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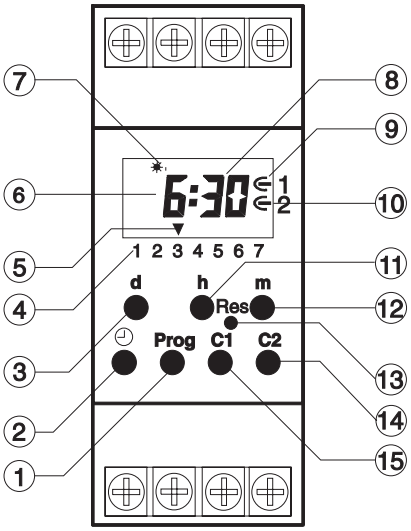
GB Operating Instructions (pag. 38 – 55)

Time switch

TR 612 S

CE



1 Programming / checking mode
2 Button for setting current time
3 Button for setting day of the week
4 Button for displaying days of the week
(1 = Mon, 2 = Tues, 7 = Sun)
5 Cursor ▼ for displaying days of the week
6 Hour display
7 Display for automatic summer/winter time
(adjustment (☼ = summer / ❄ = winter)
8 Minute display
9 Switching status display ON (⋐) OFF (⊂) channel **C1**
10 Switching status display ON (⋐) OFF (⊂) channel **C2**
11 Hour setting
12 Minute setting
13 General deletion (RESET)
Attention: this button deletes all stored data!
14 Channel **C2**
15 Channel **C1**

1.0 DESCRIPTION

1. 1 Application

Time switches switch on, off or over, electrical units time dependent on a day or week cycle.
Time switch **TR 612 S** is suitable for assembly to the 35 mm top-hat rail (DIN EN 50022). If assembly kit 907 0 064 is used, the installation can be fitted to a wall

Single-channel time switch **TR 612 S** with optional day or week program

Dayprogram:
Any programmable switching times will be executed at the same time every day.

Weekprogram:
Switching times can be individually set for every weekday.

1.2 Features

The time switch is pre-programmed with date, automatic summer / winter time change-over and real time as a weekly clock.

– permanent program retention by means of EEPROM.
  programmed switching times are retained for a period of approx. 10 years even in the event of a power failure or insufficient battery reserve.
– automatic program recall
– 99 days holiday program, programmable 99 days ahead
– over-ride switching
– permanent switching ON / OFF
– battery reserve by means of lithium cell, approx. 6 years

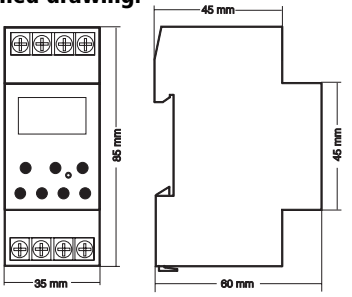
1.3 Technical data:

Designation:	**TR 612 S**
Type of program:	Day or week
Operating voltage:	230 V ± 10% 240 V + 6 % / – 14 %
Nominal frequency:	50-60 Hz
Internal consumption:	Max. 8 VA
Switching capacity:	2 x 16 (10) A, 250 V ~
Contact material:	AgSnO2
Type of contact:	Changeover
Time base:	Quartz
Memory locations:	36
Min. switching interval:	1 minute
Switching accuracy:	To the second
Operating accuracy:	± 1 sec./day at 20° C deg. C
Power reserve:	Lithium, max. 6 years at 20° C deg. C
Perm. ambient temp.:	– 10° C ... + 50° C (– 10T50)
Class of protection:	II acc. to EN 60335 when mounted
System of protection:	IP 20 acc. to EN 60529

Technical data on device nameplate may vary - please check!
Subject to technical alterations.

The time switches are in accordance with the European directives 73/23/EEC (Low-Voltage Directive) and 89 / 336 / EEC (EMC-Directive). If the time switches are used together with other devices in an installation, take care that the complete installation does not cause a radio interference.

