

Function Block-Documentation

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Note

This document were originally written in German and have been translated into English.
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Contact

J. Schmalz GmbH
Johannes-Schmalz-Str. 1
72293 Glatten, Germany

Tel. +49 (0) 7443 2403-0
Fax +49 (0) 7443 2403-259
schmalz@schmalz.de
www.schmalz.com

Contact information for Schmalz companies and trade partners worldwide can be found at

 www.schmalz.com/salesnetwork

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1 SCTSi Ethernet

1.1 Description

The following function blocks are provided to support the control and processing of the process data of the SCTSi Ethernet:

- FB_SCTSi_ETH_CU
- FB_SCTSi_ETH_Ej
- FB_SCTSi_ETH_DI

For the central monitoring of the SCTSi Ethernet, the function block "FB_SCTSi_ETH_CU" can be used once per terminal.

Depending on the expansion stage, the number of ejectors can vary. For this reason, the function block "FB_SCTSi_ETH_Ej" can be integrated per ejector.

If the expansion stage contains digital input modules, the function block "FB_SCTSi_ETH_DI" can be used per module.

2 Function block "FB_SCTSi_ETH_CU"

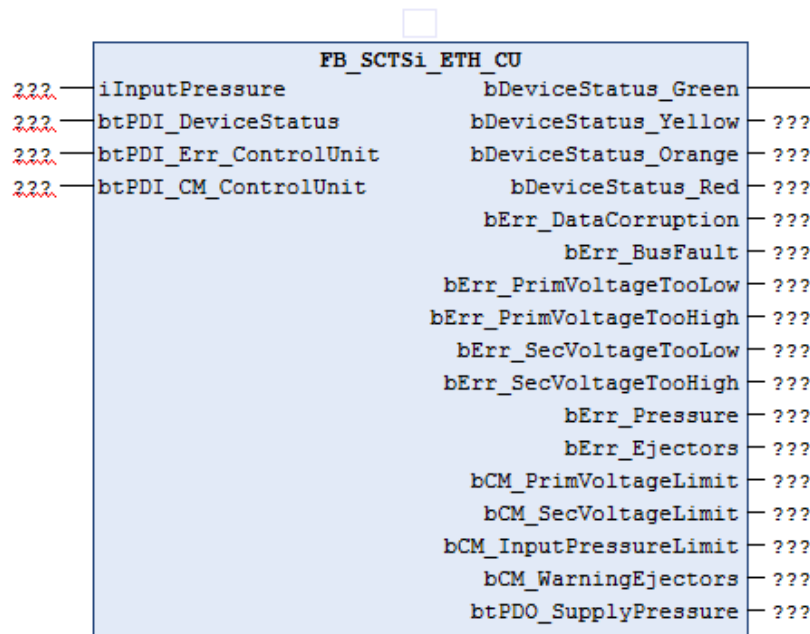
2.1 Brief description

The following tasks are performed by the module:

- Transmission of the current supply pressure to the device
- Output of the device status
- Error message of the control unit
- Status monitoring of the control unit

2.2 Image of function block

Example of function block:



2.3 Parameter - Input

name	data type	description
iInputPressure	INT	Enter current supply pressure in mbar
btPDI_DeviceStatus	BYTE	Input byte for device status is read
btPDI_Error_ControlUnit	BYTE	Input byte for error of the control unit is read
btPDI_CM_ControlUnit	BYTE	Input byte for condition monitoring of the control unit is read

2.4 Parameter - Output

name	data type	description
bDeviceStatus_Green	BOOL	Device is green
bDeviceStatus_Yellow	BOOL	Device is yellow
bDeviceStatus_Orange	BOOL	Device is orange
bDeviceStatus_Red	BOOL	Device is red
bErr_DataCorruption	BOOL	Error control unit: Data corruption
bErr_BusFault	BOOL	Error control unit: Bus fault
bErr_PrimVoltageTooLow	BOOL	Error control unit: Primary voltage too low
bErr_PrimVoltageTooHigh	BOOL	Error control unit: Primary voltage too high
bErr_SecVoltageTooLow	BOOL	Error control unit: Secondary voltage too low
bErr_SecVoltageTooHigh	BOOL	Error control unit: Secondary voltage too high
bErr_Pressure	BOOL	Error control unit: Supply pressure too low or too high
bErr_Ejectors	BOOL	Error control unit: Error in one ore more ejectors
bCM_PrimVoltageLimit	BOOL	Condition monitoring of control unit: Primary voltage limit
bCM_SecVoltageLimit	BOOL	Condition monitoring of control unit: Secondary voltage limit
bCM_InputPressureLimit	BOOL	Condition monitoring of control unit: Input pressure limit (3,5...6bar)
bCM_WarningsEjectors	BOOL	Condition monitoring of control unit: Warning in one or more ejectors
btPDO_SupplyPressure	BYTE	Output byte on the process data for transmission of the supply pressure entered on the block

