4-Channel Time Switch (Annual Scheduler)	**5WG1 372-5 EY01**
REG 372, REG 372/02	**5WG1 372-5 EY02**

Product and Applications Description

The 4-channel time switch REG 372 (annual scheduler) and the 4-channel time switch with DCF77 REG 372/02 (annual scheduler) are DIN rail mounted devices for mounting in distribution boards. The connection to EIB is made via a bus connector.
Besides the terminals for the DCF77 antenna AP 390 (5WG1 390-3EY01) the REG 372/02 has terminals for 230V. All other features are identical for both time switches.

The time switch offers: 324 switching times for selectable daily, weekly, and date instructions, impulse instructions, priority switching times, as well as 1 x instructions for vacation / holidays. For each channel, additionally 9 further week programs with priority levels P1 to P9 and a time-limited permanently switched circuit can be programmed besides the normal week program.
Likewise a random program can be activated.
The period of a priority program is determined by input of a beginning and final date.
The time switch calcualtes moving holidays (like Easter) automatically for each year.

Priority program
The programming of a priority program consists of:
1. input of switching times
2. determination of a beginning and a final date

If the period of several priority programs overlap, then always the program with the highest index is active. For example the week program P2 overrides the week program P1.

Special programs
For each channel, additionally 9 further week programs with priority levels P1 to P9 and a time-limited permanently switched circuit can be programmed besides the normal week program.

These weekly programs can be activated with start and end date.
Example: weekly program no. 5 from 24 Dec to 6 Jan. Additionally instructions for a single date and 1x date instructions can be added to any weekly program.

Via priority ON and OFF instructions the schedule can be masked by beginning and final date. The random program may also be activated.

Accessories
Antenna for DCF77 reception	5WG1 390-3EY01
	(only for REG 372/02)
Programming set Obelisk	5WG1 810-0EY01
Obelisk memory card	5WG1 810-8EY01

Random program
The random program causes random on and off switching in the period from 10 to 120 minutes between one or more switching pairs (switch on and off time). For each channel the random program can be switched on manually via keyboard.

Function „1x"

The function „1x" can be used for date specific switching times and for priority periods. A „1x" function is only executed once and then automatically deleted at midnight in the clock. Likewise a priority period which was occupied with the function „1x" is deleted after the operation time. However, the switching times associated with the priority period are preserved in the clock.
The function „1x" can thus be used meaningfully with the programming of the time switch program for holidays and holiday programs as well as movable holiday programs.

Time synchronisation

The time synchronisation of the time switch can be chosen to be made via reception of a date and time bus telegram message, automatically quartz-controlled, or by in the case of REG 372/02 by the DCF77 radio signal (antenna and mains power is required).

Programming of switching time programs

Complete switching time programming can be made directly on the device by means of key input or by the PC programming set Obelisk. The software runs under Windows 95 and higher. By clicking the mouse, the input of the different switching times takes place fast and simply. The transfer of the program is made by an EEPORM memory module (OBELISK), which is read in afterwards at the PC's interface and afterwards is put and read into

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the time switch. This enables also fast copying of a switching program.

The software Obelisk permits e.g.:

- to prgram switching time programs into an EEPROM memory module
- to select switching time programs from the EEPROM memory module
- to archive switching time programs on fixed disk in the PC
- to print out switching time programs in tabular form
- to copy sections from an available switching time program and to insert them into a new or already available program
- to define a new rule for the summer/winter time (if no DCF antenna is attached).

Application programs

12 CO Switching, Value, Time Send 7F0401

- Switch telegram (1Bit)
- Positive drive telegram (2Bit)
- Dimming / value telegram (8Bit)
- Cyclical sending selectable
- Date and time can be sent every minute, every hour, every day or on request

12 CO Switch, Val, Temp set, Time sync 7F0501

- Switch telegram (1Bit)
- Positive drive telegram (2Bit)
- Dimming / value telegram (8Bit)
- Temperature telegram (16Bit)
- Free value telegramm in EIS 5 format (16Bit)
- Cyclical sending selectable
- Clock can be synchronized by receiving time and date telegrams

12 CO Switching, Value, Scene 7F0601

- Switch telegram (1Bit)
- Positive drive telegram (2Bit)
- Dimming / value telegram (8Bit)
- Cyclical sending selectable
- Scene with up to 4 different telegram types selectable

Connection example

REG 372 and REG 372/02 operated without DCF77 just need to be connected to the bus line.

