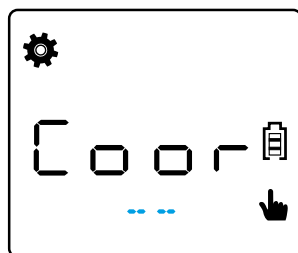
GENERAL PARAMETERS AND GPS TRANSMISSION TEST




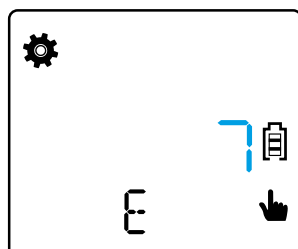
From the home screen, press and hold the joystick in the center  until the settings icon appears, then release the joystick.





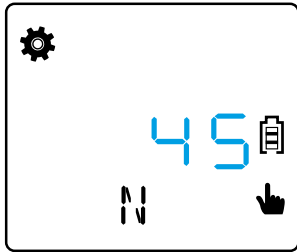
Now press up  to change country or to set coordinates or press right  to continue.



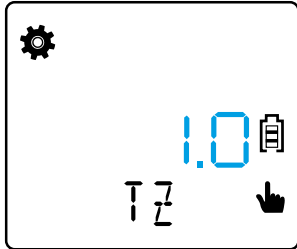
If the country is not present in those available, it is possible to enter the precise coordinates, press to the right  to continue.



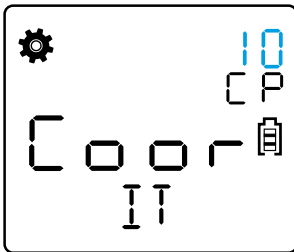
Press up  to enter east/west coordinates. Press right  to continue.



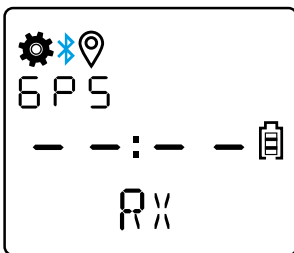
Press up to enter north/south coordinates.
Press right to continue.



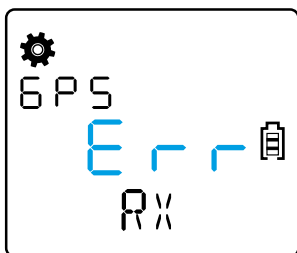
Press up to enter time zone.
Press right to continue.



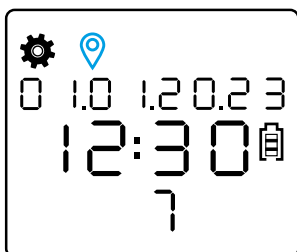
Press up to enter the first two digits of the zip code.
Press right to continue.



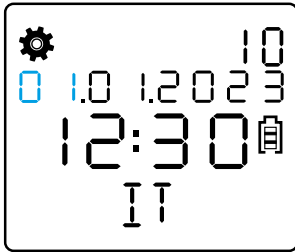
From here it is possible to perform a transmission test with the **GPS** antenna, press down to start the test and the Bluetooth icon will start flashing, otherwise press right to continue.





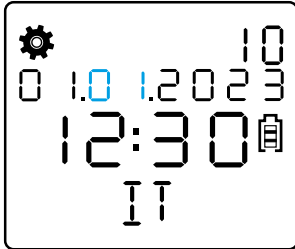
If the transmission test is not successful, the message "Err" will be displayed. The main causes can be: absence of the antenna, antenna not powered, antenna too far away. If the antenna is present, install an appropriate number of type 1Y.E8 range extenders between the antenna and the time switch.




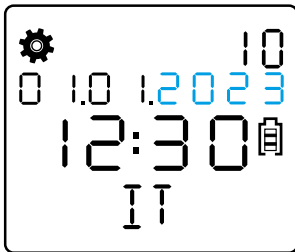
If the connection test with the antenna is successful, press right to continue.





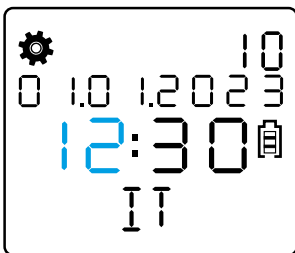
Press up  to enter the day.
Press right  to continue.





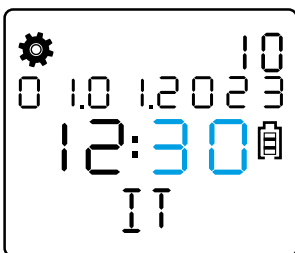
Press up  to enter the month.
Press right  to continue.




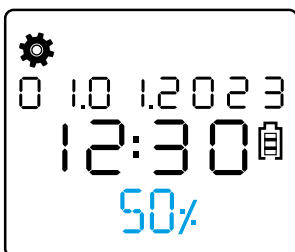
Press up  to enter the year.
Press right  to continue.






Press up  to enter the hour.
Press right  to continue.