3 Function block "FB_SCTSi_ETH_Ej"

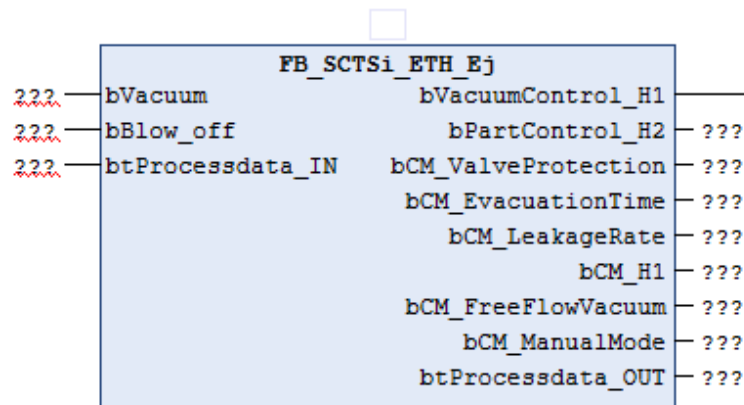
3.1 Brief description

The following tasks are performed by the module:

- Control of the respective ejector
- Output of condition monitoring of the ejector

3.2 Image of function block

Example of function block:



3.3 Parameter - Input

name	data type	description
bVacuum	BOOL	Request for suction
bBlow_off	BOOL	Request to blow-off
btProcessdata_IN	BYTE	Input byte of the process data for the corresponding ejector to be read in

3.4 Parameter - Output

name	data type	description
bVacuumControl_H1	BOOL	Control value vacuum
bPartControl_H2	BOOL	Switch-on value signal output „Part control“
bCM_ValveProtection	BOOL	Feedback about Ejectors: Valve protection active
bCM_EvacuationTime	BOOL	Feedback about Ejectors: Evacuation time greater than limit
bCM_LeakageRate	BOOL	Feedback about Ejectors: Leakage rate greater than limit
bCM_H1	BOOL	Feedback about Ejectors: H1 not reached in suction cycle
bCM_FreeFlowVacuum	BOOL	Feedback about Ejectors: Free flow vacuum too high
bCM_ManualMode	BOOL	Feedback about Ejectors: Manual mode active
btProcessdata_OUT	BYTE	Output byte of the process data for the corresponding ejector

4 Function block "FB_SCTSi_ETH_DI"

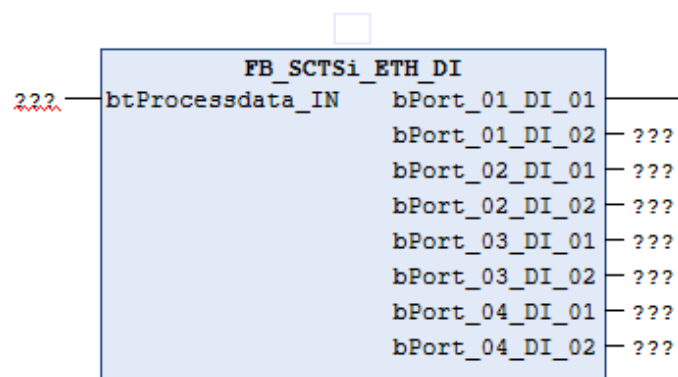
4.1 Brief description

The following tasks are performed by the module:

- Distribution of the signals of a digital input module

4.2 Image of function block

Example of function block:



4.3 Parameter - Input

name	data type	description
btProcessdata_IN	BYTE	Input byte of the process data for the corresponding digital input module to be read in

4.4 Parameter - Output

name	data type	description
bPort_01_DI_01	BOOL	Digital Input 1 of Port 1
bPort_01_DI_02	BOOL	Digital Input 2 of Port 1
bPort_02_DI_01	BOOL	Digital Input 1 of Port 2
bPort_02_DI_02	BOOL	Digital Input 2 of Port 2
bPort_03_DI_01	BOOL	Digital Input 1 of Port 3
bPort_03_DI_02	BOOL	Digital Input 2 of Port 3
bPort_04_DI_01	BOOL	Digital Input 1 of Port 4
bPort_04_DI_02	BOOL	Digital Input 2 of Port 4

5 Appendix

5.1 List of abbreviations

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

5.2 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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J. Schmalz GmbH
Johannes-Schmalz-Str. 1
72293 Glatten, Germany
T: +49 7443 2403-0
schmalz@schmalz.de
WWW.SCHMALZ.COM

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