Connection example of REG 372/02 with DCF77.

Figure 1 shows the connection of the DCF77 antenna to one or several REG 372/02, operated with DCF77.
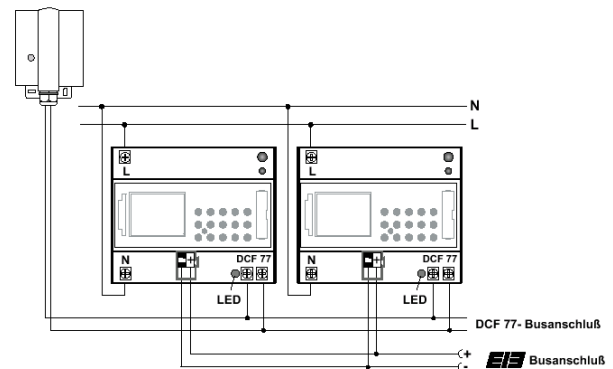

*Figure 1: Connection of REG 372/02
with DCF77 antenna*

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| **4-Channel Time Switch (Annual Scheduler)** | **5WG1 372-5 EY01** |
| **REG 372, REG 372/02** | **5WG1 372-5 EY02** |

Technical Specifications

Power supply
Via bus line
REG 372/02 only: 230V via screw terminals for DCF77 antenna

Power consumption
ca. 8 mA (at bus voltage)

Functional data
- 4 channels
- time base: radio-controlled (otherwise quarz precision)
- 324 memory locations in EEPROM
- Shortest switching interval: 1 second / minute
- switching accuracy: 1 second
- Shortest impulse 1 second
- Time accuracy: ±1 Sek./Tag at 20°C
- Power reserve: Lithiumzelle ca.1½ years at 20°C
- Type of Lithium battery: CR 2450
- Dayly, weekly, yearly and impulse programs as automatic programs
- Manual overrides:
  - temporary manual override
  - permanent manual override
- Inputs: 1 x DCF 77 antenna (nur bei REG 372/02)
- Programming: Via 10-key keyboard or with PC programming set Obelisk and memory card Obelisk
- block formation:
  Free block formation of week days and channels
- Summer / Winter time changeover:
  Automatically or via DCF 77 radio signal

Control elements
- 1 learning button:
  for switching between normal operating mode and addressing mode
- 15 soft tip buttons:
  for setting day of week, hour, minute, time, programm entry and 2 manual overrides

Display elements
- 1 red LED: for monitoring bus voltage and displaying mode selected with learning button
- LC Display: for display of time, day of week, day light savings mode, holiday program mode, switching status and manual control mode

Connections
- Bus line: screwless bus connection block
                     0,6 ... 0,8 mm Ø single core

Physical specifications
- Polymer casing
- Dimensions: DIN rail mounted device
  45 x 105 x 60 mm (H x W x D), width 6 SU
- Weight: ca. 337 g
- Fire load: ca. 10.000 KJ ± 10 %
- installation: rapid mounting on DIN EN 50022-35 x 7,5 rail

Electrical safety
- Fouling class (according to IEC 60664-1): 2
- Protection (according to DIN EN 60 529): IP 20
- Overvoltage class (nach IEC 60664-1): III
- Bus: safety extra low voltage SELV DC 24 V
- Device complies with: EN 50 090-2-2 and EN 60730-2-7

Reliability
Failure rate: 1290 fit at 40°C

Electromagnetic compatibility
Complies with EN 50081-1, EN 61000-6-2 and EN 50090-2-2

