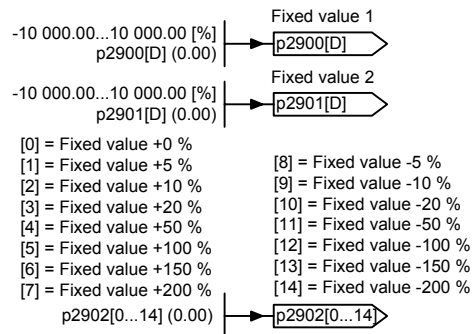


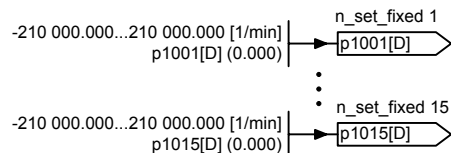
## Pre-assigned binectors and connectors

### Fixed percentage values



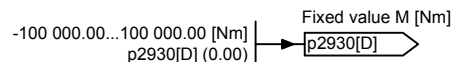
## Pre-assigned binectors and connectors

### Fixed speed values

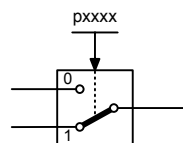


## Pre-assigned binectors and connectors

### Fixed torque values



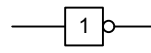
## Switch symbol



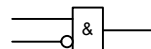
### Simple changeover switch

The switch position is shown according to the factory setting (in this case, switch position 1 in the default state on delivery).

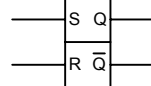
## Symbols for logic functions



### Logical inversion



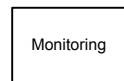
### AND element with logical inversion of an input signal



### R/S flip-flop

S = setting input  
R = reset input  
Q = non-inverted output  
Q-bar = inverted output

## Symbol for monitoring

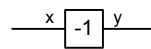


Axxxxx  
or  
Fxxxxx

### Monitoring

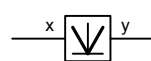
In the bottom right-hand corner of the diagram.

## Symbols for computational and closed-loop control functions



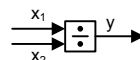
### Sign reversal

$$y = -x$$



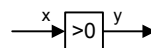
### Absolute value generator

$$y = |x|$$



### Divider

$$y = \frac{x_1}{x_2}$$



### Comparator

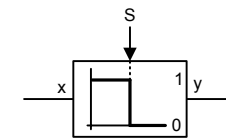
Output y = a logical "1", if the analog signal x > 0, i.e. is positive.



### Differentiator

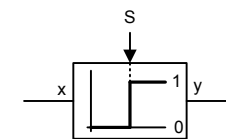
$$y = \frac{dx}{dt}$$

## Symbols for computational and closed-loop control functions



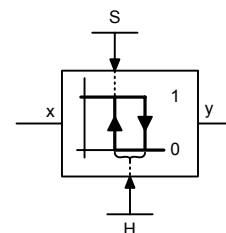
### Threshold value switch 1/0

Outputs at y a logical "1" if x < S.



### Threshold value switch 0/1

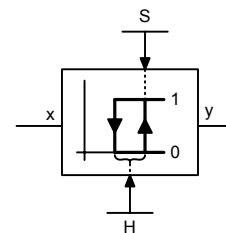
Outputs at y a logical "1" if x > S.



### Threshold value 1/0 with hysteresis

Outputs a logical "1" at y if x < S.

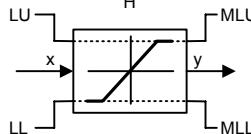
If x >= S + H then y returns to 0.



### Threshold value 0/1 with hysteresis

Outputs a logical "1" at y if x > S.

If x <= S - H then y returns to 0.



### Limiter

x is limited to the upper limit LU and the lower limit LL and output at y.

The digital signals MLU and MLL have the value "1", if the upper or lower limit is active.



### Sample & Hold element

Sample and hold element.

y = x if SET = 1  
(not retentively saved at POWER OFF)

1

2

3

4

5

6

7

8

DO: All objects

fp\_1021\_51\_eng.vsd

Function diagram

Explanations for the function diagrams - Explanation of the symbols (Part 2)

08.05.07 V02.05.00

SINAMICS

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