1.4 Dimensioned drawing:



2.0 MOUNTING INSTRUCTIONS

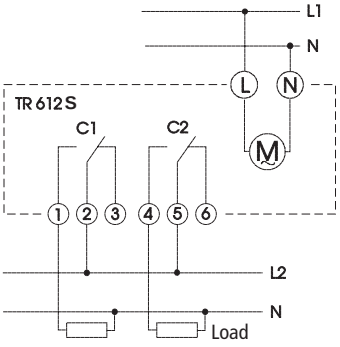
2.1 Safety information:

Electrical devices should only be connected and mounted by an electrical specialist. Manipulations and modifications on the switch will result in loss of warranty. The national specifications and applicable safety regulations must be observed.

Despite elaborate safety precautions, exceptionally strong electrical fields may cause interference with the microprocessor-controlled time switch. We therefore recommend that you observe the following points before installation:

- Suppress interference of inductive loads by means of an RC filter
- Use a separate line for the mains voltage supply
- Do not install device in close proximity to sources of interference, e.g. transformers, contactors, PCs and TV sets.
- If interference occurs, we recommed that you carry out a RESET (chapter 4.7) before putting the device back into operation

2.2 Electrical connection:



3.0 START-UP

The device TR 612 S comes ready programmed with the current time and with the relevant Greenwich mean time rule for automatic summer/ winter time adjustment.

Should you require a different time adjustment rule, or none at all, the new rule can be selected from the table (chapter 6.1) and re-programmed as described in chapter 6.2 to 6.3.

3.1 Automatic reset

If no buttons are pressed for a certain length of time in the checking or programming mode, the display is autmatically reset to automatic mode after approx. 40 sec. The device then assumes the switching status dictated by the program.

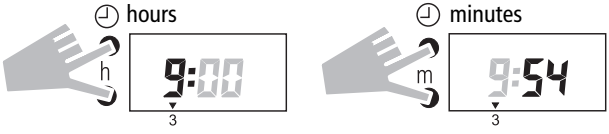
3.2 Fast forward:

When setting the time or programming, the fast forward function is obtained by holding down button **h** or **m** for more than 4 sec.

3.3 Setting/changing the current time

Should the time already set in the factory vary slightly, it can be corrected as follows:
The button ⏲ must be kept pressed while setting!
Later on release ⏲.

Attention: The colon between hours and minutes has to flash, if not, please do „Reset"; (see chapter 6.0).



3.4 Checking the date

First press the button ⏲ and then button **d**. Hold down both buttons for approx. 2 sec. The set summer/winter time adjustment rule (e.g **dat**) will then appear in the LCD display. If you now press the **Prog** button, the year will appear, followed by the date if pressed again. Press the **Prog** button to return to the automatic program.

3.5 Identification of automatic summer/ winter time adjustment

Summer time symbol ✳

Winter time symbol ❄

3.6 Priorities

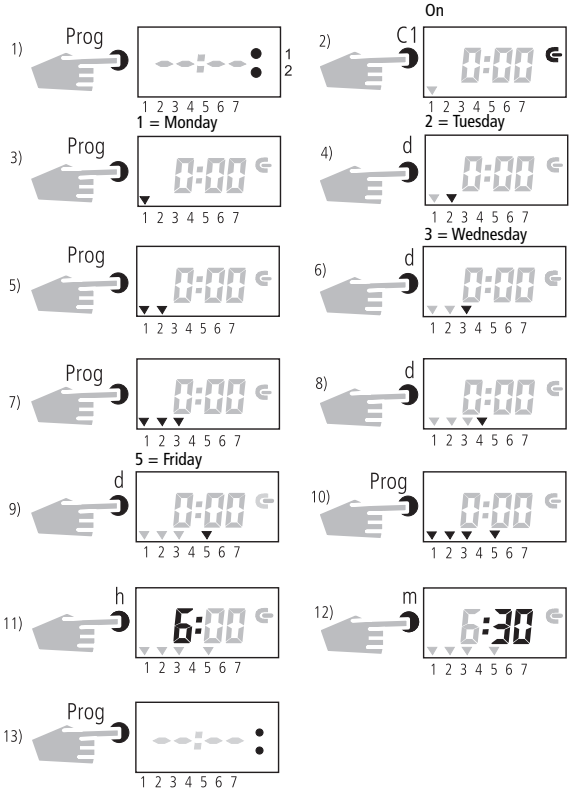
A	A permanent switch setting takes priority over all other programs
B	A holiday program takes priority over a switching preselection or the automatic program
C	Manual switching changes the switching status until the next contrary switching command
D	If the switch-on and switch-off time are identical, the switch-off time always takes priority