Environmental specifications
- Climatic conditions: EN 50090-2-2
- Ambient temperature operating: - 5 ... + 45 °C (-5 T45)
- Ambient temperature non-operating: - 25 ... + 70 °C
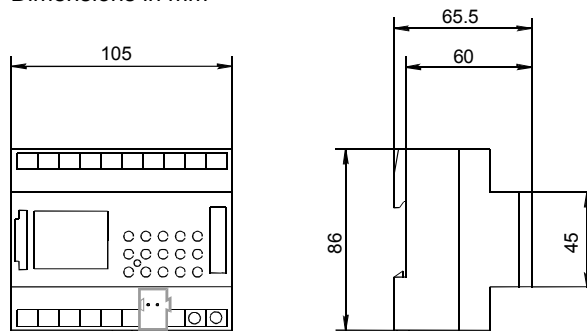- rel. humidity (non-condensing): 5 % ... 93 %

Certification
EIB certified

CE norm
Complies with the EMC regulations (residential and functional buildings), and low voltage regulations

Dimension Diagram
Dimensions in mm

b = 6 SU
1 Standard Unit (SU) = 17,5 mm

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4-Channel Time Switch (Annual Scheduler)	5WG1 372-5 EY01
REG 372, REG 372/02	5WG1 372-5 EY02

Installation Instructions

Despite extensive protection measures exceptionally strong electromagnetic fields can lead to the destruction of the micro-processor controlled time switch.

Therefore we recommend that you observe the following points before installation:

- Use separate lead for the mains voltage supply.
- Suppres inductive loads with suitable RC filters.
- Do not mount product in direct proximityto sources of interference as e.g. transformers, contactors, PCs and TV and communication equipment.
- If interference occurs we recommend that you carry out a RESET (chapter 5.3 of Operating Instructions) before putting the device back into operation.
- Strong heat generating products on the right side of the product shorten the life time of the battery.
- The yearly time switch can be used for stationary installation in dry rooms.

⚠ WARNING

- The device may be placed into distribution boards (230/400 V) together with appropriate VDE-devices.
- The device must be mounted and commissioned by an authorised electrician.
- Free DIN rail areas with sticked-in data rail must be covered with covers, order no. 5WG1 192-8AA01.
- The prevailing safety and installation rules must be heeded.
- The device must not be opened. A device suspected faulty should be returned to the local Siemens office.

Mounting and Wiring

General description

The N-system DIN rail device (2 SU) can be installed in N-system distribution boards and any other location or enclosure with DIN EN 50022-35 x 7,5 rails.

The connection to the bus line is established through a front mounted bus connector block.

Mounting the device on a DIN rail (Figure 1)

- Slide the device (B1) onto the DIN rail (B2) and
- swivel the device (B1) back onto the DIN rail until the slide clicks into place audibly.
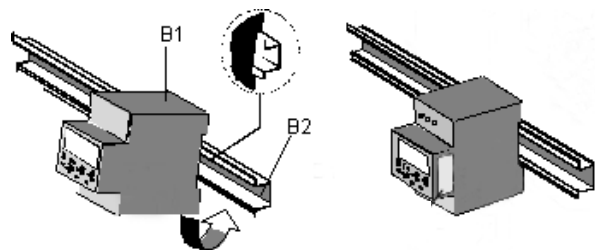

Figure 1: Mounting of DIN rail device

Dismounting the device from the DIN rail (Figure 2)

- Press down the slide (C3) with a screw driver and secure the slide in place by gently pressing it down and
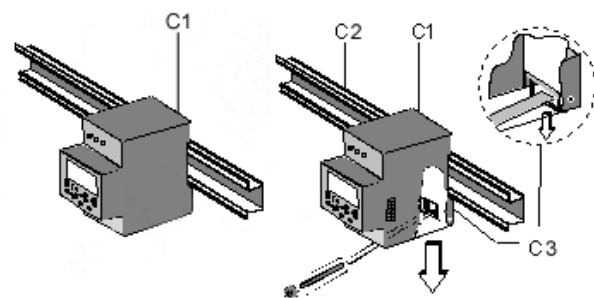- swivel the device (C1) from the DIN rail (C2) to the front.

Figure 2: Dismounting of DIN rail device

Insert battery

- Note the polarity of the Lithium battery (type: CR 2450)
- Insert the Lithium battery into the holder.
- Push the battery holder into the battery compartment.
- Press the battery holder down until it audibly clicks in place.

