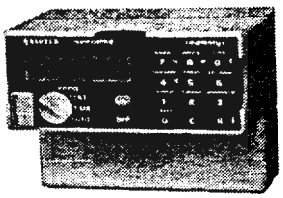
560 510
556 522

560 - 510
556 - 522

ZDR time-switch



For fully-automatic switching (on, off or change-over) of circuits such as lighting, heating, ventilation, pumps, cooling plant, alarm systems etc.
Microprocessor-controlled, fully-electronic hour, day and week time-switch. Capacitor serves as reserve power supply. External memory for the reading in and out of switching times (accessory).
Front plate with illuminated LCD panel, keyboard and drawer with operating instructions.
Housing with sealable terminal cover, both of yellow thermoplastic. Suitable for installation onto walls, in control panels (with accessory) or top-hat rail as per DIN/EN 50022. Terminal socket with plug-in connector and screwed terminals for cables up to 6 mm.

SP123

Type	Voltage	Memory addresses	Weight kg
Single-circuit time-switch for wall and panel mounting			
ZDR 101 F011	230 V~	57	0,41
ZDR 101 F012	120 V~	57	0,41
ZDR 101 F013	24 V ≃	57	0,41
ZDR 101 F014	12 V ⎓	57	0,41
Dual-circuit time-switch for wall and panel mounting			
ZDR 102 F021	230 V~	58	0,43
ZDR 102 F022	120 V~	58	0,43
ZDR 102 F023	24 V ≃	58	0,43
ZDR 102 F024	12 V ⎓	58	0,43
Single-circuit time-switch, as exchange model for type Z5D (can be used with attachment as table-top model).			
ZDR 111 F031	230 V~	57	0,41

Power supply
- F011, F021, F031 230 V~ ± 10 %, 50…60 Hz
- F012, F022 120 V~ ± 10 %, 50…60 Hz
- F013, F023 24 V ≃ ± 10 %, 45…400 Hz
- F014, F024 12 V ⎓ ± 10 %

Power consumption: approx. 0.6 W (1.2 VA)

Functional data
- Back-up power supply at 20°C: approx. 36 h
- Accuracy: ± 0.4 s/d (sec per day)
- Shortest switching interval: 1 min
- Impulse duration: 2 s

Permissible limit values
- Contact rating: μ 16 (6) A, 250 V~
- Filament lamp load: 4 A, 250 V~
- Motor load: 2 A, 250 V ~

Ambient conditions
- Permissible amb. temp.: – 5…35 °C
- Degree of protection: IP 41
- Protection class: II

Wiring diagram: A01090
Dimension drawing: M275250
Operating instructions: 505105...[1)]

1) Delivered with each unit; in 6 languages. Language code: German = 001; French = 002; English = 003; Italian = 004; Spanish = 005; Swedish = 008.

Accessories

226187/001	External memory
275490	Frame for panel mounting
275615/001	Baseplate with SEV plug for ZDR 111 (attachment for table-top model)
275615/002	Baseplate with earthed plug for ZDR 111 (attachment for table-top model)

Operation

Memotime is a microprocessor-controlled, fully-electronic time-switch with programmable hour, day and week settings; with LCD display. Applying power across terminals 1 and 2 renders the clock operable.
The bistable output relay retains its status even after a power failure, though no switching operations are carried out in such cases. When power is restored, the appropriate switching status is re-instated in accordance with the program.
The switching status can also be set by hand using the ON/OFF buttons. By switching over to TIME, the switching program in the memory is overridden (holiday function) without loss of data.

Farnell COMPONENTS

SAUTER

Operating modes

TIME	Setting the time; entry of date and change-over months for summertime/wintertime[1)]
AUTO	Automatic operation as per program
PROG	Programming the memory (single-circuit model)
PROG A	Programming the memory for channel A (dual-circuit model)
PROG B	Programming the memory for channel B (dual-circuit model)
TEST	Checking the program in chronological order

1) The change-over from summertime to wintertime and vice versa is performed automatically at 02.00 hrs on the last Sunday of the programmed month.