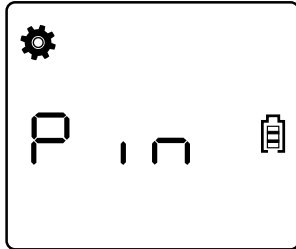
Press up  to enter the minutes.
Press right  to continue.






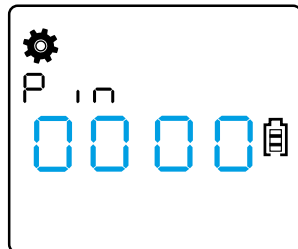
Press up to turn up  or press down 
to turn down the brightness of the display.
Press right  to continue.





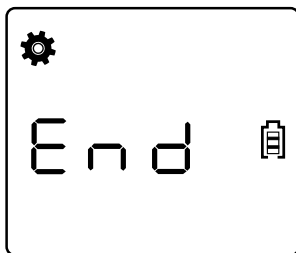
European daylight saving time is set by default but it can be changed or deactivated by pressing up . After choosing the correct daylight saving time, press right  to continue.




To set your PIN, press up  then right , or press right  to continue.

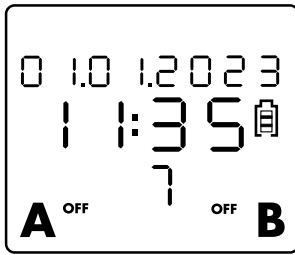



Press up  until the desired PIN is set, then press right  to complete the configuration.



Press the center  once to finish the setup and return to the home screen.

PROGRAM CONFIGURATION



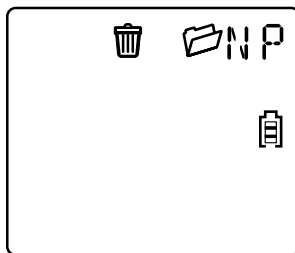
From the home screen, press the center  once to create or edit schedules.





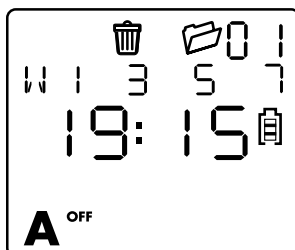
From here it is possible to choose the type of programming to be set by moving the joystick up  or down .



- **WP WEEKLY PROGRAM:** “standard” configuration; allowing a different schedule for each day of the week, which runs all year round, low priority
- **YP ANNUAL PROGRAM:** Scheduling that runs over specific period(s) of the year, defined by start and end dates, medium priority
- **DP DAILY PROGRAM:** Scheduling applied to one or more single days in the year, high priority

DELETE A PROGRAM



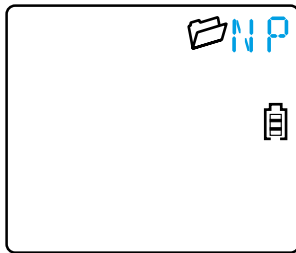
To delete all programs, go to the screen for creating a new program (NP) and press and hold to the right  or left  until the dump bin appears and disappears.



To delete a single program, reach it from the menu (NP) and, while the program number is flashing, press and hold to the right  or left  until the dump bin appears and disappears.

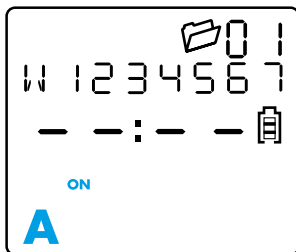
WEEKLY

“Standard” configuration; allowing a different schedule for each day of the week - which is then repeated all year round.

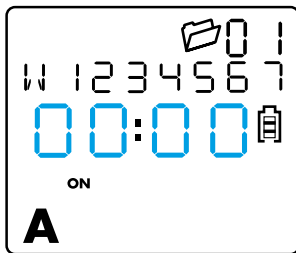


Once the type of programming has been chosen, a new program can be created. Press once in the center to create a new one. Press and hold in the center to go back.

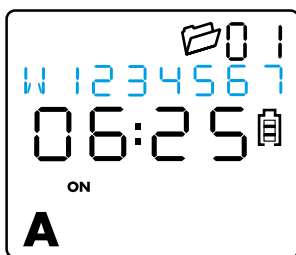
• TIMER - WEEKLY



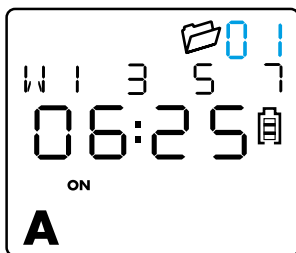
Select the channel (A or B only) by pressing right or left . Then press up to set the function **ON** or **OFF**. Press center to continue.



Press and hold up to set the time to be **ON** or **OFF**. Press center to continue.



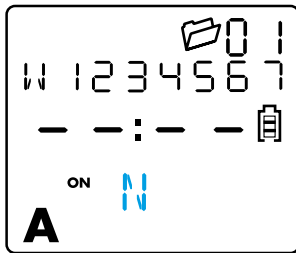
From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days. Once selection is complete, press center to continue.



