



VACUUM-AUTOMATION

Function Block-Documentation

„FB_ECBPMi“ – Siemens – STEP 7 – TIA Portal

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Note

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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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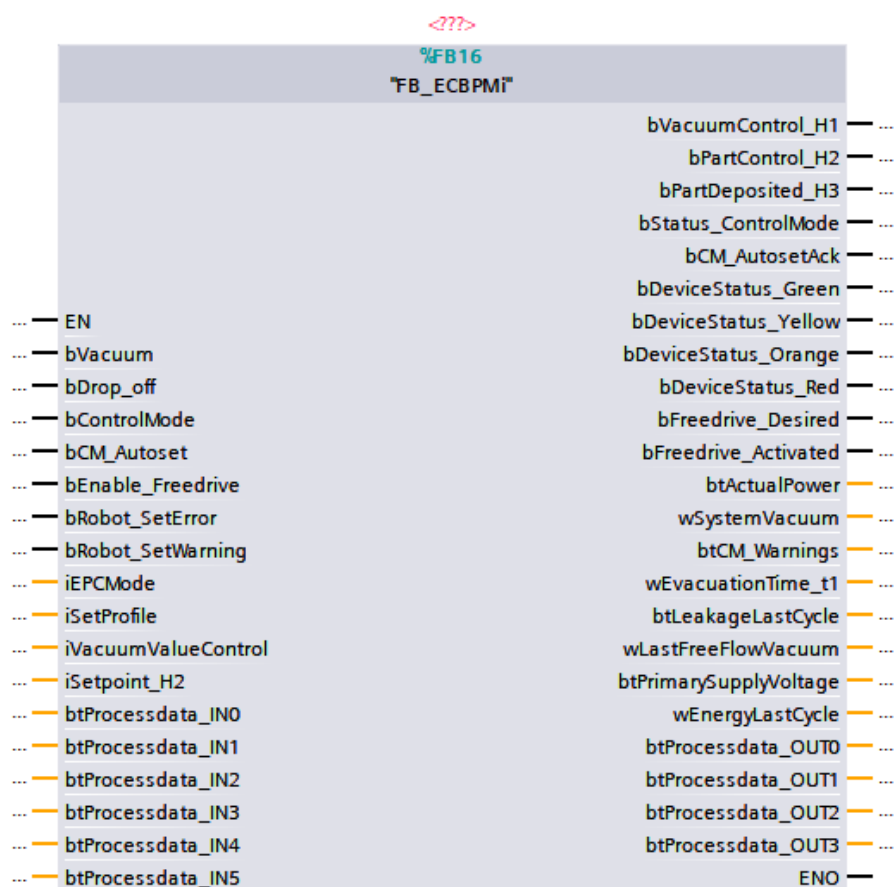
1 Function block "FB_ECBPMi"

1.1 Brief description

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

1.2 Image of function block

Example of function block:



1.3 Parameter - Input

name	data type	description
bVacuum	BOOL	Request for suction
bDrop_off	BOOL	Request to drop-off
bControlMode	BOOL	Control Mode (see: iVacuumValueControl)
bCM_Autoset	BOOL	Automatic determination and storage in the active profile of max. leakage rate (-L-) and evacuation time (t-1) of last cycle
bEnable_Freedrive	BOOL	Enable "manual control" mode via the higher-level control unit
bRobot_SetError	BOOL	Error is set by higher-level control unit and transferred to error status
bRobot_SetWarning	BOOL	Warning is set by higher-level control unit and transferred to warning status
iEPCMode	INT	Request for EPC data can be controlled as following: 0 = no request 1 = request for values of EPC-Select 0 2 = request for values of EPC-Select 1 3 = request for values of EPC-Select 2 4 = request for values of EPC-Select 3 5 = values are automatically picked up
iSetProfile	INT	Choice of desired vacuum profile (0 – 3)
iVacuumValueControl	INT	bControlMode = 0 : setting setpoint value bControlMode = 1 : engine speed control
iSetpoint_H2	INT	Setpoint for vacuum limit value H2 [10mbar]
btProcessdata_IN0	BYTE	Input byte 0 of process data
btProcessdata_IN1	BYTE	Input byte 1 of process data
btProcessdata_IN2	BYTE	Input byte 2 of process data
btProcessdata_IN3	BYTE	Input byte 3 of process data
btProcessdata_IN4	BYTE	Input byte 4 of process data
btProcessdata_IN5	BYTE	Input byte 5 of process data

1.4 Parameter - Output

name	data type	description
bVacuumControl_H1	BOOL	Vacuum value within setpoint area (only in setpoint mode)
bPartControl_H2	BOOL	Switch-on value signal output „Part control“
bPartDeposited_H3	BOOL	Part deposited
bStatus_ControlMode	BOOL	Status of control function
bCM_AutoSetAck	BOOL	Active when CM Autostart completes successfully
bDeviceStatus_Green	BOOL	Device is working optimally
bDeviceStatus_Yellow	BOOL	Device is working but there are warnings
bDeviceStatus_Orange	BOOL	Device is working but there are severe warnings
bDeviceStatus_Red	BOOL	Device is not working properly
bFreemove_Desired	BOOL	Request "manual control" mode to the higher-level control unit
bFreemove_Activated	BOOL	Activates "manual control" mode to the higher-level control unit
btActualPower	BYTE	Actual Power (%)
wSystemVacuum	WORD	System vacuum (mBar)
btCM_Warnings	BYTE	CM Warnings
wEvacuationTime_t1	WORD	Evacuation time t1 (ms)
btLeakageLastCycle	BYTE	Leakage of last handling cycle (mbar/s)
wLastFreeFlowVacuum	WORD	Last free flow vacuum (mbar)
btPrimarySupplyVoltage	BYTE	Input voltage (V)
wEnergyLastCycle	WORD	Energy consumption of last handling cycle (Ws)
btProcessdata_OUT0	BYTE	Output byte 0 of process data
btProcessdata_OUT1	BYTE	Output byte 1 of process data
btProcessdata_OUT2	BYTE	Output byte 2 of process data
btProcessdata_OUT3	BYTE	Output byte 3 of process data

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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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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