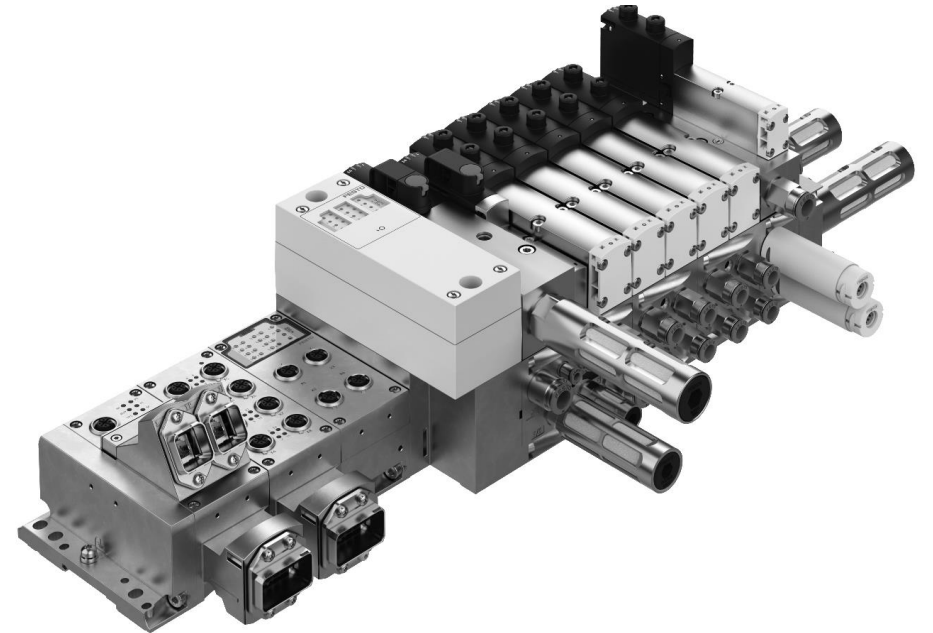
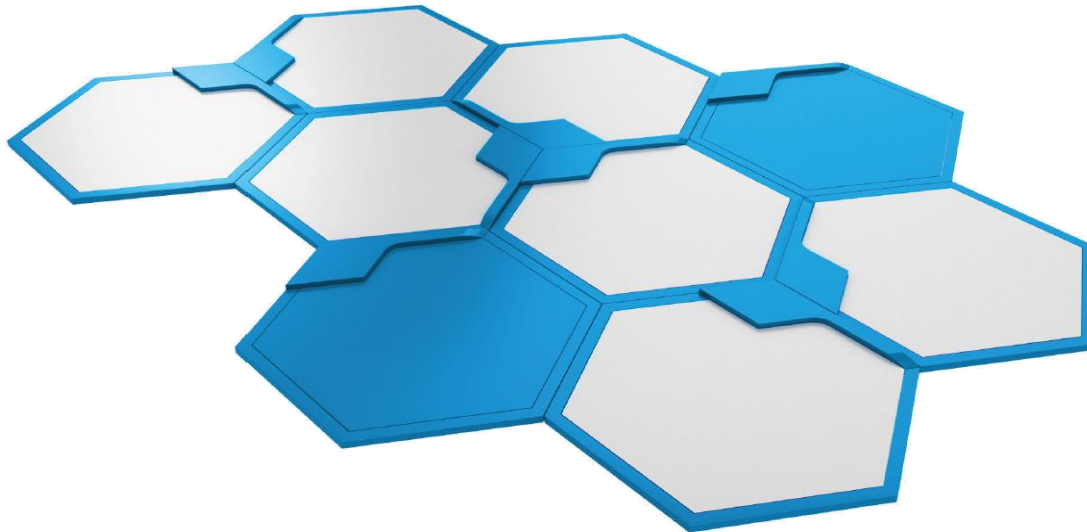


