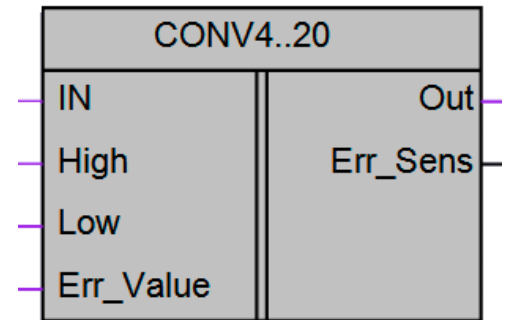


Signal conversion 4...20 mA

CONV 4...20



Input	Data type	Description	Area
IN	REAL	Input value	4...20
High	REAL	Upper limit of the output range corresponding to 20 mA at the input	
Low	REAL	Lower limit of the output range corresponding to 4 mA at the input	
Err_Value	REAL	Output value in case of error	
Output	Data type	Description	Area
Out	REAL	Scaled input value	
Err_Sens	BOOL	Error output	
Macro parameters			Default value
% of the standard			2,5
% of failures			5

Function

The macro enables the input value "in", which is set in the range 4...20, to be scaled to a new range, which is defined by the parameters "high", "low".

Before scaling, the macro limits the input value to a range of 4...20.

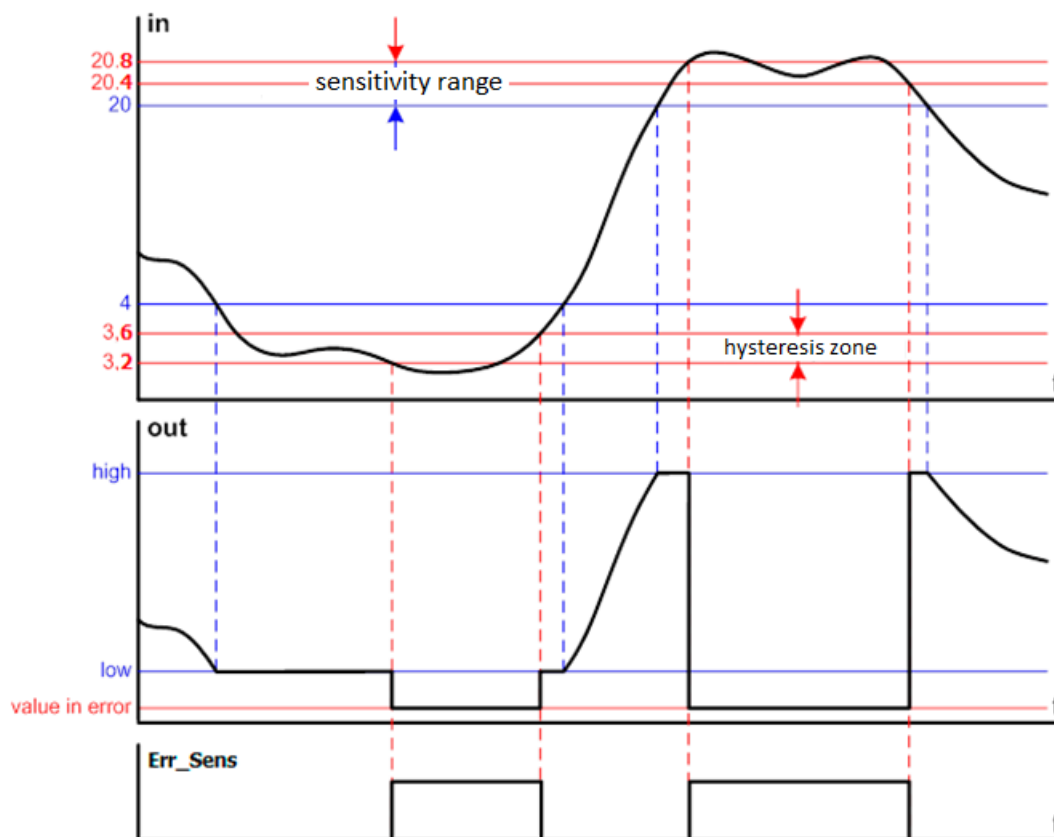
The macro allows the detection of the following errors:

- 1) Wrong parameter input, i.e. the value at the "low" input is greater than or equal to the value at the "high" input;
- 2) The input value is exceeded outside the range determined by the macro parameter.

The module has a defined insensitivity range towards the deviation of the input signal outside the measuring range (4... 20 mA), as well as a hysteresis to switch the error message of the output value (see Figure 2).

If an error is detected in the "Out" macro output, the value set in the "Err_Value" input will be displayed and the "Err_Sens" logical unit will be displayed in the output.

The following figure shows a time diagram that illustrates the dependency of the output value on the input value as well as the conditions for triggering and resetting the error signal. The timing diagrams of the function of the macro are shown below.



NOTE. If a macro is used to scale the input value coming from one of the device's analog inputs, it is necessary to set values 4 and 20 as the lower and upper limits of the input measurement.

Devices	PR200, SMI200
Version	1.0
Last modification	06.06.2020