Programming

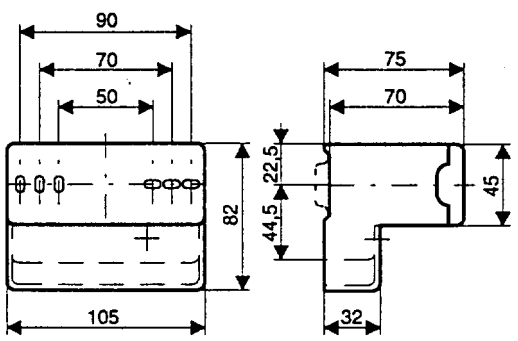
Entries are made on a ten-figure key pad which can be blocked with an entry code.
Number of switching commands per week (either as change-over or as pulse):-
399 on the single-circuit model;
406 on the dual-circuit model.

Additional priority programs or single switching times can be programmed up to 6 days in advance (e.g. holidays, periods of absence or party times).

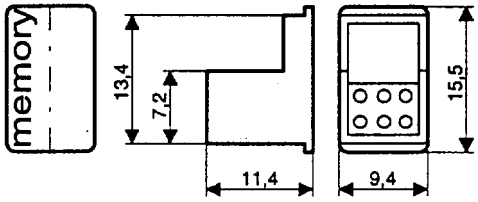
Installation instructions

After electrical connection has been made via the terminal socket, the device can be inserted and secured with a sealable screw.

Dimension drawing

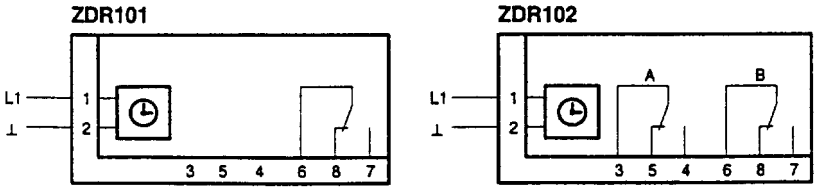


M275250



226187/ 001
M00689

Wiring diagramm



A01090

Printed in Switzerland
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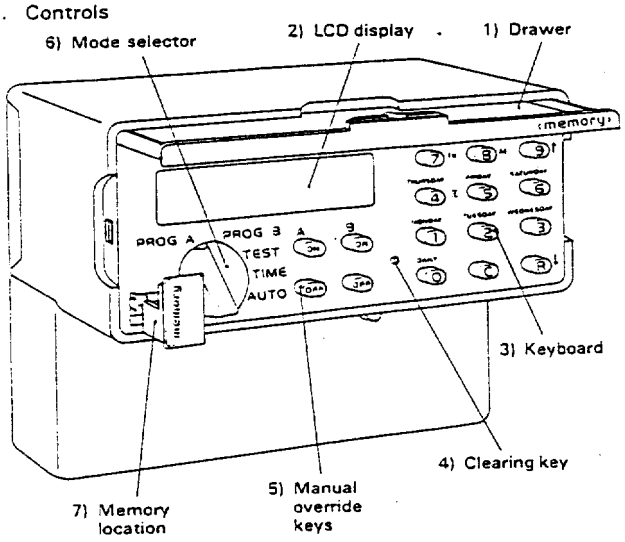
N.B.: A comma between cardinal numbers denotes a decimal point
Fr. Sauter S.A., CH-4016 Basle
7 112018 003 E8

ZDR 101, 102
Single- or dual-channel, electronic time-switch with external ‹memory›

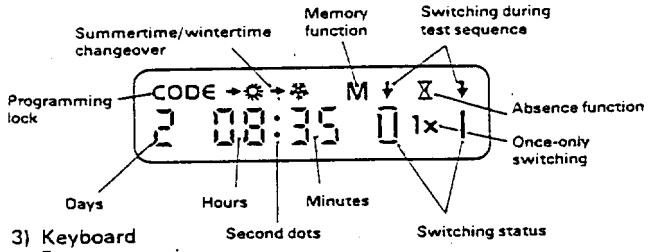
505 105 003 A

I. Controls



1) **Drawer**
For safekeeping of the operating instructions.