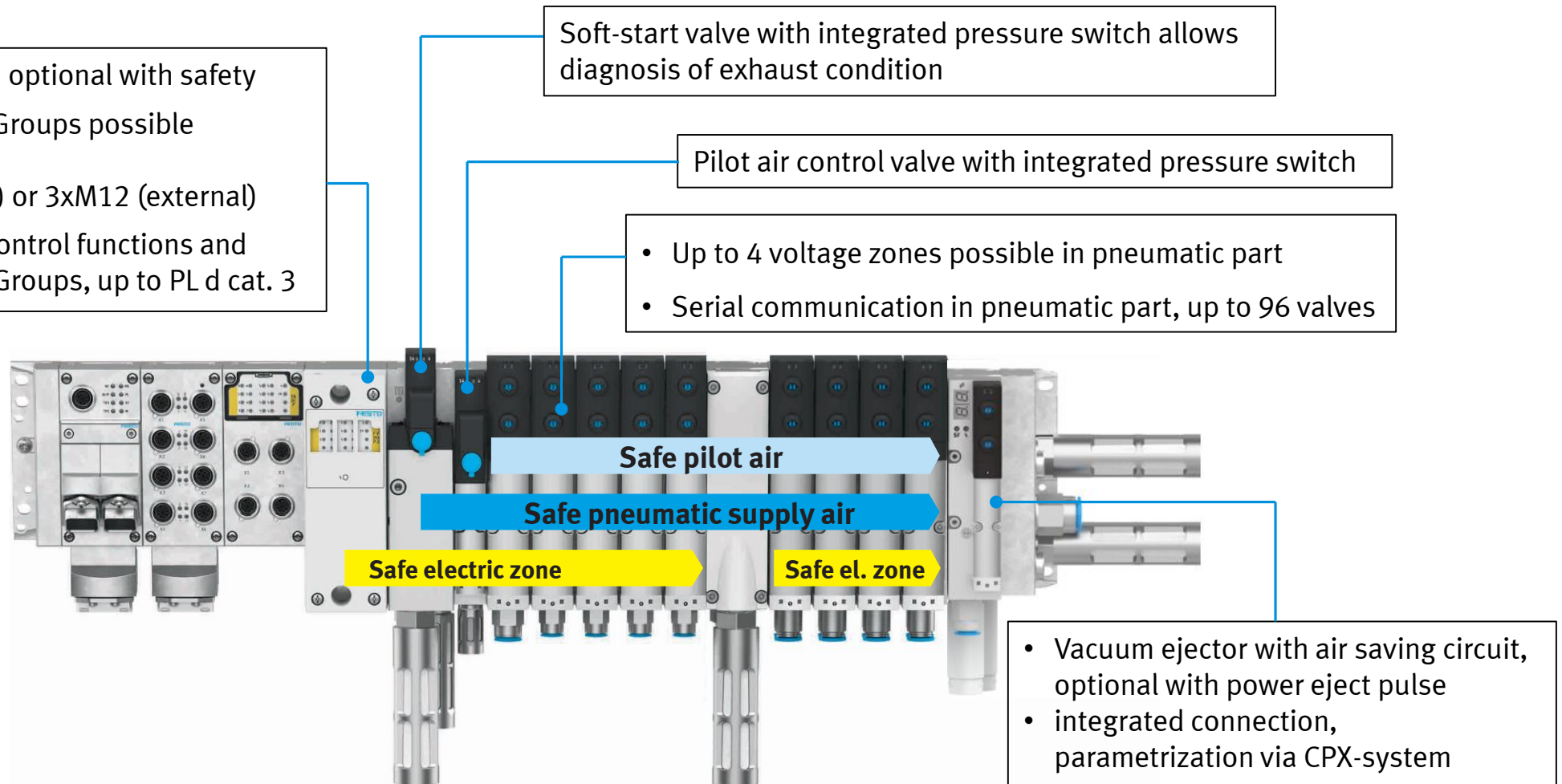
CPX/VTSA-F-CB

PROFINET-PROFISAFE CONFIGURATION RULES



CPX/VTSA-F-CB – Brief description

- New pneumatic interfaces, optional with safety
- Up to 3 Safety-Shutdown-Groups possible with CPX interface:
 - PROFIsafe (integrated) or 3xM12 (external)
- Realization of integrated control functions and flexible Safety-Shutdown-Groups, up to PL d cat. 3