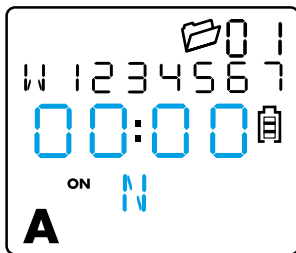
Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

• **TIMER** - WEEKLY NIGHT TURNING OFF

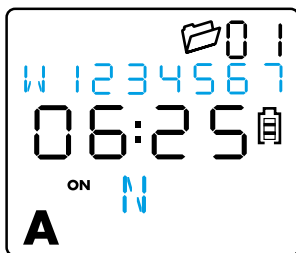
The WEEKLY NIGHT turning off differs from the classic time in that it has priority over ASTRO settings which at some times of the year may overlap with the set schedules.



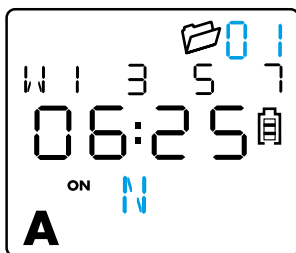
Select the channel (A or B only) by pressing right or left . Then press up to set the function **ON** or **OFF**. Press center to continue.



Press and hold up to set the time to be **ON** or **OFF**. Press center to continue.

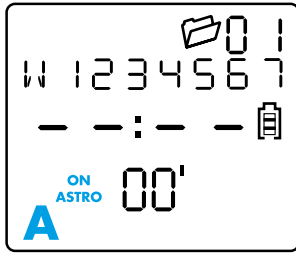


From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days. Once selection is complete, press center to continue.

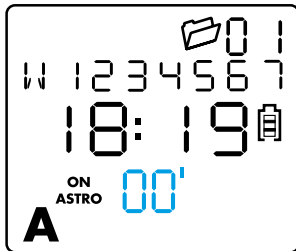


Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

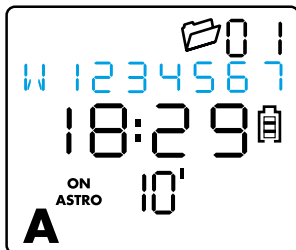
• ASTRO - WEEKLY



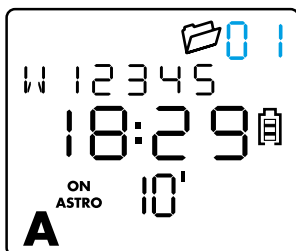
Select the channel (A or B only) by pressing right or left . Then press up to set the **ASTRO ON** function (turning on at sunset) or **ASTRO OFF** (turning off at dawn). Press center to continue.



Press and hold up or down to set offset from natural sunrise or sunset time. Press center to continue.

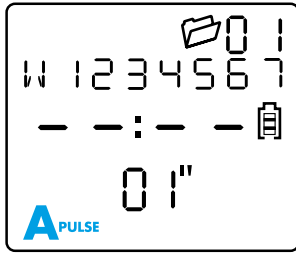


From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days. Once selection is complete, press center to continue.



Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

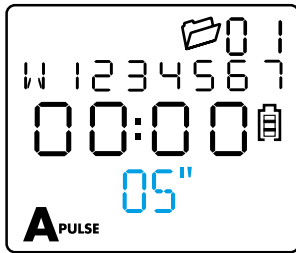
• PULSE - WEEKLY



Select the channel (**A** or **B** only) by pressing right or left .

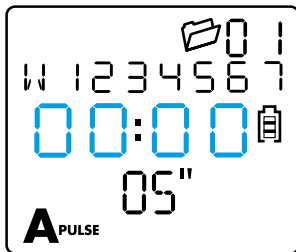
Then press up setting the **PULSE** function.

Press center to continue.



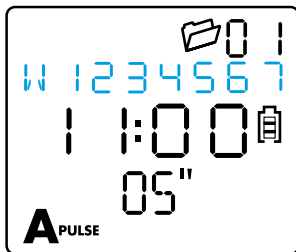
Press and hold up to set pulse duration [1s – 90m].

Press center to continue.



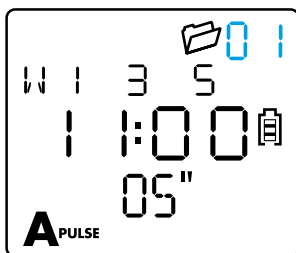
Press and hold up to set the time at which the pulse should be performed.

Press center to continue.



From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days.

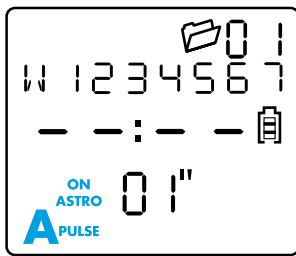
Once selection is complete, press center to continue.



Once programming is complete, the program number will flash.

Press and hold in the center to go back or press up to create a new program.