4.0 PROGRAMMING

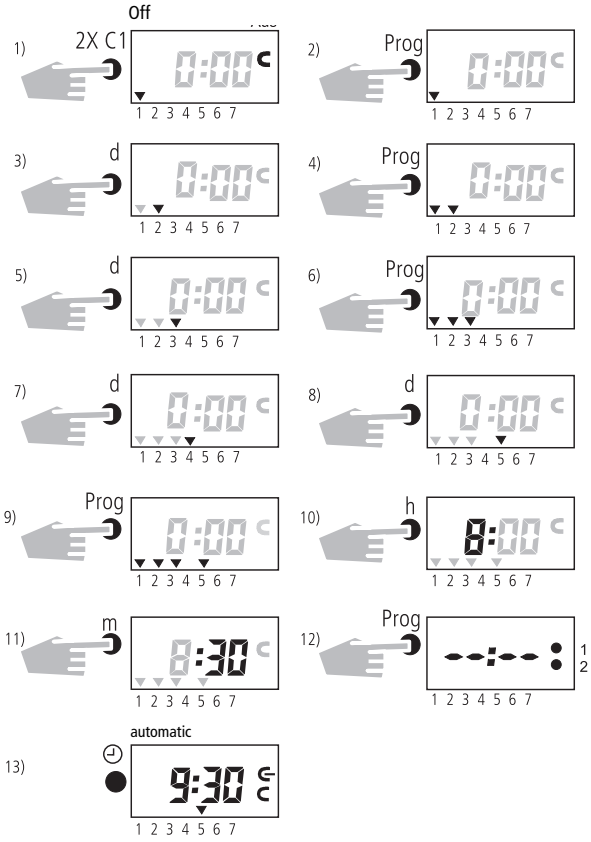
4.1 Programming in the week program

The device type **TR 612 S** has a week program with free block formation for the days of the week. This means that identical switching times valid for several days of the week only occupy one memory location.

Example of a switch- on time:
The connected consumer is to switch in channel **C1** on (⋐) at 6:30 on Monday **(1)**, Tuesday **(2)**, Wednesday **(3)** and Friday **(5)**.



Example of a switch- off time:
The connected consumer is to switch off (⊂) at 8:30 on Monday **(1)**, Tuesday **(2)**, Wednesday **(3)** and Friday **(5)**.



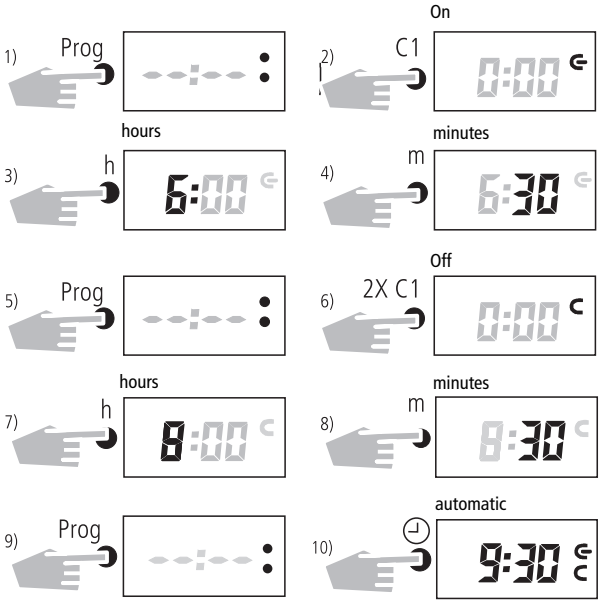
Note:

- When all 36 memory locations are full, the word **End** appears in the LCD display.
- If a switch-on and switch-off time are programmed simultaneously, the switch off time will always take priority.