CPX/VTSA-F-CB: Possible field bus systems with VTSA pneumatic interfaces (Profinet)

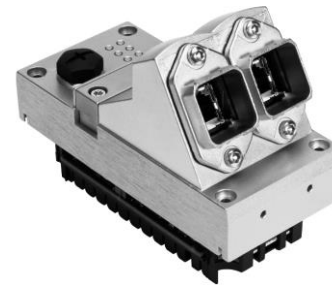
FB 13

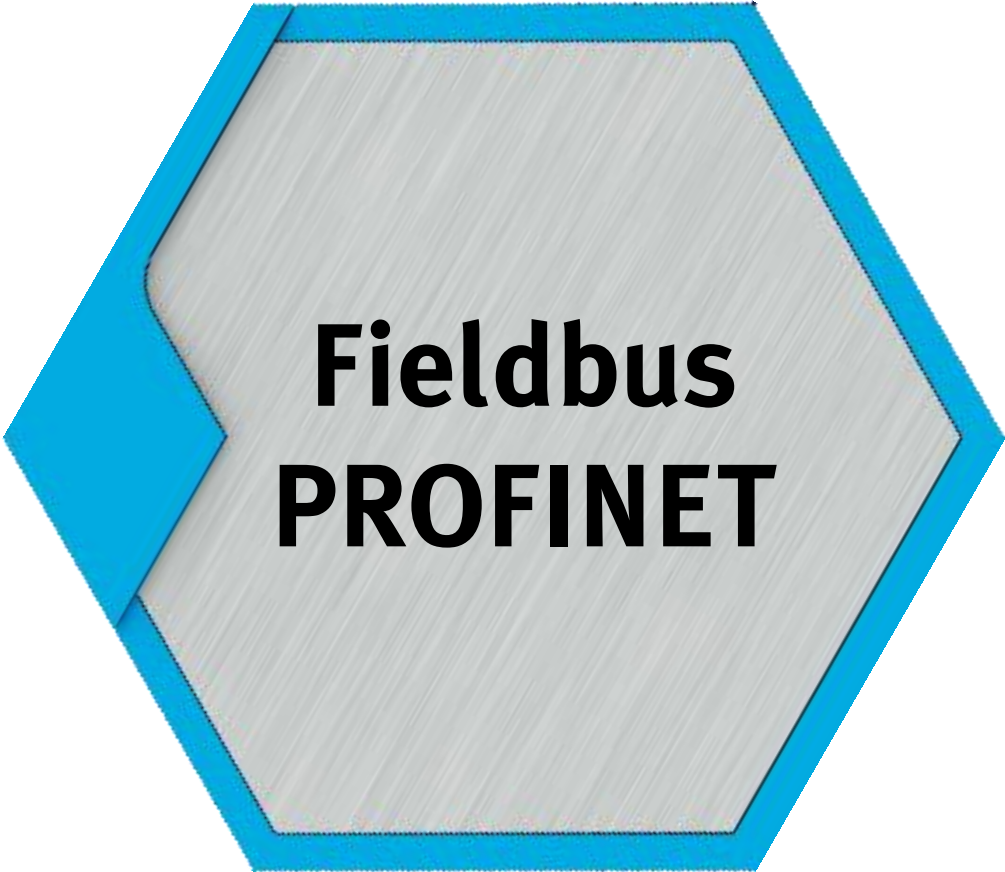


FB 43



FB 44 and FB45





CPX | VTSA-CB configuration in TIA

What is new!



