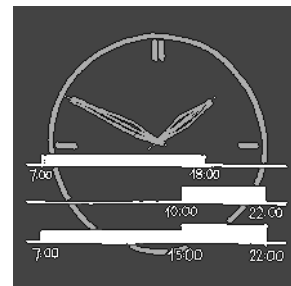


VISONIK®

BPS timeswitch program

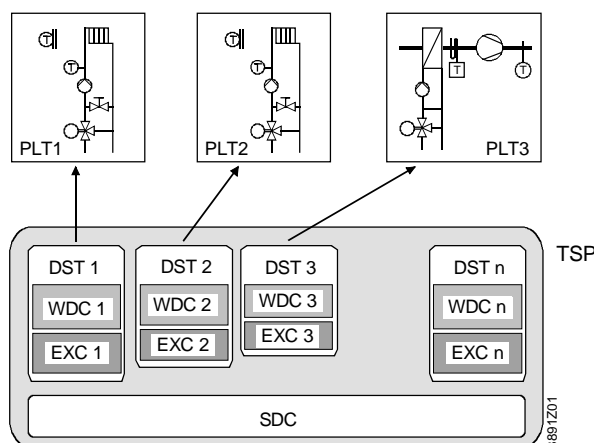
Function sheet



The VISONIK BPS timeswitch program controls status values and setpoint profiles in dependence of time, weekday and date for building services plants or for individual plant elements.

Use

The illustration below represents a sample: Two heating groups (PLT1/PLT2) and one ventilation plant (PLT3) are to be controlled by individual timeswitch programs.



TSP timeswitch program

The lower portion of the illustration shows the TSP timeswitch program of the VISONIK BPS. It is comprised of the following elements and components:

| Desig. | Element | Contents |
|--------|-------------------------|--|
| DST | Destination points | The individual timeswitch catalogues WDC and EXC for the associated output destinations (here PLT1...PLT3) |
| WDC | Weekday catalogue | Weekday-dependent time entries for the associated output destination |
| EXC | Exception day catalogue | Date-dependent time entries for the associated output destination |
| SDC | Special day catalogue | Entries assigning a date to any weekday. Valid for all defined output destinations. |

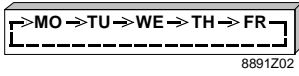
Output destinations

Output destinations (short: destinations) represent the target of the destination points:

- Plants to be controlled via the respective plant point PLT or individual plant elements via their I/O point address
- Software functions (start/stop COLBAS tasks)

Timeswitch functions

Weekday catalogue WDC



The following sections briefly describe the main functions of timeswitch catalogues. They are identical for all operating cards—POP Cards, menu-guided operation, or COLBAS commands. The samples show individual lines from the COLBAS command operating mode.

The weekday catalogue contains time entries that are **dependent on weekdays**. These entries represent recurring tasks.

Example:

```
1      MO..FR      !07:00..18:30  !1
```

Interpretation:

Line 1 means that each day from Monday to Friday, between 07:00 to 18:30, value 1 is issued, e.g., as a release command for a ventilation plant.

Use: For normal occupancy hours on weekdays, Saturdays, and Sundays.

Exception day catalogue EXC



The exception day catalogue contains **date-dependent** time entries. The entries can be annual or unique events. The events are carried out regardless of weekday catalogue entries and take priority over WDC.

Example:

```
2      21-JUN-1999      !18:30..22:00  !1
```

Interpretation:

Line 2 means that on 21 June 1999, between 18:30 and 22:00, value 1 is output (unique in this instance, as it is date entry with year indication).

Use: For special occupancy hours such as evening events.

Special day catalogue SDC



The entries in special day catalogues assign any weekday to a date. They can be unique or recurring and impact **all** WDC catalogues.

Example:

Entry in line 1 of a weekday catalogue WDC

```
1      MO..FR      !07:00..18:30  !1
```

Entry in line 5 of a special day catalogue SDC

```
5      03-OCT-1999      !SU
```

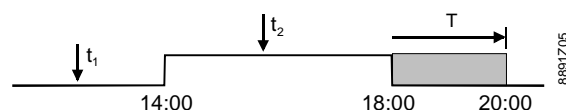
Explanations:

- In accordance with the weekday catalogue WDC, command 1 is normally issued for the respective destination from Monday to Friday between 07:00 and 18:30.
- In the special day catalogue SDC, October 3 (Tuesday) is declared a Sunday. On this date, no WDC event is carried out, as the WDC catalogue does not contain an entry for Sunday for this date.

Use: For public holidays, holidays, and special events regarding all plants.

Operating hour change

Using the auxiliary function "Operating hour change", the operating hours for a specific destination can temporarily be extended or shortened by a specific amount (T) before (t_1) or within (t_2) the relative operating hour:



The manipulation is unique. It refers to WDC and SDC catalogues of the plant, but does not change the existing entries of these catalogues.

Example for menu-guided operation

If menu-guided operation was loaded into the VISONIK BPS, the timeswitch catalogues can be edited via a PC connected to the tool interface. The example below is for a WDC entry. The operating program output is indicated in normal print, the user entries in bold print.

