

### DESCRIPTION

MODUL LOG / MINI LOG / MINI T LOG are digital time switches with 1 changeover switch and potential free designed for the control of any electrical installation. Its possibilities include short-duration (1-59 seconds) switching, repeating cycles, random programming, automatic summer-winter time change and a time counter.

Its menus can be displayed in 5 languages and it displays a chronogram of that day's programming. This divided into 48 sections, each section representing 30 minutes. The section corresponding to the current time flashes.

### INSTALLATION

**WARNING:** The installation and mounting of the electrical equipment must be carried out by an authorized installer.

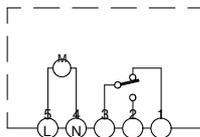
The equipment is internally protected from interferences by a safety circuit. Nevertheless, some especially strong electromagnetic fields may affect its operation.

Interferences can be avoided if the following installation guidelines are taken into account:

- The equipment must not be installed close to inductive loads (motors, transformers, contactors, etc.).
- It is recommendable to provide a separate line for powering (if necessary provided with a network filter).
- Inductive loads must be provided with interference suppressers (varistor, RC filter).

**ASSEMBLY:** In panel (MODUL LOG), DIN rail or surface mounting (MINI LOG) and flush mounting (MINI T LOG).

### CONNECTION



### STARTING UP

Factory settings for MODUL LOG / MINI LOG / MINI T LOG includes the current date and time and the following configuration:

Time:	Central European time
Clock:	24 h mode
Winter-summer time change	Automatic (last Sunday in March)
Summer-winter time change	Automatic (last Sunday in October)
Holidays:	NO (off)
Random mode:	NO (off)
C1 counter:	Zeroed (0000 hours)
Programs:	None (memory empty)

### PROGRAMMING

Programming is menu-based (text messages).

If operations are programmed for the same time, remember that some have priority over others

**The order of priority is as follows: PERMANENT MODE → HOLIDAY PROGRAM → RANDOM PROGRAM → PULSE ON → PULSE OFF → PROGRAMMING OFF → PROGRAMMING ON → CYCLE PROGRAMMING**

The information being programmed always flashes on display.

Pressing the "OK" key brings up the PROGRAM MENU. If the language used is not right, reset the timer.

### RESET

When all four keys are held down for more than 3 seconds, all existing programming is deleted and the LANGUAGE menu appears.

### LANGUAGE SELECTION

Use the UP and DOWN keys to choose a language and confirm pressing "OK." The DATE YEAR menu then appears automatically.

### CLOCK SETTING

Press "OK" to go into the PROGRAM menu and use the UP and DOWN keys to select the DATE menu. Confirm with "OK" to go into DATE YEAR. The numbers for the year flash on display and are changed with the UP and DOWN keys. Confirm with the "OK" key. The figures for MONTH and DATE are entered in the same way. Press "OK" to save the date (dd, mm, yy), the day of the week will be set automatically and the display will change automatically to TIME programming. Use the UP and DOWN keys to change, first, the hours, confirm with "OK", and then repeat for the minutes. Press "OK" and the PROGRAM menu will appear.

If you first wish to check the information entered, press the "C" key and the timer goes back into normal mode.

### BASIC PROGRAMMING

#### PROGRAM MENU

In normal mode, press the "OK" key to bring up the PROGRAM menu. Press "OK" again and the display will show PROGRAM PROG 01.

#### ON-OFF PROGRAMMING

Press the "OK" key again and you will see on display PROG 01: PROGRAM. Confirm pressing "OK" and the display will show PROG 01: C1: ON.

Use the UP and DOWN keys to choose switch type ON-OFF, PULSE or CYCLE. Confirm the choice with the "OK" key. The display automatically shows MON: YES. If you want the switch to be carried out on Monday, press "OK," otherwise, press either of the UP and DOWN keys and the display will show MON: NO. Press "OK" and carry out the same process for the other days of the week, one after the other, confirming them in the same way.

When you have selected the days, you then need to set the time at which the switch will take place. Use the UP and DOWN keys to set the hours and confirm with "OK," then do the same for the minutes. When you confirm the time pressing "OK," the display will show PROG 02: PROGRAM. Press "OK" again and the display will show PROG 02 C1: ON. Follow the same steps as for Program 01. There are 50 memory spaces (PROG 01 to PROG 50).

When you have finished programming, press the "C" repeatedly until the normal display appears.

## VIEWING PROGRAMMED SWITCHES

Press "OK" to go into the PROGRAM menu, then "OK" again to bring up PROGRAM PROG 01 on display. Press the  $\uparrow$  and  $\rightarrow$  keys to see all the programs (1 to 50).