- New GSDML File
- New Firmware for bus node -> Rev 35
- Update for Festo Maintenance Tool



Search: VTSA-F-CB

FESTO

DNC-125-100-PPV-A
183501 R408
pmax: 12 bar

Part number Series Order code

- Contact
- Product conformity
- Terms and conditions of use for electronic documentation

Valve terminal VTSA-F-CB
8073100

- Display in the catalogue
- CAD / EPLAN
- Spare parts catalogue
- Technical data
- Create download package

Top 3 Product information [7] Technical documentation [75] Certificates [1] **Software [2]** Expert knowledge [8] Training [0]

Description	Version	Filter result
PROFINET GSDML GSDML file for CPX Supported systems: • Interface CPX.FR43 (8110369)	10/02/2020	→ Device Description Files → File and language versions
FMT - Festo Maintenance Tool This update imports newer CPX modules into the module catalog of FST4.x and CPX-FMT.	Update 20 17/02/2020	→ Commissioning → File and language versions

Device information

Slot 0 - FB34-RIO

PROFINET IO 2x PP RJ45

MC: 216/0 Revision: 35 Serial number: 1F5CEB18



CPX | VTSA-CB configuration in TIA

New HW catalog

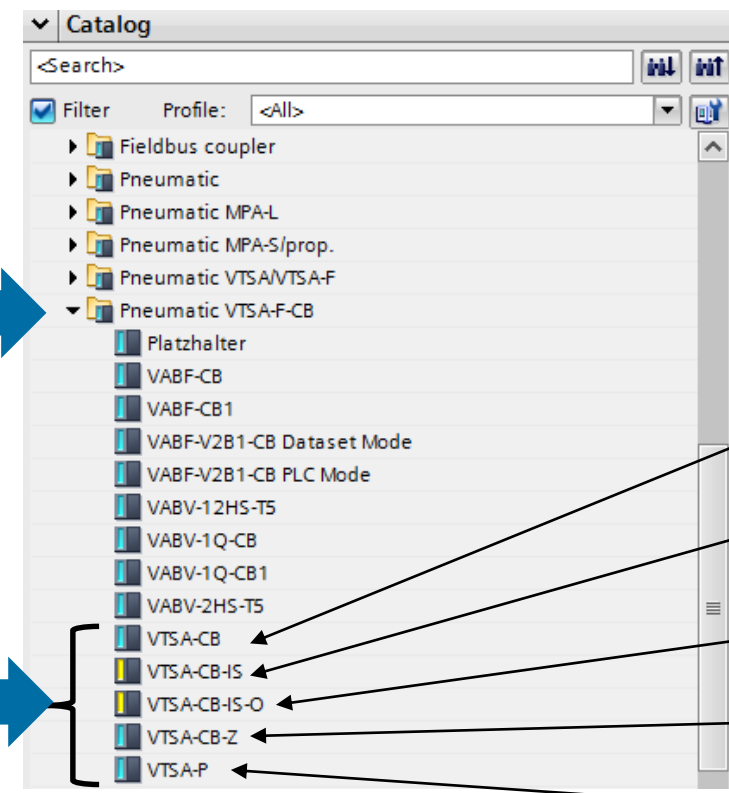
There is a new entry in the Hardware Catalog in the TIA Portal If the new GSDML File is installed



Here you find the 3 new Interfaces, Plus the address extender



GSDML FB 3x/FB4x



Standard Interface

Interface with 3 Saftey Zones

Interface with 2 Saftey Zones + 1 external Safety Output

Interface with 3 M12 for External power supply

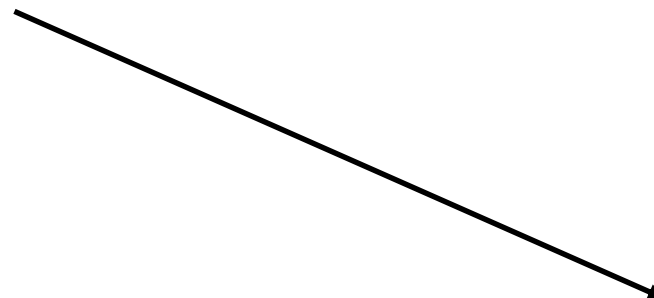
Address extender

CPX | VTSA-CB configuration in TIA

Terminal configuration



You can check the set address in the web server of the cpx bus node. You see the safety address of the interface as FVDO-P2



