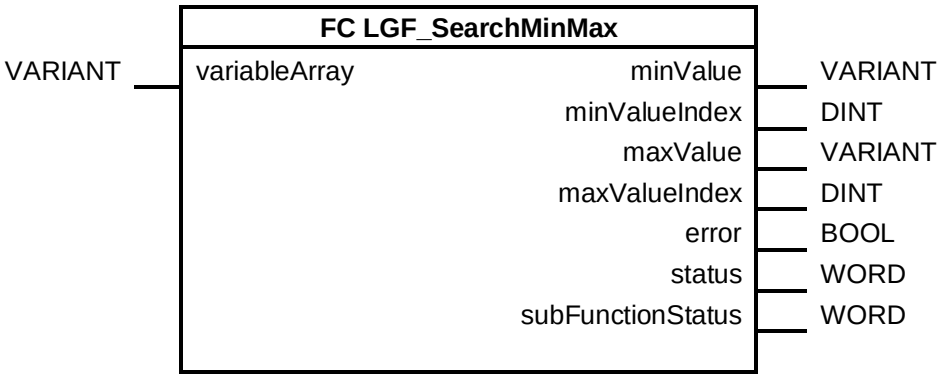
LGF_SearchMinMax

Short description

This block searches in an array for the maximum and minimum value, and for the respective index in the array.

The following data types of the array elements are supported:
Int, DInt, UInt, UDInt, USInt, SInt, and Real.

Block



Input parameters

Parameters	Data type	Description
variableArray	VARIANT	Array in whose fields the maximum and minimum are searched.

Output parameters

Parameters	Data type	Description
minValue	VARIANT	Smallest found value.
minValueIndex	DINT	Start index of the array plus minArrayIndex results in the array index of the smallest value. The index starts with 0.
maxValue	VARIANT	Largest found value.
maxValueIndex	DINT	Start index of the array plus maxArrayIndex results in the array index of the largest value. The index starts with 0.
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).
subFunctionStatus	WORD	Status or return value of the called FCs and system blocks.

Status and error displays

status	Meaning	Remedy / notes
16#0000	No error	-
16#8200	At input “variableArray” the actual parameter is not an array.	-
16#8201	The data type of the elements in the array is not supported.	Only the data types Int, UInt, DInt, UDInt, USInt, SInt and Real are supported.
16#8202	The elements of the array do not have the same data type as the outputs “minValue” and “maxValue”.	-
16#8203	Error in “MOVE_BLK_VARIANT” command.	Check the error code in “subFunctionStatus”

Note The status of called commands is output in “subFunctionStatus”. In this case, the output value in “status” indicates which command caused the error. In this case, refer to the TIA Portal Online Help section for information on the respective commands.

Principle of operation

An array of any size is connected via the “variableArray” input. After a data type query in the block, the elements are copied one after the other into a variable of the appropriate type and compared. The smallest and largest values, as well as their corresponding index are output to the array.

Note If there are several identical min. or max. values, the index of the first min. or max. value is output.

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