## CHANGING OR DELETING SWITCHES

Press "OK" to go into the PROGRAM menu, then "OK" again to bring up PROGRAM PROG 01 on display. Use the  $\uparrow$  and  $\rightarrow$  keys to select the program you wish to change (1 to 50) and when you have it, press "OK" and the program will be shown on display with the word MODIFY. The  $\uparrow$  and  $\rightarrow$  keys change between DELETE and MODIFY, Choose your option and press the "OK" key.

If you chose DELETE, the program will be eliminated and the display will show PROGRAM and the program deleted (PROG XX).

If you have chosen MODIFY, pressing "OK" brings up the type of switch selected (ON-OFF / PULSE / CYCLE) and you should carry on as described in the section on PROGRAMMING. To return to normal operation, press the "C" key repeatedly until the normal operating display is shown.

## MANUAL ACTIVATION

The C1 circuit can be temporarily activated or deactivated by pressing the  $\rightarrow$  key. A hand symbol will be shown on display until a programmed switch takes place.

It is also possible to activate or deactivate the circuit permanently by following these steps:

Press the "OK" key to go into the PROGRAM menu and use the  $\uparrow$  and  $\rightarrow$  keys to change the 2<sup>nd</sup> line on the display until you see  $\text{M}$ . Confirm by pressing "OK" and the display will show MANUAL C1: ON. Use the  $\uparrow$  and  $\rightarrow$  keys to choose between ON – OFF – ON 2 (Permanent) – OFF 2 (Permanent). Confirm by pressing "OK" and go back to normal mode by pressing the "C" key repeatedly. To change out of permanent mode, repeat this operation and select ON or OFF.

In the ON 2 and OFF 2 positions, you can also change the state of the circuit by pressing the  $\rightarrow$  key.

The symbols for activated options are shown on display.

## ADVANCE PROGRAMMING. SPECIAL FUNCTIONS (EXTRAS)

### PULSE PROGRAMMING

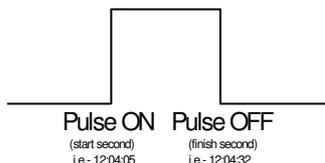
With pulse programming, switches from 1 to 59 seconds can be carried out, with both ON and OFF pulses.

In normal mode, press the "OK" key to go into the PROGRAM menu. Press "OK" and the display will show: PROGRAM PROG 01 .

Press the "OK" key again and the display will show PROG 01: PROGRAM. Press "OK" again and PROG 01: C1: ON appears. Use the  $\uparrow$  and  $\rightarrow$  keys to select PULSE, press "OK" to confirm and the display will show MON : YES. If you want the switch to be carried out on Monday, press "OK," otherwise, press either of the  $\uparrow$  and  $\rightarrow$  keys and the display will show MON : NO. Press "OK" and carry out the same process for the other days of the week, one after the other, confirming them in the same way.

When you have selected the days, you then need to set the time at which the switch will take place. Use the  $\uparrow$  and  $\rightarrow$  keys to set the hours and confirm with "OK." Now do the same for the minutes and when you confirm by pressing "OK," the display will show PULSE ON : choose the second when the circuit is to be connected using  $\uparrow$  and  $\rightarrow$  and confirm with "OK". The display will show PULSE OFF. Use  $\uparrow$  and  $\rightarrow$  to select the second at which the circuit is to be switched off and press "OK" again to confirm.

If you want an "on" pulse, take care to set PULSE ON before PULSE OFF and the other way round for an "off" pulse.



## WINTER / SUMMER TIME CHANGE

To go into the menu MENU, press the "OK" key and use the  $\uparrow$  and  $\rightarrow$  keys to find the EXTRAS option. Confirm with "OK" and you will see EXTRAS SEASON on display, press "OK" again and 3 options are displayed: AUTO, MANUAL and DO NOT USE. Move between them with the  $\uparrow$  and  $\rightarrow$  keys and confirm by pressing "OK."

**AUTO** (the clock is automatically changed on the last Sunday in March and the last Sunday in October).

No changes are possible with this option. When you select it, the display shows SEA AUTO W  $\rightarrow$  S and the date of the change from winter to summer time (last Sunday in March). When "OK" is pressed, SEA AU W  $\rightarrow$  S DATE appears and when the  $\uparrow$  or  $\rightarrow$  key is pressed, the time of the change (02:00:00) is shown. When you press "OK" again, you will see SEA AUTO S  $\rightarrow$  W and the date of the summer-to-winter time change (last Sunday in October). Pressing "OK" shows the date again and the  $\uparrow$  or  $\rightarrow$  key lets you see the time when the change will happen (03:00:00). Press "C" or "OK" to go back to the EXTRAS HOLIDAYS menu.