CPX web server vtsa-f-cb / 192.168.0.2

- [Home](#)
- [Device info](#)
- [Diagnosis](#)
- [PROFINET / I&M](#)
- [Ethernet](#)
- [Report](#)

Device information

Slot 0 - FB34-RIO

PROFINET IO 2x PP RJ45
MC: 216/0 Revision: 35 Serial number: 1F5CEB18

Slot 1 - 8DI-D

Input module
MC: 7/0 Revision: 6 Serial number: DD467B4E
Inputs: 8x 1 Bit

Slot 2 - F8DI-P

Input Module Safety
MC: 28/1 Revision: 2 Serial number: 86048829
F_Dest_Addr device: 4
Functionmode for channel pair 1/0: 0
Functionmode for channel pair 3/2: 0
Functionmode for channel pair 5/4: 0
Functionmode for channel pair 7/6: 0

Slot 3 - F8DI-P

Input Module Safety
MC: 28/1 Revision: 2 Serial number: 86049437
F_Dest_Addr device: 5
Functionmode for channel pair 1/0: 0
Functionmode for channel pair 3/2: 0
Functionmode for channel pair 5/4: 0
Functionmode for channel pair 7/6: 0

Slot 4 - FVDO-P2

Output Module Safety
MC: 193/8 Revision: 4 Serial number: 83046039
F_Dest_Addr device: 6
Inputs: 6x 8 Bit
Outputs: 6x 8 Bit

Slot 5 - VTSA-CB-IS

CPX | VTSA-CB configuration in TIA

Terminal configuration



You can also check the set address in the FMT tool

Module #4

Module Parameters Diagnosis Force Mode Fail Safe

Parameter	Value
Monitor Vout/Vval	Active
General diagnosis	
Channel 0	Active
Channel 1	Active
Channel 2	Active
Module	Active
Failsafe protocol	Active
Monitor wire fracture	
Channel 0	Inactive
Channel 1	Inactive
Channel 2	Inactive
PROFIsafe address	\$6

Refresh OK Abbrechen Übernehmen Hilfe

Untitled - CPX-FMT - [ONLINE TCP/IP 192.168.0.2]