2) **Illuminated LCD display**
Switched on and illuminated after voltage is applied.



3) **Keyboard**
For programming.

4) **Clearing key** (recessed)
A pin (or similar) is required to depress this key. Doing so clears the time and the whole contents of the memory in all operating modes.

5) **Manual override keys**
For switching a channel ON or OFF.

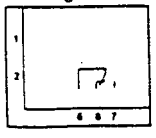
6) **Mode selector**
For selecting the operating modes
- PROG (or PROG A / PROG B in the dual-channel model).
  - programming of switching times or impulse switching times.
  - programming of the once-only switching time.
  - loading the ‹memory›.
- TEST
  - enables the programmed switching times to be checked in chronological order.
- TIME
  - setting the time
  - entering the date
  - programming the summertime/wintertime changeover
- AUTO
  - automatic operation
  - manual switching
  - absence function
  - loading the switching program into the ‹memory›
  - code entry for locking the controls

7) **‹memory› location**
For plugging-in the ‹memory› (optional extra, order no. 226187).

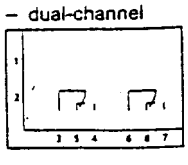
II. Technical specifications

Type, operating voltage and switching power according to specification plate.

Model types
- single-channel



- dual-channel



Specification

– battery back-up (super capacitor)	36 hrs
– memory files	
single-channel	57
dual-channel	58
– impulse duration	2 sec
– shortest switching interval	1 min
– permissible ambient temperature	– 5 . . . 35° C
intermittently	–10 . . . 55° C
– protection class	IP 42/II

III. Installation

Before installing, loosen the fixing screw (which can be sealed) and remove the terminal cover. The appliance can now be removed from the terminal socket, which can now be installed and wired.

IV. Commissioning

As soon as power is applied to terminals 1 and 2, the integrated super capacitor is trickle charged. A short time later, a sign appears and the time switch is ready for operation.
The operating instructions can be stored in the drawer for safekeeping.

1. **Programming the switching times / impulse switching times**
   Note that only impulse or ON/OFF switchings can be programmed, a combination of switching functions is not possible.
   a) Select operating mode PROG (or PROG A / PROG B). The first memory file appears in the display, e. g.: _ __:__ __.
   b) Using the clear key C, prepare the memory file for the entry.
   c) Enter the weekday (key 1 = Monday, . . . 7 = Sunday).
   For a program that is to be repeated over several days, use key 0 (= daily).
   Note: switching times programmed by weekday (keys 1 to 7) override all switching commands for that day which have been entered via key 0 (= daily).
   d) Always use four figures e. g. 09:15 for the switching times.
   e) Switch on by pressing the ON key. Switching status I is shown. Switch off by pressing the OFF key, whereby switching status 0 appears. Impulse switching I appears when key 8 is pressed.
   f) Storing: the next memory file appears when key R↓ is pressed. To program further switch functions, proceed as described in b, c, d and e.
   Using key 9↑, the memory files appear in reverse order without changing the programs.
   N. B.: In the dual-circuit model, the 58 memory files can be distributed over the channels as desired.

2. **Entering a once-only switching time**
   a) Select operating mode PROG (or PROG A / PROG B).
   b) Find a spare memory file by using key R↓; the display shows, for example on PROG A: _ __:__ __.
   c) Enter switching time with weekday and time; select the switching status via keys ON or OFF or IMPULS (see Part 1 c, d, e), and then the function via the once-only key 1× (7). The special sign 1× appears in the display.
   It is not possible to program a once-only switching via key 0 (daily). After the once-only switching has been carried out, the normal program is continued until 24.00 on the same day, when it is deleted.
   In the operating mode TEST, once-only switchings are still displayed, even after having been carried out, but only until 24.00 of the day on which the once-only switching was programmed.