**MANUAL** (Allows you to choose the date and time for the time change).

When you select this option, the display shows SEA MANUAL W  $\rightarrow$  S and the date of the winter-to-summer time change. Press "OK" and you can change the month with the  $\uparrow$  and  $\rightarrow$  keys. When you confirm this (OK), you see LS (for "Last Sunday"): YES. If you want to set the last Sunday of the chosen month for the change, press "OK," otherwise change to LS: NO using the  $\uparrow$  and  $\rightarrow$  keys and confirm with "OK."

If you accept LS: NO, the next display allows you to choose the day of the month when the change will take place, followed by the hours and minutes. When you confirm with "OK," the summer-to-winter time change (S  $\rightarrow$  W) is shown - program in the same way. "OK" takes you back to the EXTRAS HOLIDAYS menu.

**DO NOT USE** (no time change will be made)

If you select this option and confirm (OK), no time change will be made and you will be taken back to the EXTRAS HOLIDAYS menu.

If there are any switches programmed during the period of the time change, they will be duplicated or not carried out, depending on the time change in question.

## HOLIDAY PROGRAM

This allows you to cancel programs and switch the circuit OFF for a set period of time. When this time has passed, programming is re-established. Press "OK" to go into the MENU PROGRAM, use the  $\uparrow$  and  $\rightarrow$  keys to find EXTRAS, press "OK" and use the  $\uparrow$  and  $\rightarrow$  keys again to find HOLIDAYS. Accept "OK" and the display will show HOLIDAYS BEGIN and press OK again to see BEGIN HOUR. Use  $\uparrow$  and  $\rightarrow$  to enter the hour at which the holiday period is to begin, press "OK" and then enter MINUTES, MONTH and DAY in the same way. Confirm the setting with "OK" and the display will show HOLIDAYS END. Program this in the same way as for HOLIDAYS BEGIN, entering your chosen HOUR, MINUTES, MONTH and DAY for the holiday period to end. When you press "OK" to confirm the last of these, you will see EXTRAS RANDOM on display – press the "C" key repeatedly to go back to normal working.

During the holiday period, the symbol  $\square$  is displayed on display.

### DEACTIVATING THE HOLIDAY PROGRAM

To deactivate the holiday program, go into EXTRAS HOLIDAY and with HOLIDAYS BEGIN on the display, use the  $\uparrow$  and  $\rightarrow$  keys to select CLEAR, then press "OK" and the program will be erased. Press "C" repeatedly to go back to normal operation.

## RANDOM PROGRAMS

The MODUL LOG / MINI LOG / MINI T LOG can carry out random "on" and "off" switches. Random programs work between 07:00 and 24:00.

The program RANDOM  $\rightarrow$  1 carries out random switches of variable duration, between 10 minutes and 1 hour.

The program RANDOM  $\rightarrow$  1 carries out random switches of variable duration, between 2 and 4 hours.

From the normal operating display, press "OK" and use  $\uparrow$  and  $\rightarrow$  to find EXTRAS RANDOM. Press "OK" again and you will see RANDOM  $\rightarrow$  1. Use  $\uparrow$  and  $\rightarrow$  to choose between the options  $\rightarrow$  1,  $\rightarrow$  2 or STOP, which deactivates the random program. Press "OK" to confirm and press the "C" key repeatedly to go back to normal operating mode. If one of the random programs has been selected, the symbol  $\square$  will be displayed on display.

In random mode, programmed switches are not carried out.

## COUNTER

To monitor the length of time (number of hours) the circuit has been active (C1 ON), selecting the EXTRAS COUNTER option displays the number of hours to 4 figures (up to 9999 hours). This counter is not zeroed when the device is reset.

In normal operating mode, press "OK" and use the  $\uparrow$  and  $\rightarrow$  keys to find EXTRAS COUNTER. Pressing "OK" again brings up COUNTER C1 on display and the number of hours the circuit has been on to four figures.

Press "C" repeatedly to go back to normal operation.

If you wish to erase the counter, from the display showing the number of "on" hours, press "OK" and CONT C1 DELETE will be displayed on display.

Press "OK" again and the display will show CLEAR C1 YES. Use  $\uparrow$  and  $\rightarrow$  to choose between YES and NO and confirm pressing "OK". Press the "C" key repeatedly to go back to normal operating mode.

