



VACUUM-AUTOMATION

Function Block-Documentation

„FB_SCTSi_IOL“ – Siemens – STEP 7

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Note

This document were originally written in German and have been translated into English.
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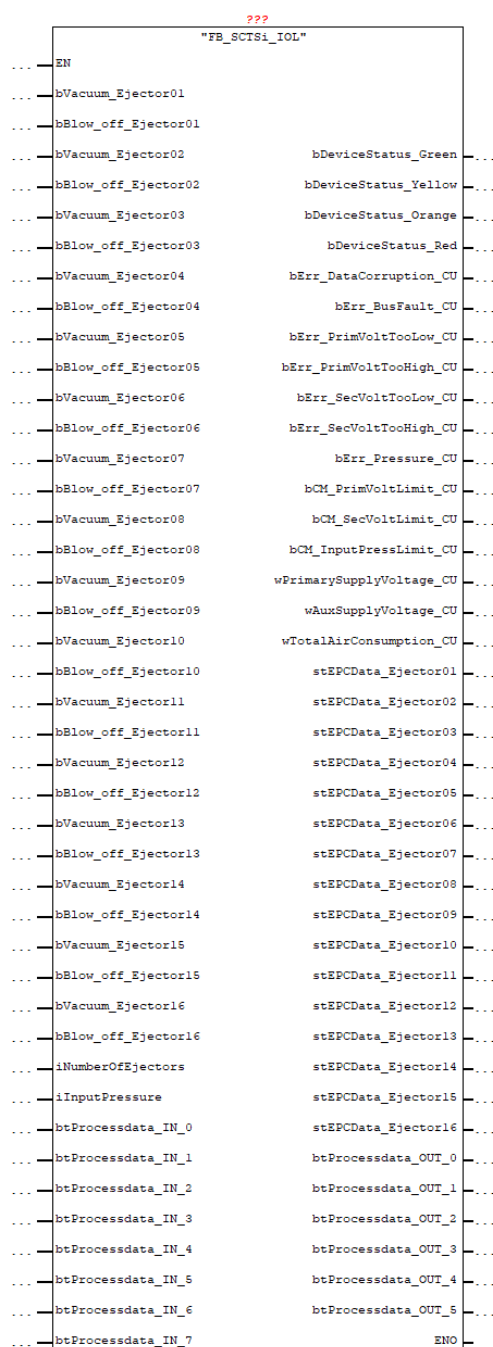
1 Function block "FB_SCTSi_IOL"

1.1 Brief description

This function block controls the Processdata of Schmalz SCTSi with IO-Link.

1.2 Image of function block

Example of function block:



1.3 Parameter - Input

name	data type	description
bVacuum_Ejector01	BOOL	Request for suction of the corresponding ejector
...		
bVacuum_Ejector16	BOOL	Request for blow-off of the corresponding ejector
bBlow_off_Ejector01		
...	INT	The number of how many ejectors are operated with the terminal. (2-16)
bBlow_off_Ejector16		
iNumberOfEjectors	INT	With this parameter, the terminal gets the input pressure in mbar to be able to create EPC analysis.
iInputPressure	INT	Process data byte 0 from SCTSi IO-Link
btProcessdata_IN_0	BYTE	Process data byte 1 from SCTSi IO-Link
btProcessdata_IN_1	BYTE	Process data byte 2 from SCTSi IO-Link
btProcessdata_IN_2	BYTE	Process data byte 3 from SCTSi IO-Link
btProcessdata_IN_3	BYTE	Process data byte 4 from SCTSi IO-Link
btProcessdata_IN_4	BYTE	Process data byte 5 from SCTSi IO-Link
btProcessdata_IN_5	BYTE	Process data byte 6 from SCTSi IO-Link
btProcessdata_IN_6	BYTE	Process data byte 7 from SCTSi IO-Link
btProcessdata_IN_7	BYTE	