3. **Deleting memory files**
   a) Select operating mode PROG (or PROG A / PROG B). The first memory file is always shown.
   b) Press key R↓ until the memory file which is to be deleted appears. With key 9↑ the memory files can be "visited" in reverse order.
   c) The memory file is deleted by pressing key C and can, if required, be re-programmed (see Part 1 c, d, e).

4. **Checking the switching program in chronological order**
   a) Select operating mode TEST.
   b) By repeatedly pressing key R↓, each memory file is displayed and can be checked. After the last programm point, END appears in the display.
   c) After pre-selecting a certain day, e. g. button 3 for Wednesday, checks of the memory files from Wednesday onwards can be done by pressing button R↓.

5. **Entering weekday and time**
   a) Select operating mode TIME.
   b) Press clear key C.
   c) Enter weekday and time, e. g. Saturday (6), 07.06 o'clock. Press buttons 6, 0, 7, 0, 6, which is displayed as 6 07:06; the colon is permanently displayed.

d) Pressing button R↓ starts the clock and d __:__ appears in the display. If no changeover from summertime to wintertime is required, then return to operating mode AUTO or proceed to point 6.c.

6. **Entering the changeover from summertime to wintertime**
For automatic changeover from summertime to wintertime and vice versa, both changeover months must be entered.
The changeover from winter to summer is carried out on the last Sunday of the entered month at 02.00 o'clock (to 03.00 o'clock; time is put forward one hour). Any switching time in this hour is lost.
The changeover from summertime to wintertime is carried out on the last Sunday of the entered month at 03.00 o'clock (to 02.00 o'clock; time is put back one hour). A switching time between 02.00 and 03.00 o'clock (to 02.00 o'clock; time is put back one hour). A switching time between 02.00 and 03.00 o'clock remains in existence, i.e. a switching at 02.45 has already been done and is applicable as from 02.00, after the changeover.
a) Select operating mode TIME.
b) Press button R↓ to start the time. In the display, d __:__ appears and the date can be entered.
c) Enter the date and the year, e.g. 29th August 1992.
Press 2, 9, 0, 8; in the display, d 29.08 appears.
Press key R↓ and A __:__ appears in the display.
The year can now be entered. Press 1, 9, 9, 2 and A 19:92 appears.
d) Press key R↓ until d: ➡ ☼ appears.
e) Enter the month in which changeover from summertime to wintertime occurs, e.g. September. Press 0 and 9, and then d:09 appears in the display.
f) Press R↓ and d: ➡ ☼ appears.
g) Enter the month in which changeover from wintertime to summertime occurs, e.g. March.
Press 0 and 3, and d:03 appears in the display.
After leaving operating mode TIME, the two summer/winter changeovers are programmed and are carried out automatically. In the operating modes AUTO and TIME, the special sign ➡ ☼ ➡ ☼ is visible in the display.
h) On leaving the operating mode TIME, the date and time are memorized. In the operating mode AUTO, the actual weekday and time, e.g. 6 07:06, are displayed.

7. **Entering the absence function (party function)**
By use of the absence function, the switching program can be set aside for up to 9 days, 23 hours and 59 minutes. After the entered time has expired, the time switch returns to the normal switching program.
During the course of the absence function, the time switch cannot be operated.
a) In operating mode AUTO, press button 4, in the display, _ __:__ ⧖ appears. If nothing is entered within the next five seconds, the appliance returns automatically to the operating mode AUTO.
b) Enter the duration in days, hours and minutes, e.g. 0 days, 3 hrs, 10 mins.
Press button 0, 0, 3, 1, 0; in the display, 0 03:10 ⧖ is shown, with the colon permanently on.
Five seconds later, the absence function is activated; the dots flash and the displayed time counts down. During the absence time, no other operating mode can be selected. After it has expired, the actual time is again displayed.
The absence function can be discontinued at any time by use of button C. The programmed duration remains stored and can be re-activated by pressing key 4 in operating mode AUTO.
c) Cancelling the absence time. By pressing button 4 in the operating mode AUTO, and then button C within four seconds, the programmed absence time is cancelled and cannot be re-activated.