4.2 Programming TR 612 S on the day program

If time switch TR 612 S is to be operated only on the day program, a new initial operating set-up must be carried out, see Chapter 6.2.

For example: Channel **C1** is to switch (⏚) on at 6:30 hours and switch off again at 8:30 hours (⏚).



With button **C1** a choice can be made, while programming, whether a switch on (symbol ⏚) or a switch off (symbol ⏚) should be effected.

● For programming channel 2, use the button **C2.**

4.3 Program interrogation

In automatic operation, by pressing the button **PROG** the stored switching times can be interrogated.

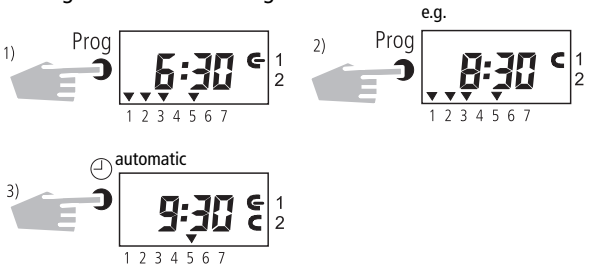


Illustration 1: in channel **C1** switch on (⋐) is effectd Mo, Tues, Wed, Fri at 6:30 hours

Illustration 2: in channel **C1** switch off (⊂) is effected Mo, Tues, We, Fri at 8:30 hours

4.4 Program change

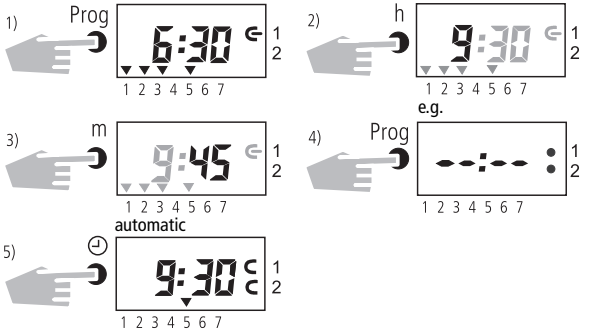


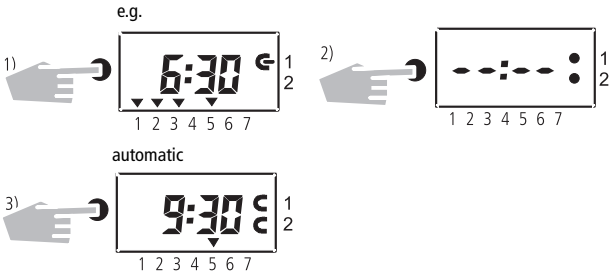
Illustration 1: stored switching times in channel **C1:** Mo, Tues, Wed, Fri switch on at 6:30 hours

Illustration 2 + 3: change switching times with the buttons **h** and **m** switch on Mo, Tues, Wed, Fri at 9:45 hours

With button **d**, the days, on which the switching time is to be effected, can be revised, as required, and stored with the button **PROG.**

4.5 Individual deletions

In automatic mode, the stored switching times can be checked via the **PROG** button and individually deleted by pressing the **h** and **m** buttons simultaneously. Only the switching time currently on display will be deleted.



4.6 General deletion of all switching times

Attention!
This action deletes all stored switching times.
(The current time and the selected time adjustment rule remain).

If the buttons **d + h + m** are pressed simultaneously in the programming or checking mode, all switching times will be deleted at once.

4.7 GENERAL DELETION (RESET)

If the **Res.** button is pressed **without** operating voltage, the cancellation of all previously stored data is effected. If the **Res** button is pressed **with** operating voltage, only the cancellation of the switch-over rule and of real time is effected. The stored program is retained.

