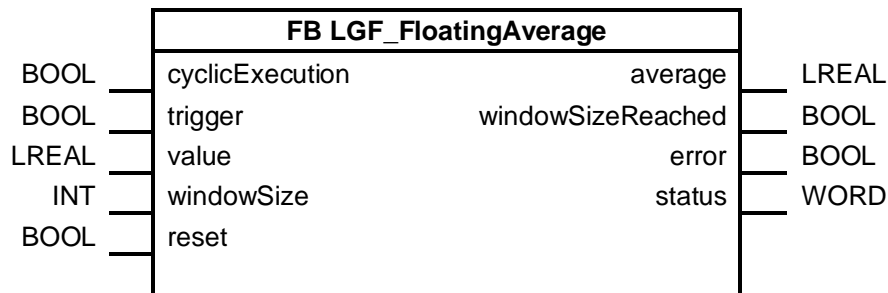


LGF_FloatingAverage

Short description

This block calculates a moving arithmetic mean value from REAL values. This method can be used to smooth data series. The values can be read in cyclically or triggered.

Block



Input parameters

| Parameters | Data type | Description |
|-----------------|-----------|---|
| cyclicExecution | BOOL | Cyclic program |
| trigger | BOOL | Read in with every pulse at input "trigger" |
| value | LREAL | Values from which the moving average is to be determined. |
| windowsSize | INT | Window length for sliding averaging in the range from 1..100 The standard value is 100 dB. |
| reset | BOOL | The block is reset and the calculation starts again. |

Note

The block "LGF_FloatingAverage" does not query the data type for the input parameter "value". For data types other than REAL, either an implicit conversion is performed automatically or an error is generated during compilation.

You can find further information in the Chapter "Overview of Data Type Conversion" in the Online Help section of the TIA Portal or under:

<https://support.industry.siemens.com/cs/ww/en/view/109773506/100611494667>

Output parameters

| Parameters | Data type | Description |
|-------------------|-----------|--|
| average | LREAL | Moving average |
| windowSizeReached | BOOL | FALSE: Maximum window width not yet reached TRUE: Maximum window width reached |
| error | BOOL | FALSE: No error TRUE: An error occurred during the execution of the FB. |
| status | WORD | 16#0000-16#7FFF: Status of the FB, 16#8000-16#FFFF: Error identification (see following Table). |

Block from Library LGF

<https://support.industry.siemens.com/cs/ww/en/view/109479728>

Status and error displays

| status | Meaning | Remedy / notes |
|---------|-------------------------|--------------------------------|
| 16#0000 | No error | - |
| 16#8200 | No correct window width | Set a value between 1 and 100. |

Principle of operation

The block calculates the (moving) mean value based on the set window width. The window width indicates the maximum number of values read in last. After the maximum number of values has been read, the output "windowSizeReached" is set and each newly read value replaces the oldest value (FIFO principle).

Two options are available for reading the values. With the input "cyclicExecution", the values are read and calculated cyclically. With the "trigger" input, the values are read in and calculated with each pulse.

Further information on libraries in TIA Portal:

- Topic page libraries
<https://support.industry.siemens.com/cs/ww/en/view/109738702>
- Guideline on Library Handling
<https://support.industry.siemens.com/cs/ww/en/view/109747503>
- Programming Guideline for S7-1200/1500 in chapter "Libraries"
<https://support.industry.siemens.com/cs/ww/en/view/81318674>
- Programming Styleguide
<https://support.industry.siemens.com/cs/ww/en/view/81318674>