### 12 (AM – PM) or 24-HOUR TIME MODE

You can choose between the time being displayed in AM : PM or 24-hour format. In normal operating mode, press "OK" and use  $\uparrow$  and  $\rightarrow$  to find EXTRAS 12/24H. From this menu, choose 12H or 24H and confirm with "OK". Press the "C" key repeatedly to return to normal operating mode. If the 12h function has been chosen, AM or PM will be shown on display, depending on the current time.

### CYCLE PROGRAMMING

A cycle is a sequence of repetitive switches.

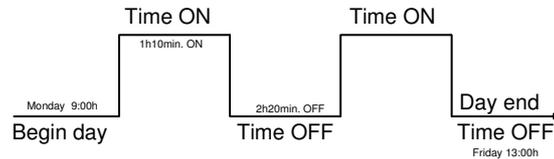
Each programmed cycle takes up two memory spaces (PROG X and PROG X+1). Before programming, check that the next memory program is free, option CYCLE will not be available. CYCLE programs are not permitted in memory program 50.

Go into the PROGRAM menu and press "OK." Use the  $\uparrow$  and  $\rightarrow$  keys to choose a program (PROG XX), press "OK" again and PROG PROGRAM will be displayed. Confirm with "OK" and C1:ON will be displayed. Select CYCLE, press "OK," and you will see DAY BEG MON: YES (to allow you to select the starting day for the cycle). If you want it to begin on Monday, press "OK," otherwise use the  $\uparrow$  and  $\rightarrow$  keys until DAY BEG MON: NO appears on the display. Press "OK" to accept and repeat the operation for the other days of the week, selecting and confirming them in the same way.

When you have chosen the days, you need to select the start time for the cycle, beginning with the hour. Use the  $\uparrow$  and  $\rightarrow$  keys to enter the hour and confirm with "OK." Enter the cycle start minutes in the same way, and when you confirm "OK", DAY END MON: YES (to allow you to select the last day for the cycle) will be displayed. Repeat the same procedure to enter the days, hours and minutes for conclusion of the cycle.

Next, the cycle connection time (TIME ON) needs to be programmed. Enter the figures for hours and minutes (maximum 23 hours 59 minutes.- minimum 0 hour 1 minute) and then the cycle disconnection time (TIME OFF) in hours and minutes (maximum 23 hours 59 minutes.- minimum 0 hour 1 minute). (See example)

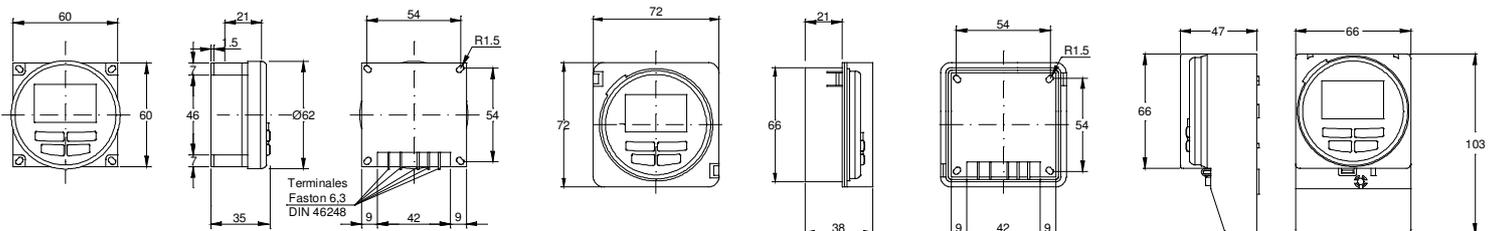
Do not program overlapped cycles, as during the execution of one cycle, the overlapped cycle will not start. Cycles are shown in chronogram as ON from beginning to the end.



## MODUL LOG TECHNICAL FEATURES

Power supply :	As indicated on the device
Switching capacity :	16 (4) A / 250V
Contact type and material:	Changeover AgNi 90/10
Power consumption:	6 VA 1 circuit (approx.1 W)
Number of programs:	50
Type of programs:	ON OFF PULSE (1 to 59 seconds) CYCLES (from 1 minute to 23hours 59 minutes, in ON or OFF times)
Switching accuracy:	Better than 1 second
Operating accuracy:	$\leq \pm 1s/day$ at 23°C
Reserve battery:	5 years (Lithium battery)
Working temperature:	-10 °C to +45 °C
Protection type:	IP 20 according to EN 60529 IP 51 MINI LOG on surface mounting.
Protection class:	II according to EN 60335 when mounting as intended

## DIMENSIONS



MODUL LOG

MINI T LOG

MINI LOG

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