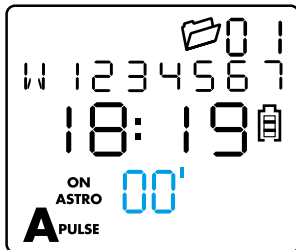
• ASTRO PULSE - WEEKLY



Select the channel (A or B only) by pressing right or left .

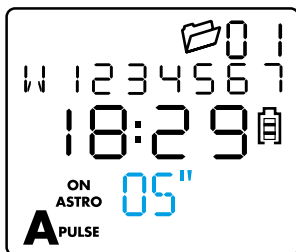
Then press up to set the **ASTRO ON PULSE** function (pulse at sunset) or **ASTRO OFF PULSE** (pulse at dawn).

Press center to continue.



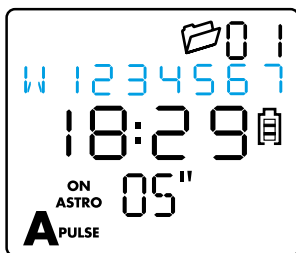
Press and hold up or down to set offset from natural sunrise or sunset time.

Press center to continue.



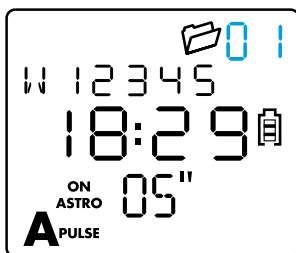
Press and hold up to set pulse duration [1s – 90m].

Press center to continue.



From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days.

Once selection is complete, press center to continue.

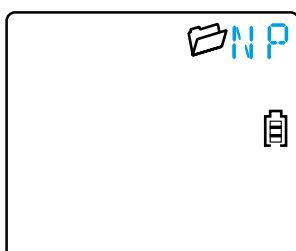


Once programming is complete, the program number will flash.

Press and hold in the center to go back or press up to create a new program.

ANNUAL

Specific configuration for scheduling a period, or periods, of the year that are defined by start and end dates.

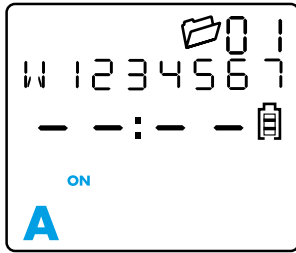


Once the type of programming has been chosen, a new program can be created.

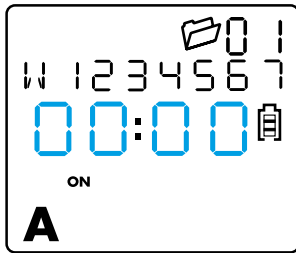
Press once in the center to create a new one.

Press and hold in the center to go back.

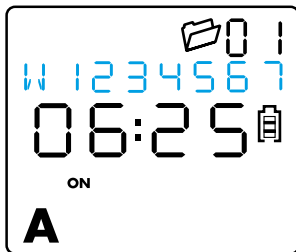
• TIMER - ANNUAL



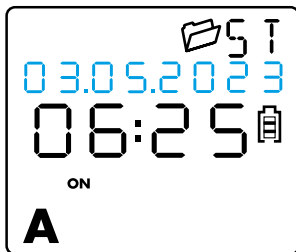
Select the channel (A or B only) by pressing right or left . Then press up to set the function **ON** or **OFF**. Press center to continue.



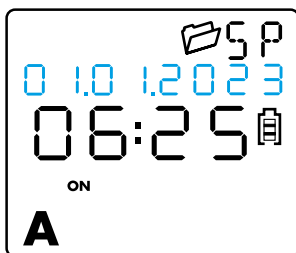
Press and hold up to set the time to be **ON** or **OFF**. Press center to continue.



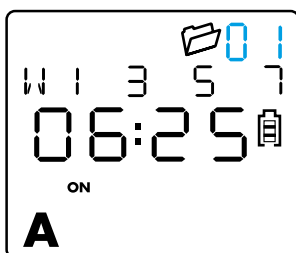
From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days. Once selection is complete, press center to continue.



Press and hold up to set start date (**ST** - start). Press right or left to move between day, month and year. Press center to continue.



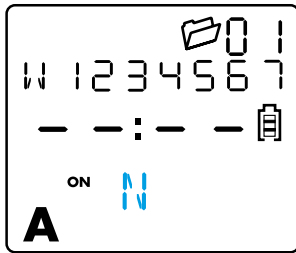
Press and hold up to set end date (**SP** - stop). Press right or left to move between day, month and year. Press center to continue.



Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

• TIMER - ANNUAL NIGHT TURNING OFF

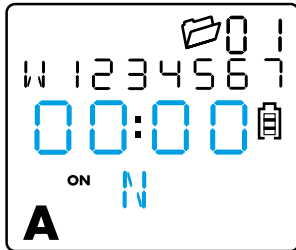
The ANNUAL NIGHT turning off differs from the classic time in that it has priority over ASTRO settings which at some times of the year may overlap with the set schedules.