5.0 SWITCHING FUNCTIONS

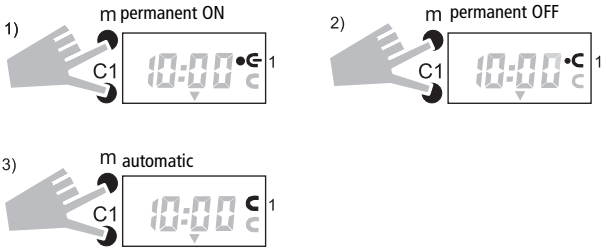
5.1 Over-ride switching ON / OFF

During automatic operation, by pressing button **C1** or **C2** the connected electrical unit can be switched on (⋐) or off (⊂) manually.

When button **C1** or **C2** has been pressed, the time switch accepts the desired switching condition. An over-ride switching is corrected by the next contradictory switching command.

5.2 Permanent ON / OFF switching

During automatic operation, the connected electrical unit can be permanently switched on (see illustration 1 / ● ⋐) or permanently switched off (see illustration 2 / ● ⊂) manually with the button **m** and the button **C1** or **C2.** To achieve this button **m** must first of all be held down firmly and only then the switching condition be selected with button **C1** or **C2.**

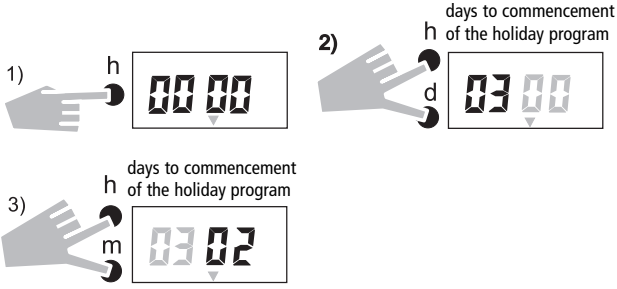


If a permanent switching is cancelled, the dot beside the switching condition display (see illustration 3) goes out. After cancellation of a permanent switching the time switch effects a program recall. This results in the time switch checking the stored program and implementing the correct switching condition.

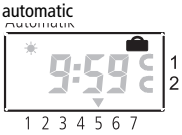
5.3 Holiday program

The selectable holiday program makes it possible to interrupt the stored program for a max. 99 days. (Both channels switch condition off = ⊂).The programming of the holiday program can be effected up to a max. 99 days ahead. The beginning and end of the holiday is, in each case, at midnight. The present day is not included.

Example: On **Monday** a holiday program is activated, which is effective from **Friday** for a period of 2 days. For the period of setting, the button **h** must be held down!



For the length of a holiday program, the symbol 💼 appears in the display.



5.4 Breaking off the holiday program

If the holiday program is to be broken off, the display of the holiday program must be set back to 00 00 with the buttons **d, h, m,** as described above. The symbol 💼 goes out.
Programed switching times determine the switching program.

6.0 SUMMER-/WINTERTIME ADJUSTMENT

Important note:

If you wish to change the automatic time adjustment rule preprogrammed in the factory, you can select a new adjustment rule from table 6.1, and program this as described in chapter 6.2 to 6.3.

6.1 Selection table for automatic summer/winter time adjustment

Set-ting area	Beginning of summer time	Beginning of winter time	Appl. bereich
dat up to 12/95	Last Sun. in March	Last Sun. in Sept.	EU
dat 1 from 1/96	Last Sun. in March	Last Sun. in Oct.	EU
dat 2	Last Sun. in March	Last Sun. in Oct.	GB / Portugues
dat 3	1st. Sun. in April	Last Sun. in Oct.	North
no	No adjustment	No adjustment	