File Edit View Online CPX Extras Help

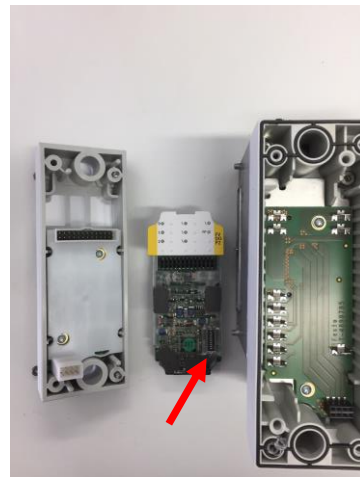
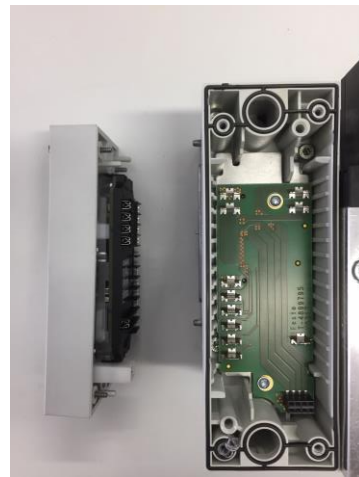
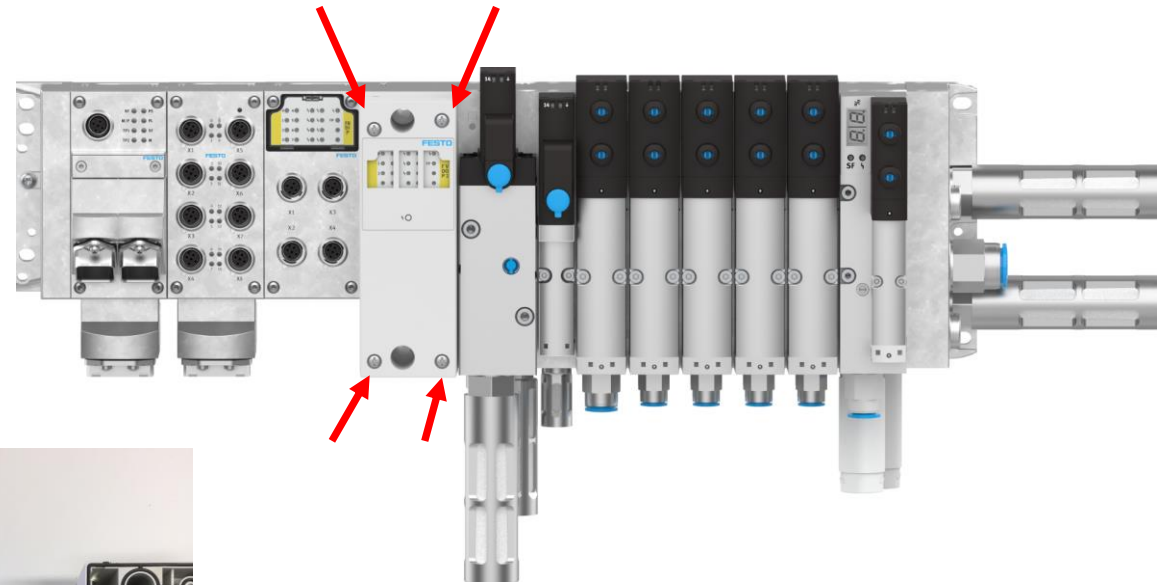
Module	Type	Inputs	Outputs
0	F34 - PROFINET RJ45 Remote-I/O		
1	8DI-D - Input module	I0-3=0.0/0.0 I4-7=0.0/0.0	
2	F8DI-P - Input Module Safety	I0-3=0.0/0.0 I4-7=0.0/0.0 I8-11=...	O0-3=0.0/0.0 O4-7=0.0/0.0 O8-...
3	F8DI-P - Input Module Safety	I0-3=0.0/0.0 I4-7=0.0/0.0 I8-11=...	O0-3=0.0/0.0 O4-7=0.0/0.0
4	FVDO-P2 - Output Module Safety	I0=7 I1=16 I2=0 I3=6 I4=167 I...	O0=7 O1=0 O2=128 O3=18 O...
5	VTSA-CB-IS - Pneumatic interface - 3 zones	I0-3=1.1/1.1 I4-7=1.1/1.1 I8-11=...	O0-3=0.0/0.0 O4-7=0.0/0.0 O8-...
6	VABV-1Q-CB - Manifold sub-base soft-start valve	I0-3=1.0/0.0 I4-7=0.0/0.0	O0-3=0.0/0.0 O4-7=0.0/0.0
7	VABV-12HS-T5 - Manifold sub-base pilotair valve	I0-3=1.0/0.0 I4-7=0.0/0.0	O0-3=0.0/0.0 O4-7=0.0/0.0
8	VABF-CB1 - Pneumatic extension powered by sep. voltage zone	I0-3=1.1/1.1 I4-7=1.1/1.1 I8-11=...	O0-3=0.0/0.0 O4-7=0.0/0.0 O8-...
9	VABV-2HS-T5 - Manifold sub-base pilotair valve	I0-3=1.0/0.0 I4-7=0.0/0.0	O0-3=0.0/0.0 O4-7=0.0/0.0
10	VABF-V2B1-CB - vacuum generator	I0=\$0 I1=0 kPa I2=0 % I3=\$0 I...	O0=\$0 O1=0 kPa O2=0 kPa O3=...

