

Time Switch

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	Ref.-No.
instabus time switch, 4 channel	2154 REG
ETS-product family:	Time switch
Product type:	Timer
Series embodiment (SE)-device (6 units)	

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The 4 channel time switch controls connected bus participants via group addresses. It transmits either 1, 2 or 8 Bit telegrams, including the time. With the time program and the corresponding application, the time can be transmitted and received via the bus.

As an option, the programming can be done on a PC by using the special software OBELISK. The prepared file can be written onto the memory card and also be printed out.

The time switch has the following features:

- BCU integrated into the unit
- 324 switching times for free block formation
- permanent switching times by means of EEPROM
- day/week/year program
- random program
- pulse program
- switching times: ON or OFF delay
- 1 x function for all date-related switching times
- 10 priority programs consisting of 10 individual weekly programs per channel
- automatic stipulating of public holidays without fixed date
- approx. 1.5 years battery reserve by means of exchangeable environmentally friendly lithium cell
- it can be programmed up to the year 2063 in advance
- data transmission and data backup possible with memory card
- possible functions: switching, dimming transmitting time, receiving time
- option: radio controlled, hence automatic synchronisation of summer/winter time by means of the DCF 77 signal
- power supply for DCF receiver is integrated
- PC programming recommended by using the special software set OBELISK

4 Technical data:

Supply	
Voltage:	24 V DC (+6 V / -4 V)
Power consumption:	< 10 mA
with DCF:	230 V for integrated power supply
Connection:	<i>instabus</i> connection block
Power reserve:	1.5 years
Programmable:	every second
Memory locations:	324
Special programs:	9 week-programs
Antenna:	for DCF 77 signal
Protection:	IP 20
Operation temp.:	-5°C to +45°C
Mounting:	on DIN rail 35 x 7,5
max. distance of DCF:	200 m

5 Description of some features

Priority Program

The programming of a priority consists of:

1. input of switching times,
2. determination of a beginning and final date.

If the period of several priority programs overlaps, then always the program with the highest index is active.

For example the week program P2 overrides the week program P1.

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 "1 x"

The function "1 x" can be used for date-specific switching times and for priority periods. After the execution of the date-specific switching time, the switching time is deleted automatically at midnight in the clock. Likewise a priority period which was occupied with the function "1 x" was deleted after the operating time. However, the switching times in the clock, appropriate to the peiority period, are preserved.

Thus the function "1 x" can be used meaningfully with the programming of the time switch program for holidays and holiday programs as well as movable holiday programs.

The time synchronisation

The time synchronisation of the time switch can be made by the DCF 77-radio signal (antenna and power supply are necessary), by means of the bus via reception of a date and time message or automatically quartz-controlled.

Programming of the switching time programs

Complete switching time programming can be made directly on the device by means of key input or by the PC using the special programming set OBELISK.

The software OBELISK permits e.g.:

- to program switching times into a EEPROM memory module
- to select switching times from the EEPROM memory module
- to archive switching times on fixed disk in the PC
- to print out switching times 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)

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Description of application

1. Scene with switching, value priority

On each of the 4 channels you can choose between the following message types:

- switching message (1 Bit)
- priority message (2 Bit)
- brightness value or value message (8 Bit)

Cyclic transmitting can be selected for each channel, this is controlled by a common timer.

By choice, a switching, priority or value message (command) can be sent on each of the channels 1 to 3.

Additionally a scene with up to 4 types of message (command) can be implemented on the 4th channel.

During a switching time, up to four messages (commands) can be transmitted via bus on channel 4 (end of a working day: switch off main lighting, drive shutter down, lower ambient temperature, lock external doors).

These additional objects can be a 1 or 2 Bit or a 1 Byte type.

In addition the possibility exists of suppressing the time switch program of the clock by control of a blocking object via the bus.

Objects

Number of addresses: 10
 Number of assignments: 10
 Communication objects: 8

Object	Name	Function	Type	Flag
0	channel 1	send telegram switch	1 Bit	R, T
1	channel 2	send telegram switch	1 Bit	R, T
2	channel 3	send telegram switch	1 Bit	R, T
3	channel 4	send telegram switch	1 Bit	R, T
7	block	reception telegram block	1 Bit	W, T

max. extension with four switch messages (commands) on channel 4:

Object	Name	Function	Type	Flag
0	channel 1	send telegram switch	1 Bit	R, T
1	channel 2	send telegram switch	1 Bit	R, T
2	channel 3	send telegram switch	1 Bit	R, T
3	channel 4 object 1	send telegram switch	1 Bit	R, T
4	channel 4 object 2	send telegram switch	1 Bit	R, T
5	channel 4 object 3	send telegram switch	1 Bit	R, T
6	channel 4 object 4	send telegram switch	1 Bit	R, T
7	block	reception telegram block	1 Bit	W, T

Description of application

2. Switching, value, send time and date

On each of the 4 channels you can choose between the following message types:

- switching message (1 Bit)
- priority message (2 Bit)
- brightness value or value message (8 Bit)

Cyclic transmitting can be selected for each channel, this is controlled by a common timer.

By choice, a switching, priority or value message (command) can be sent on each of the channels 1 to 3.

Date and time-of-day can be transmitted each minute, each hour, each day or only on request.

Date and time-of-day are always transmitted together.

Objects

Number of addresses: 8
 Number of assignments: 8
 Communication objects: 7

Object	Name	Function	Type	Flag
0	channel 1	send telegram switch	1 Bit	R, T
1	channel 2	send telegram switch	1 Bit	R, T
2	channel 3	send telegram switch	1 Bit	R, T
3	channel 4	send telegram switch	1 Bit	R, T
4	time	send time	3 Byte	R, T
5	date	send date	3 Byte	R, T
6	time demand	ask for time + date	1 Bit	W, T

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Description of application

3. Switching, value, temperature, receive time and date

On each of the 4 channels you can choose between the following message types:

- switching message (1 Bit)
- priority message (2 Bit)
- brightness value or value message (8 Bit)
- temperature message (16 Bit)
- any message in the EIS 5 format (16 Bit)

Cyclic transmitting can be selected for each channel, this is controlled by a common timer.

By choice, a switching, priority or value message (command) can be sent on each of the channels 1 to 3.

Furthermore the time switch can receive time and date messages for temporal synchronisation.

The adjustment of any message in the EIS 5 form requires appropriate mathematical knowledge.

Objects

Number of addresses:	8
Number of assignments:	8
Communication objects:	6

Object	Name	Function	Type	Flag
0	channel 1	switch	1 Bit	R, T
1	channel 2	switch	1 Bit	R, T
2	channel 3	switch	1 Bit	R, T
3	channel 4	switch	1 Bit	R, T
4	time	set time	3 Byte	W, T
5	date	set date	3 Byte	W, T