Select the channel (A or B only) by pressing right or left .

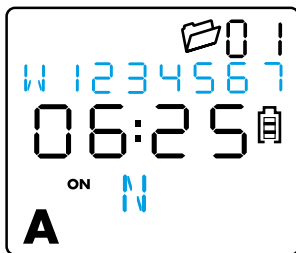
Then press up to set the function ON or OFF.

Press center to continue.



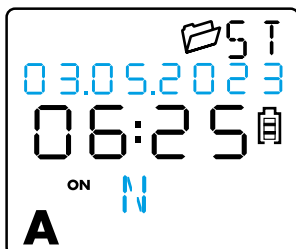
Press and hold up to set the time to be ON or OFF.

Press center to continue.



From here you can exclude days of the week from this schedule, press down once to deselect, press up to select and left and right to move between days.

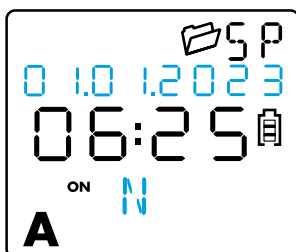
Once selection is complete, press center to continue.



Press and hold up to set start date (ST - start).

Press right or left to move between day, month and year.

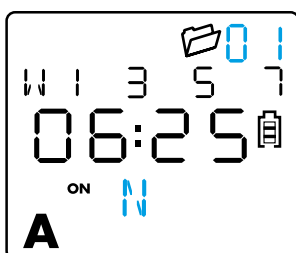
Press center to continue.



Press and hold up to set end date (SP - stop).

Press right or left to move between day, month and year.

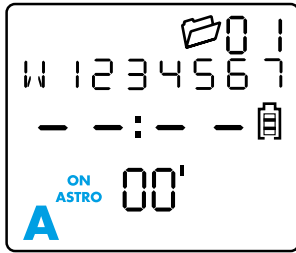
Press center to continue.



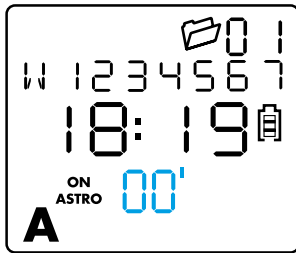
Once programming is complete, the program number will flash.

Press and hold in the center to go back or press up to create a new program.

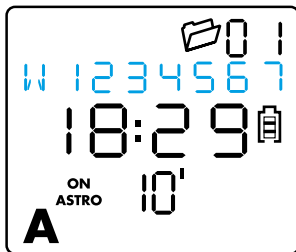
• ASTRO - ANNUAL



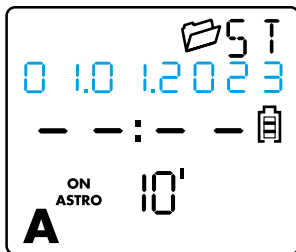
Select the channel (A or B only) by pressing right \rightarrow or left \leftarrow . Then press up \triangle to set the **ASTRO ON** function (turning on at sunset) or **ASTRO OFF** (turning off at dawn). Press center \oplus to continue.



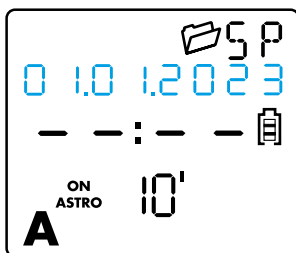
Press and hold up \triangle or down ∇ to set offset from natural sunrise or sunset time. Press center \oplus to continue.



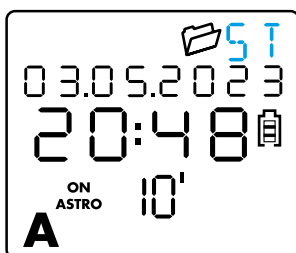
From here you can exclude days of the week from this schedule, press down ∇ once to deselect, press up \triangle to select and left \leftarrow and right \rightarrow to move between days. Once selection is complete, press center \oplus to continue.



Press and hold up \triangle to set start date (ST - start). Press right \rightarrow or left \leftarrow to move between day, month and year. Press center \oplus to continue.

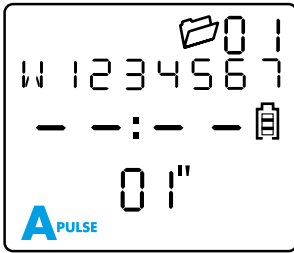


Press and hold up \triangle to set end date (SP - stop). Press right \rightarrow or left \leftarrow to move between day, month and year. Press center \oplus to continue.

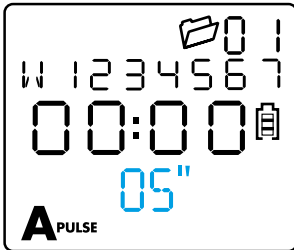


Once programming is complete, the folder number will be shown and then the start (ST) and stop (SP) dates in sequence. Press and hold in the center \oplus to go back or press up \triangle to create a new program.