6.2 Initial start-up w i t h o u t automatic summer / winter time adjustment

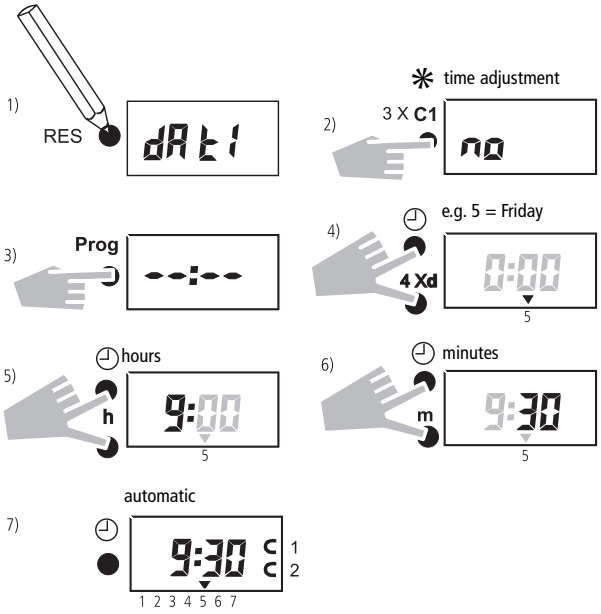
Weekprogram:

see 2: The button **C1** can be used to set the required time adjustment rule from the table in Chapter 6.1.

see 4): Button **d** can be used to set the current day of the week (1 = Monday, 2 = Tuesday,..7 = Sunday).

Dayprogram:

see 4): Don't use button **d.**



When the button ⏲ is released after entering the time, both dots between the hour and minute display should flash. If not, repeat the setting.

6.3 Initial start-up <u>w i t h</u> automatic summer/winter time adjustment

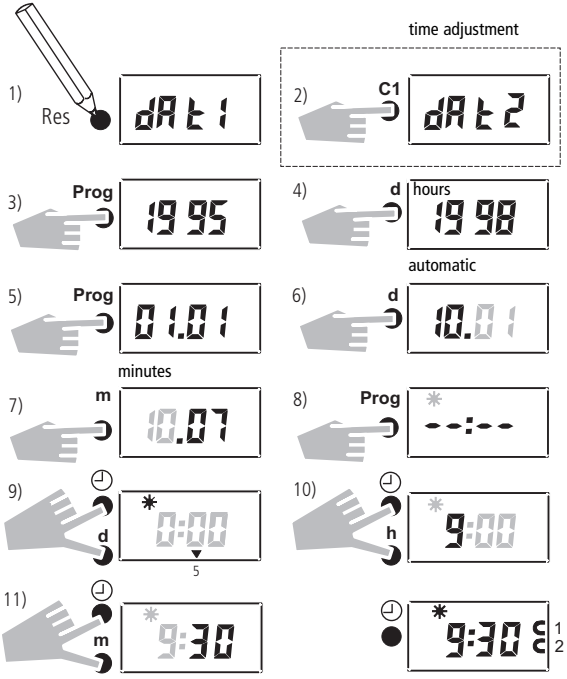
Weekprogram:

see 2): The button **C1** can be used to set the required time adjustment rule from the table in chapter 6.1.

see 9): Button **d** can be used to set the current day of the week (1 = Monday, 2 = Tuesday, ... 7 = Sunday)

Dayprogram:

see 9): Don't use button **d.**



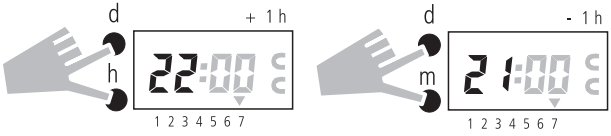
When the button ◴ is released after entering the time, both dots between the hour and minute display should flash. If not, repeat the setting.

6.4 Changing the automatic summer/ winter time adjustment

Select the required automatic adjustment from the selection table in chapter 6.1. First press the button ⏲ and then button **d**. Hold down both buttons for approx. 2 sec. The set summer/winter time adjustment rule will then appear in the LCD display **(e.g. dat)**. To change the automatic S/W adjustment, press the button **C1**, and then store the setting via the **Prog** button.
You can then change the year using button **d**, and store it by pressing the **Prog** button. The current day can then be changed with button **d** and the month with button **m**. Again, store by pressing the **Prog** button.

6.5 Manual summer/winter time adjustment

If **no** automatic summer/winter time adjustment has been selected **(no)**, the time can be corrected manually by +/- hour.
First press the button **d** and then button **h** or **m.**



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