View WDC

After selecting the weekday catalogue WDC from the group menu of the respective plant, the operating dialog indicates the following:

- The existing timeswitch entries with the associated plant operating states—here LCM1 = local operating command—and possibly other values for parameter PARn (e.g. temperature setpoints)
- The menu with the user selection defaults

In this example, the following changes are to be made:

Entry no.1, MO..FR, set stop time of 22:00 to 20:00.

| No. | Days | Start time..Stop time | | | | Parameters | | | |
|------------------------------|--------|-----------------------|------|------|------|------------|----|--|--|
| | | LCM1 | PAR1 | PAR2 | PAR2 | PAR4 | | | |
| 1 | MO..FR | !08:00..22:00 | !1 | !. | !. | !. | !. | | |
| 2 | SA | !08:00..16:00 | !3 | !. | !. | !. | !. | | |
| MENU | Q | Quit | | | | | | | |
| | 1 | List | | | | | | | |
| | 2 | Entries/Modify | | | | | | | |
| | 3 | Delete | | | | | | | |
| Select... : | | 2 | | | | | | | |
| Entry (1 to 255, Q = Quit) = | | 1 : 1 | | | | | | | |

Menu item 2 for "Enter/Change" and entry number 1 were selected.

Change switching time

The operating dialog confirms your selection and asks for the days, and both start and stop time:

```
Entry = 1 to change
Days (MO,TU,WE,TH,FR,SA,SU) = MO..FR :
Start time = 08:00:00 :
Stop time = 22:00:00 : 20:00
```

The start time was confirmed (ENTER key) and the stop time of 20:00 was entered.

Select set state

The plant set states that can be assigned to the respective entry are displayed:

```
0 OFF
1 ON
3 Heating
Select... : 1
```

The set state "1" = "ON" was selected.

Check entry

The changed entry can be checked by backtracking:

| No. | Days | Start time..Stop time | | | | Parameters | | | |
|-----|--------|-----------------------|------|------|------|------------|----|--|--|
| | | LCM1 | PAR1 | PAR2 | PAR2 | PAR4 | | | |
| 1 | MO..FR | !08:00..20:00 | !1 | !. | !. | !. | !. | | |
| 2 | SA | !08:00..16:00 | !3 | !. | !. | !. | !. | | |

Create new entries

New entries can be created similarly; however, instead of selecting an existing entry, a new entry is selected such as entry "3":

```
Entry (1..255, Q=Quit) = 2 : 3
```

Following this selection, weekdays and switching times, and the set state as shown above are entered.

Example POP Cards

If specified in the scope of delivery, engineering creates project-specific POP Cards such as the "Timer" card for a heating group. This allows for accessing the functions of the TSP timeswitch program.

The "Timer" card

The following picture shows the "Timer" card on the left and possible display values on the right after inserting the card in the VISONIK BPS card compartment:

| Project Card | | Building Process Station | |
|---|------------------|--------------------------|-------|
| Time switch prog. | | 1 | |
| Input No.: | | 2 | 1 |
| | | 3 | |
| 1=Mo, 2=Tu, 3=We 4=Th, 5=Fr, 6=Sa 7=Su 11..17=SD1..SD7 | Start day | 4 | 1 |
| | Stop day | 5 | 5 |
| Start | | 6 | 07.00 |
| End | | 7 | 19.00 |
| Oper. mode | 0=Night 1=Day | 8 | 1 |
| Room temp. setpoint (day) | | 9 | 21.00 |
| Room temp. setpoint (night) | | 10 | 16.00 |
| Enable | 1=yes 0=no | 11 | 1 |
| Delete entry | 1=Delete | 12 | 0 |

Time Switch Prog. Heating Group 1 Ad.11 Pg.1

8891Z06E

Functions of the "Timer" card

The card allows for reading and changing the following values via the keys:

| Value | Explanation |
|----------------|--|
| Entry no. | Number of the respective entry in the timeswitch catalogue of this plant. Each entry defines a timeswitch program. |
| Start day | The start day of the entry in the form of a number; here: 1 for Monday. |
| Stop day | The stop day of the respective entry; here: 5 for Friday. |
| Beginning | The beginning of occupancy for the respective heating group. |
| End | The end of occupancy for the respective heating group. |
| Operating mode | The operating mode for the selected days and occupancy times; here: 1=Day. |
| Setpoint day | The room temperature setpoint assigned to operating mode "Day". |
| Setpoint night | The room temperature setpoint assigned to operating mode "Night". |
| Activate | Is the entry ready for processing? Here: 1 = yes. |
| Delete entry | The displayed entry no., i.e., the respective timeswitch program can be deleted by entering 1. |

Note: This card allows for using weekdays Mo...Su as well as special days SD1...SD7 as the start and stop days.

Timeswitch with COLBAS

COLBAS commands (LIST, EDIT, DEL, etc.) that refer to destinations, timeswitch catalogues and entries can also be used to create and change timeswitch catalogues. This is done by means of a PC connected to the tool interface. Information on this procedure is available in the documents listed below.

Further information on the timeswitch program

Refer to the following documents for more information on the VISONIK BPS timeswitch program:

| Document no. | Title |
|--------------|--|
| CM2B8301E | Building Process Station BPS, operating instructions |
| CM2T8567E | VISONIK System Basics (expert documentation) |