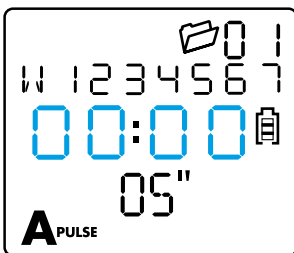
• PULSE - ANNUAL



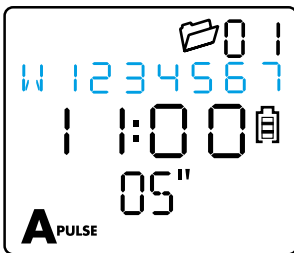
Select the channel (A or B only) by pressing right \blacktriangleright or left \blacktriangleleft . Then press up \blacktriangleup setting the **PULSE** function. Press center \oplus to continue.



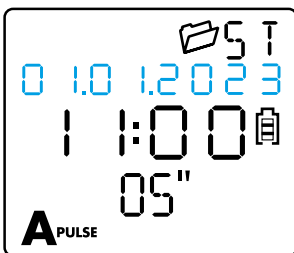
Press and hold up \blacktriangleup to set pulse duration [1s – 90m]. Press center \oplus to continue.



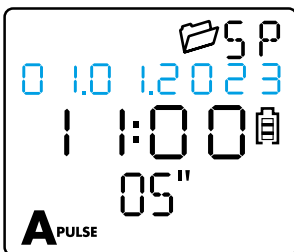
Press and hold up \blacktriangleup to set the time at which the pulse should be performed. Press center \oplus to continue.



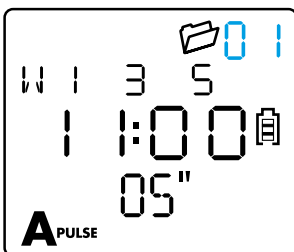
From here you can exclude days of the week from this schedule, press down \blacktriangledown once to deselect, press up \blacktriangleup to select and left \blacktriangleleft and right \blacktriangleright to move between days. Once selection is complete, press center \oplus to continue.



Press and hold up \blacktriangleup to set start date (ST - start). Press right \blacktriangleright or left \blacktriangleleft to move between day, month and year. Press center \oplus to continue.

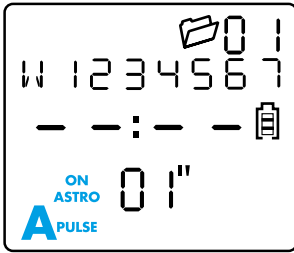


Press and hold up \blacktriangleup to set end date (SP - stop). Press right \blacktriangleright or left \blacktriangleleft to move between day, month and year. Press center \oplus to continue.

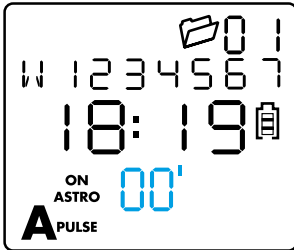


Once programming is complete, the program number will flash. Press and hold in the center \oplus to go back or press up \blacktriangleup to create a new program.

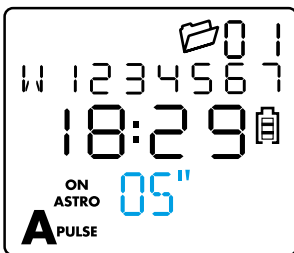
• ASTRO PULSE - ANNUAL



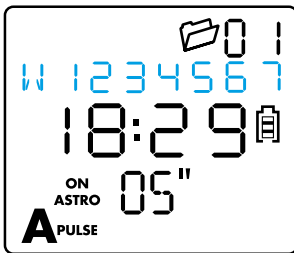
Select the channel (A or B only) by pressing right \rightarrow or left \leftarrow . Then press up \triangleup to set the **ASTRO ON PULSE** function (turning on at sunset) or **ASTRO OFF PULSE** (turning off at dawn). Press center \oplus to continue.



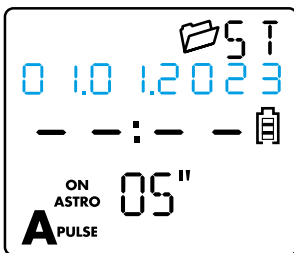
Press and hold up \triangleup or down \triangledown to set offset from natural sunrise or sunset time. Press center \oplus to continue.



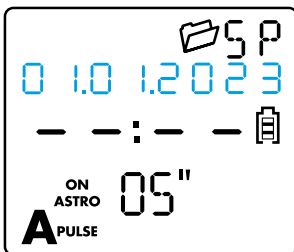
Press and hold up \triangleup to set pulse duration [1s – 90m]. Press center \oplus to continue.



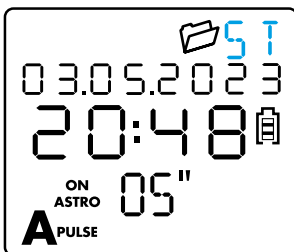
From here you can exclude days of the week from this schedule, press down \triangledown once to deselect, press up \triangleup to select and left \leftarrow and right \rightarrow to move between days. Once selection is complete, press center \oplus to continue.



