

VISONIK®

Event-dependent BPS functions

Function sheet



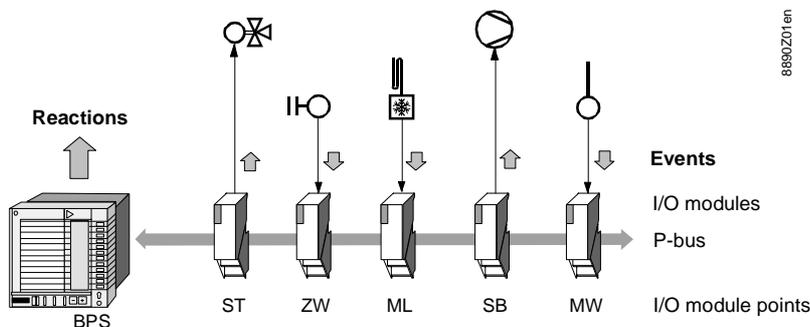
A building automation and control system must react with predefined functions to certain events. In VISONIK, the BPS handles automation level events and, if programmed, forwards to the management station.

Use

State changes and I/O module points

Events change states. As a rule, all BPS point types can react to events. Event processing is explained below based on a sample for I/O module points and point types. We distinguish between the following:

- Input points: Signaling (ML), measuring (MW), counting (ZW). They transmit change of states from the plant and indicate to the BPS that events have occurred.
- Output points: Switching (SB), positioning (ST). They create events if the BPS issues switching or positioning commands to the plant.



Examples for events

For example, the following events can be communicated via the I/O module points:

- Positioning command point ST issues a positioning command change to the valve.
- Counter value point ZW indicates the volumetric flow for synchronization pulses.
- Signaling point ML indicates the fault state of the status contact FROST.
- Switching command point SB switches on or off the valve.
- Measured value point MW acquires the change of supply air temperature.

Reactions

The BPS triggers event-dependent functions, or reactions, if events are transmitted or created. Reactions may be: Plant manipulations, report output, alarm triggers, reaction picture creation on INSIGHT, opening of telephone connection, etc..

Functioning

Two reaction tasks

The BPS has two reaction tasks for event handling:

- TSK 253 for reactions due to EMC changes. Parameter EMV = Event Main Value, i.e., the main value for triggering the event.
- TSK 252 for reactions triggered by changes to the ERSTA (error status) and OPSTA (operating status) parameters.

Reaction task TSK 253

As a rule, all data points can be parameterized to start TSK253 in the case of EMC changes. For this purpose, two parameters must be set in the respective points:

- OSV=0, i.e., the point must be "in operation" (normally true).
- EVE=1, i.e., the points must be able to start TSK 253.

In reality, only points that are to trigger event-dependent reactions are set to EVE=1.

Example for TSK 253

Reaction task TSK253 is to be started if there are events in point addresses \$010 and \$022. For this purpose, EVE=1 must be set in the point addresses, and the following three program lines must be entered in reaction task TSK253:

```
TSK253
10   A:=EVADR
100  IF A=$010.ADR THEN RUN 101
110  IF A=$022.ADR THEN RUN 122
```

Line	Meaning
10	Function EVADR is assigned to variable A. EVADR supplies the current point address of the event.
100	If variable A contains point address \$010.ADR, task 101 is started as a reaction. If the event is not caused by \$010.ADR, variable A contains the point address of another point with OSV=0 and EVE=1 (z.B.\$022.ADR).
110	If variable A contains point address \$022.ADR, task 122 is started as a reaction.

Notes

Please note the following for the above example:

- A start of tasks 101 or 122 is programmed as the reaction. Programming with all available COLBAS commands is possible also.
- In order to ensure fast event processing, the command sequences in TSK253 must be as short as possible. Actual reaction processing is to be defined externally in tasks 1 to 199. In the example, reaction task TSK253 is started for an event of point address \$010 followed by TSK 101. This task contains the reactions that must first be executed.

Reaction task TSK 252

TSK 252 is used for events requiring an internal comparison such as feedback not available, limit value exceeded, sensor break, etc..

For TSK 252 to be started, two parameters must be set as follows in the event-triggering data point:

- OSV=0 (normally true).
- PRIO>0

If error state ERSTA, for example, changes from normal state ERSTA=0 to a fault state ERSTA>0, reaction task TSK 252 is started.

Here also, the actual reaction processing is to be programmed externally, i.e., in tasks 1 to 199.

Additional information

For further information on this topic, refer to "VISONIK system basics", topic 3, "COLBAS tasks and BPS text catalogs".