1.4 Parameter - Output

name	data type	description
bDeviceStatus_Green	BOOL	Status of the terminal is green
bDevice Status_Yellow	BOOL	Status of the terminal is yellow
bDevice Status_Orange	BOOL	Status of the terminal is orange
bDevice Status_Red	BOOL	Status of the terminal is red
bErr_DataCorruption_CU	BOOL	Error control unit: Data corruption
bErr_BusFault_CU	BOOL	Error control unit: Bus fault
bErr_PrimVoltTooLow_CU	BOOL	Error control unit: Primary voltage too low
bErr_PrimVoltTooHigh_CU	BOOL	Error control unit: Primary voltage too high
bErr_SecVoltTooLow_CU	BOOL	Error control unit: Secondary voltage too low
bErr_SecVoltTooHigh_CU	BOOL	Error control unit: Secondary voltage too high
bErr_Pressure_CU	BOOL	Error control unit: Supply pressure too low or too high
bCM_PrimVoltLimit_CU	BOOL	Condition monitoring of control unit: Primary voltage limit
bCM_SecVoltLimit_CU	BOOL	Condition monitoring of control unit: Secondary voltage limit
bCM_InputPressLimit_CU	BOOL	Condition monitoring of control unit: Input pressure limit
wPrimarySupplyVoltage_CU	WORD	Current primary voltage (V)
wAuxSupplyVoltage_CU	WORD	Current auxillary voltage (V)
wTotalAirConsumption_CU	WORD	Total air consumption of the last handling cycle (0.1NL)
stEPCData_Ejector01 ... stEPCData_Ejector16	stSCTSi_Ejector	These outputs returns a structure for each ejector. In this structure, all relevant data of each ejector are stored.
btProcessdata_OUT_0	BYTE	Processdata byte 0 to SCTSi IO-Link
btProcessdata_OUT_1	BYTE	Processdata byte 1 to SCTSi IO-Link
btProcessdata_OUT_2	BYTE	Processdata byte 2 to SCTSi IO-Link
btProcessdata_OUT_3	BYTE	Processdata byte 3 to SCTSi IO-Link
btProcessdata_OUT_4	BYTE	Processdata byte 4 to SCTSi IO-Link
btProcessdata_OUT_5	BYTE	Processdata byte 5 to SCTSi IO-Link

1.5 Additional information

In addition to the function block, the structure "stSCTSi_IO_Link_Ejector" must also be imported into the respective plc system. Here you can proceed exactly in the same way as when importing a function block. As already mentioned, the block returns a structure for each ejector which contains all relevant data. Without importing / creating the structure, errors will occur when the plc program is compiled.

To successfully import the AWL source, the assignment between the symbol of the source and the desired block address in the symbol table must first be created. Furthermore a data type of type UDT must be created in the symbol table. This data type must be assigned to the name of the structure ("stSCTSi_IO_Link_Ejector"). If the symbol table has been adapted, both sources (structure and function block) can be compiled without errors.

1.5.1 Structure „stSCTSi_IO_Link_Ejector“

Name	Datentyp	Beschreibung
bVacuumControl_H1	BOOL	Status of H1
bPartControl_H2	BOOL	Status H2
btError	BYTE	Error Code oft the ejector
btCM_Warnings	BYTE	Code for pending warnings of the ejector
btLeakageLastCycle	BYTE	Measured leakage of the last handling cycle (mbar/s)
wSystemVacuum	WORD	Current vacuum value of the ejector (mbar)
wEvacuationTime_t1	WORD	Measured evacuation time T1 (ms)
wLastFreeFlowVacuum	WORD	Measured free flow vacuum (mbar)
wAirConsumptionLastCycle	WORD	Air consumption of the last handling cycle (0.1NL)

2 Appendix

2.1 List of abbreviations

abbreviation	description
FB	Function block
EPC	Energy- and Processcontrol
CM	Condition Monitoring
EM	Energy Monitoring
PM	Predictive Maintenance

2.2 Note

- The byte order of the product is represented as big endian.
- The triggering of the vacuum must be carried out in accordance with the corresponding ejector variant (e.g., NO, NC, IMP).

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