Press and hold up \triangleup to set start date (ST - start). Press right \rightarrow or left \leftarrow to move between day, month and year. Press center \oplus to continue.



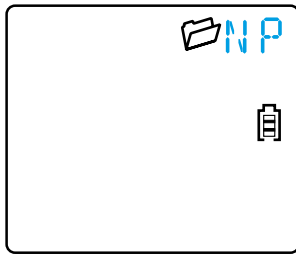
Press and hold up \triangleup to set end date (SP - stop). Press right \rightarrow or left \leftarrow to move between day, month and year. Press center \oplus to continue.



Once programming is complete, the program number will flash. Press and hold in the center \oplus to go back or press up \triangleup to create a new program.

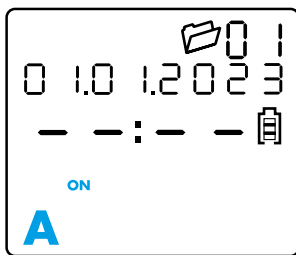
DAILY

Specific configuration scheduling one or more single days in the year.

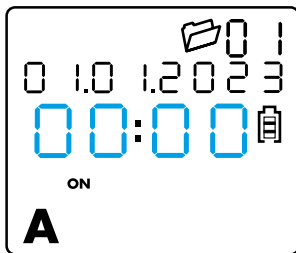


Once the type of programming has been chosen, a new program can be created. Press once in the center to create a new one. Press and hold in the center to go back.

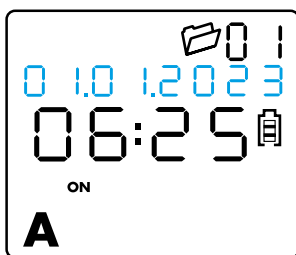
• TIMER - DAILY



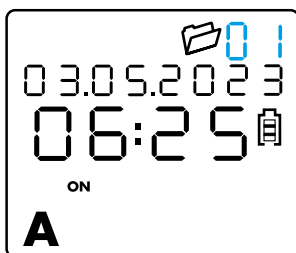
Select the channel (A or B only) by pressing right or left . Then press up to set the function ON or OFF. Press center to continue.



Press and hold up to set the time to be ON or OFF. Press center to continue.



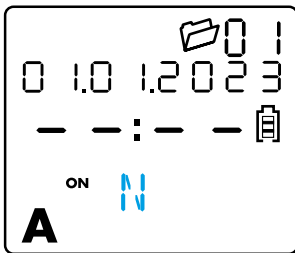
Press and hold up to set the desired date. Press right or left to move between day, month and year. Press center to continue.



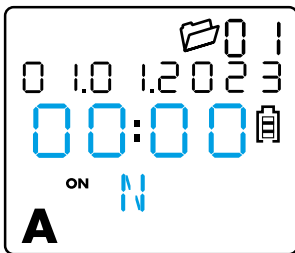
Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

• **TIMER** - DAILY NIGHT TURNING OFF

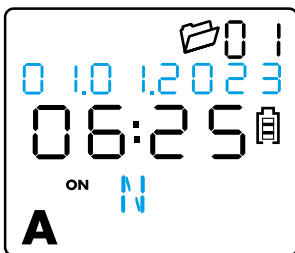
The DAILY NIGHT turning off differs from the classic time in that it has priority over ASTRO settings which at some times of the year may overlap with the set schedules.



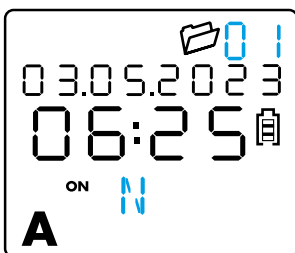
Select the channel (A or B only) by pressing right or left . Then press up to set the function **ON** or **OFF**. Press center to continue.



Press and hold up to set the time to be **ON** or **OFF**. Press center to continue.

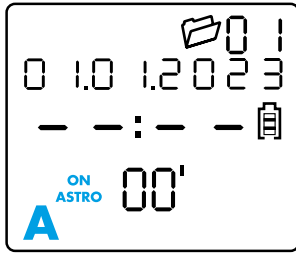


Press and hold up to set the desired date. Press right or left to move between day, month and year. Press center to continue.



Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

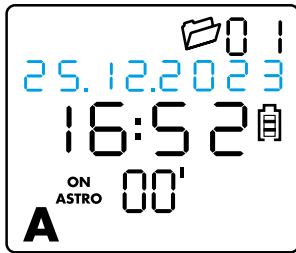
• ASTRO - DAILY



Select the channel (A or B only) by pressing right or left .

Then press up to set the **ASTRO ON** function (turning on at sunset) or **ASTRO OFF** (turning off at dawn).