Battery Changing

Note:

Always change the battery with bus voltage applied.

All memorized program data is maintained when the bus voltage is applied.

- Lift the battery draw with a suitable screw driver.
- Remove battery from the holder.
- Note the polarity of the new Lithium cell.
- Insert the Lithium battery (type: CR 2450) into the holder.

4-Channel Time Switch (Annual Scheduler)	5WG1 372-5 EY01
REG 372, REG 372/02	**5WG1 372-5 EY02**

- Push the battery holder into the battery compartment.
- Press the battery holder down until it audibly clicks in place.
- Dispose of Lithium battery in an environmentally friendly way.

Start up of REG 372

- Connect the bus wire.
- Set summer / winter time date rule (European dates are pre-set).

Start up of REG 372/02

A. When operating without DCF77 radio control signal

- Connect the bus wire.
- Set summer / winter time date rule (European dates are pre-set).

B. When operating with DCF 77 radio control signal

- First connect the time switch with 230 V~ and then with the bus wire.
- Only connect the DCF77 antenna AP 390 with the time switch REG 372/02.
- The polarity of the DCF77 antenna must be observed. Safety extra low voltage is used for the antenna signal. Proper isolation from mains voltage must be provided for.

C. Orientation of the antenna

- For proper orientation of the antenna swivel the antenna horizontally on the mounting bracket until the LED on the front flashes every second.

Operator Elements

5WG1 372-5EY01
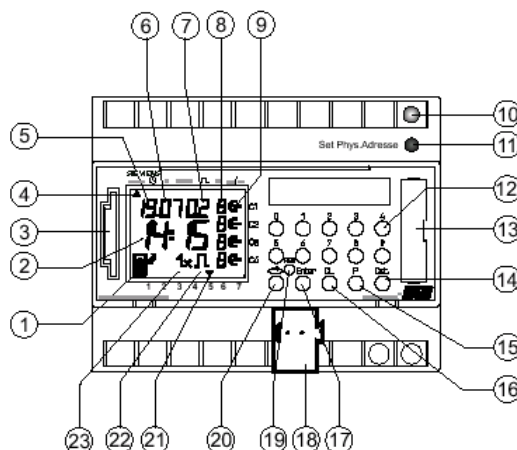
Figure 4a: Location of display and operator elements

(1) Display data exchange with memory card Obelisk
(2) Display hours
(3) Interface
(4) Cursor for program selection
(5) Display date day
(6) Display date month
(7) Display year
(8) Display **r** = random / **P** 1...9 / manual On (H G) / manual Off (H **C**) / Permanent On (F+ G) / Permanent Off (F + **C**)
(9) Display status On = G, Off = **C**
(10) Programming - LED of BCU
(11) Programmiing button for BCU
(12) Buttons 0 – 9 for program entry
(13) Battery compartment
(14) Button for entry of date switchings
(15) Button for entry of priority programs/changes
(16) Button for cancellation of programs and program steps
(17) Button for entry of input
(18) Bus connection
(19) RES = Reset / the micro-processor makes a defined new start
(20) Program selection button for menu selection
(21) Cursor for display of days of the week 1=Monday, 2=Tuesday, ...
(22) Display for pulse programming
(23) Display **1x** shows single switchings

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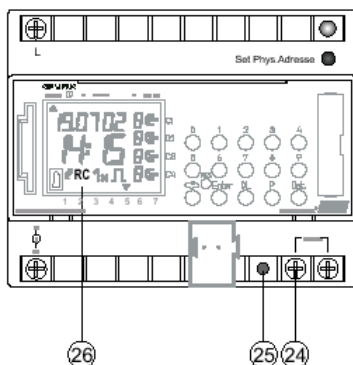| 4-Channel Time Switch (Annual Scheduler)	5WG1 372-5 EY01
REG 372, REG 372/02	5WG1 372-5 EY02

5WG1 372-5EY02
DCF 77

Room for notes

*Bild 4b: Location of display and operator elements
(REG 372/02)*

(24) Bus connection terminal DCF77 antenna
(25) LED lights up with DCF antenna reverse polarity
(26) Display DCF77 reception

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