8. **Entering the access code**
Operation by unauthourised persons can be prevented by using a code. Also, via the ON button, manual operation for channels A and/or B in the operating mode AUTO can be allowed.
a) Example: relay B remains in service.
In operating mode AUTO, press the CODE key (9); in the display, CODE 00 00 appears. Extinguish the zeros by pressing button C; in the display, CODE __ __ 0 0 appears.
Enter the four-digit CODE number (e.g. 3572) and press the ON button on channel B; in the display, CODE 35 72 0 1 appears.
Press the CODE key (9) to return to operating mode AUTO. Operation is now blocked; only manual switching with buttons ON/OFF on channel B can be performed.
If nothing is entered within the next ten seconds, the appliance returns automatically to the AUTO operating mode.
Important: If the mode selector or any key of a coded time switch is adjusted, then CODE appears for two seconds in the display.

9. **Cancelling an active CODE**
Press the CODE button (9) in operating mode AUTO; the display shows: CODE __ __ 0 1.
Enter the correct four-digit CODE and return to operating mode AUTO by pressing the CODE button (9) once more. The time switch can now be operated without restriction again.
Important: If the recessed clear key of a coded time switch is pressed, all entered data are extinguished and the code cancelled. The time switch can now be re-programmed.

10. **Power failure**
In the event of a power failure, the timer continues to function through the back-up system, which is battery-free. The display and illumination are switched off. All stored data, such as time, switching program etc., remain stored but no switchings are performed. As soon as power is restored, the actual time is shown, the display is illuminated and the relay is switched to the programmed position.

11. **Servicing**
The appliance requires no servicing. Should a problem occur, however, it is possible to separate the unit from the connection socket without breaking the electrical connection. This is achieved by removing the terminal cover and tilting the appliance away upwards.

External ‹memory› (optional extra)

The external ‹memory› is an optional extra which can be obtained under order no. 226187.
The switching program of a time switch can be transferred as often as desired into the external ‹memory› and, from there, into another time switch. This speeds up and facilitates the programming when several time switches are used with an identical program. It is also possible to store various switching programs in several ‹memory› modules. These can then be used to re-program the time switch very simply as required, e.g. for holiday periods or days off etc. It must be noted however that, in such cases, the standard program is also stored in a ‹memory› module.

1. **Transferring a switching program from a time switch into the external ‹memory›**
Both channels of the dual-channel model are transferred.
a) Plug the external ‹memory› into the appropriate location on the time switch.
b) In operating mode AUTO, press button M (8) and, within two seconds, button 1. The transfer is started and M appears in the display.
c) For a short time, no segments are visible in the display.
After the transfer has been completed, END appears for two seconds in the display. Following this, the normal sign for operating mode AUTO is displayed.
If the transfer was not carried out correctly, E appears in all segments of the display and the transfer must be repeated.

2. **Transferring a switching program from the external ‹memory› into a time switch**
On transferring a switching program into the internal ‹memory› of a time switch, its existing program is completely extinguished.
a) Plug the programmed external ‹memory› into the appropriate location on the time switch.
b) Switch the mode selector to PROG (or to PROG A on the dual-circuit model).
c) Press button M (8) and, within two seconds, button 1. The transfer begins. For a short time, no segments are visible in the display. After the transfer has been successfully completed, the following appears in the display: END; M and an arrow is visible above the switching status sign (above channel A on the dual-channel model). For the single-channel model: proceed to point (f).
d) Switch the mode selector to PROG B.
e) Press button M (8) and, within two seconds, button 1. The transfer begins. For a short time, no segments are visible in the display. After the transfer has been successfully completed, the following appears in the display: END; M and an arrow is visible above the switching status sign for channel B.
f) Switch the mode selector to AUTO. The time switch now operates with the new program.
Important: If the program of a ‹memory› which was transferred from a dual-channel model, is transferred to a single-channel model, then only the program from channel B will be transferred.