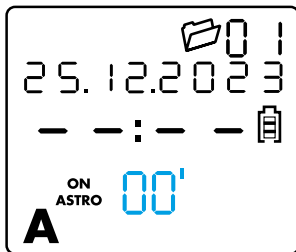
Press center to continue.



Press and hold up to set the desired date.

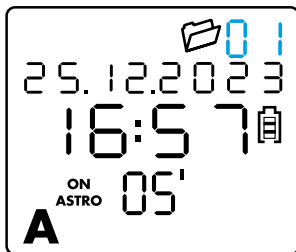
Press right or left to move between day, month and year.

Press center to continue.



Press and hold up or down to set offset from natural sunrise or sunset time.

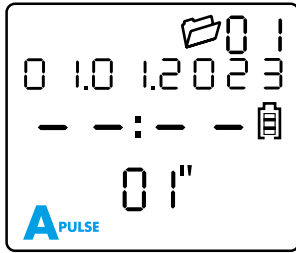
Press center to continue.



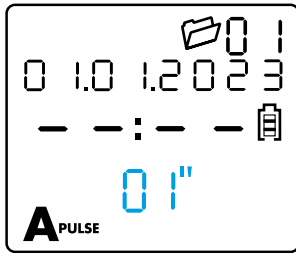
Once programming is complete, the program number will flash.

Press and hold in the center to go back or press up to create a new program.

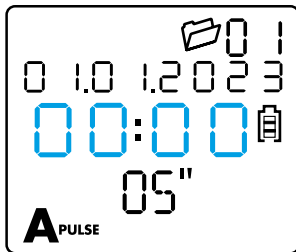
• PULSE - DAILY



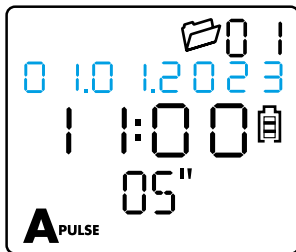
Select the channel (A or B only) by pressing right or left . Then press up setting the **PULSE** function. Press center to continue.



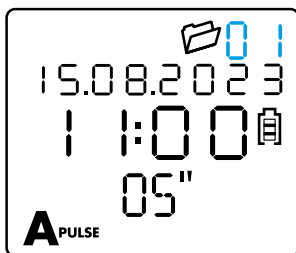
Press and hold up to set pulse duration [1s – 90m]. Press center to continue.



Press and hold up to set the time at which the pulse should be performed. Press center to continue.

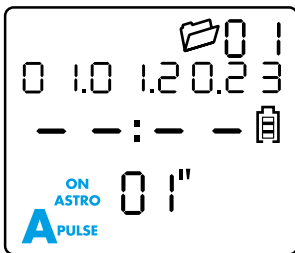


Press and hold up to set the desired date. Press right or left to move between day, month and year. Press center to continue.

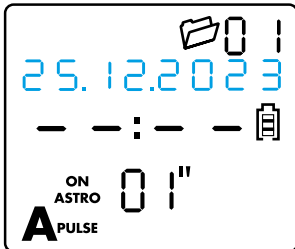


Once programming is complete, the program number will flash. Press and hold in the center to go back or press up to create a new program.

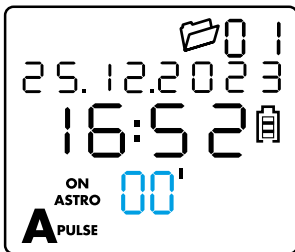
• ASTRO PULSE - DAILY



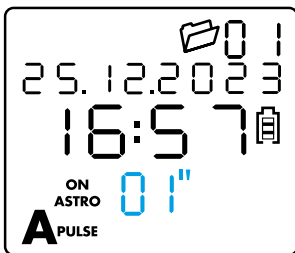
Select the channel (A or B only) by pressing right \rightarrow or left \leftarrow .
Then press up \triangle to set the **ASTRO ON PULSE** function (pulse at sunset)
or **ASTRO OFF PULSE** (pulse at dawn).
Press center \oplus to continue



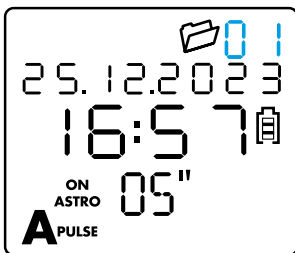
Press and hold up \triangle to set the desired date.
Press right \rightarrow or left \leftarrow to move between day, month and year.
Press center \oplus to continue.



Press and hold up \triangle or down ∇ to set offset from natural sunrise
or sunset time.
Press center \oplus to continue.



Press and hold up \triangle to set pulse duration [1s – 90m].
Press center \oplus to continue.



Once programming is complete, the program number will flash.
Press and hold in the center \oplus to go back or press up \triangle to create
a new program.

SPECIAL PROGRAMS SET VIA FINDER TOOLBOX APP



If the device was previously configured via the application as **RANDOM**, **CYCLIC**
or **TIMER WITH CORRECTION** the program will appear as “special APP”.