CPX | VTSA-CB configuration in TIA

Terminal configuration



To change the safety address in the interface, open the 4 screws and lift the cover up.
Then change the address to the value You need, just like the FVDA-P2



CPX | VTSA-CB configuration in TIA

Terminal configuration



Note: It is not allowed to put **2** FVDA-P2 into one terminal. Because the FVDA-P2 is integrated in the new VTSA-F-CB Interface, another FVDA-P2 is not possible. Furthermore, don't forget to put in the right PROFIsafe address.



Device overview

Module	...	Rack	Slot	I address	Q address	Type
CPX		0	0			CPX Rev 30
PN-IO Interface		0	0 X1			CPX
FB34 PNIO Module_1		0	1			FB34 PNIO Module
8DI-D [8DI]_1		0	2	2		8DI-D [8DI]
F8DI-P word [8DI-F]_1	■	0	3	3...8	3...9	F8DI-P word [8DI-F]
F8DI-P word [8DI-F]_2	■	0	4	10...15	10...16	F8DI-P word [8DI-F]
FVDO-P2 [3DO-F]_1	■	0	5	17...22	17...22	FVDO-P2 [3DO-F]
VTSA-CB-IS_1		0	6			VTSA-CB-IS
VTSA-CB-IS	■	0	6 PRO...	23...28	23...28	VTSA-CB-IS
VTSA-CB 24 coils		0	6 Valv...		29...31	VTSA-CB 24 coils
		0	6 Inp...			



Device overview

Module	...	Rack	Slot	I address	Q address	Type
CPX		0	0			CPX Rev 30
PN-IO Interface		0	0 X1			CPX
FB34 PNIO Module_1		0	1			FB34 PNIO Module
8DI-D [8DI]_1		0	2	2		8DI-D [8DI]
F8DI-P word [8DI-F]_1	■	0	3	3...8	3...9	F8DI-P word [8DI-F]
F8DI-P word [8DI-F]_2	■	0	4	10...15	10...16	F8DI-P word [8DI-F]
VTSA-CB-IS_1	■	0	5			VTSA-CB-IS
VTSA-CB-IS	■	0	5 PRO...	23...28	23...28	VTSA-CB-IS
VTSA-CB 24 coils		0	5 Valv...		29...31	VTSA-CB 24 coils
		0	5 Inp...			

CPX | VTSA-CB configuration in TIA

Terminal configuration

➔ Note: Because the existing VTSA-F with Diagnostic (= identcode „T“ in existing VTSA-F) is implemented in the new VTSA-F-CB Interface you have the possibility to get the diagnosis via EA cycling date of the interface.

If you **DON'T need** this function, just leave this field blank

Device overview						
Module	...	Rack	Slot	I address	Q address	
CPX		0	0			
PN-IO Interface		0	0 X1			
FB34 PNIO Modul [Status]_1		0	1	68		
8DI-D [8DE]_1		0	2	2		
F8DI-P Word [8DE-F]_1		0	3	3...8	3...9	
F8DI-P Word [8DE-F]_2		0	4	10...15	10...16	
VTSA-CB-IS_1		0	5			
VTSA-CB-IS		0	5 PRO...	17...22	17...22	
VTSA-CB 24 spulen		0	5 Valv...		23...25	
Valve diagnosis		0	5 Inp...	29...31		
VABV-1Q-CB_1		0	6	9	2	
VABV-12HS-T5_1		0	7	16	26	
VABF-CB1_1		0	8		27...29	
VABF-CB1		0	8 Valv...		27...29	
		0	8 Inp...			
VABV-2HS-T5_1		0	9	23	30	
VABF-V2B1-CB SPS Modus_1		0	10	24...28	31...35	

▼ Catalog

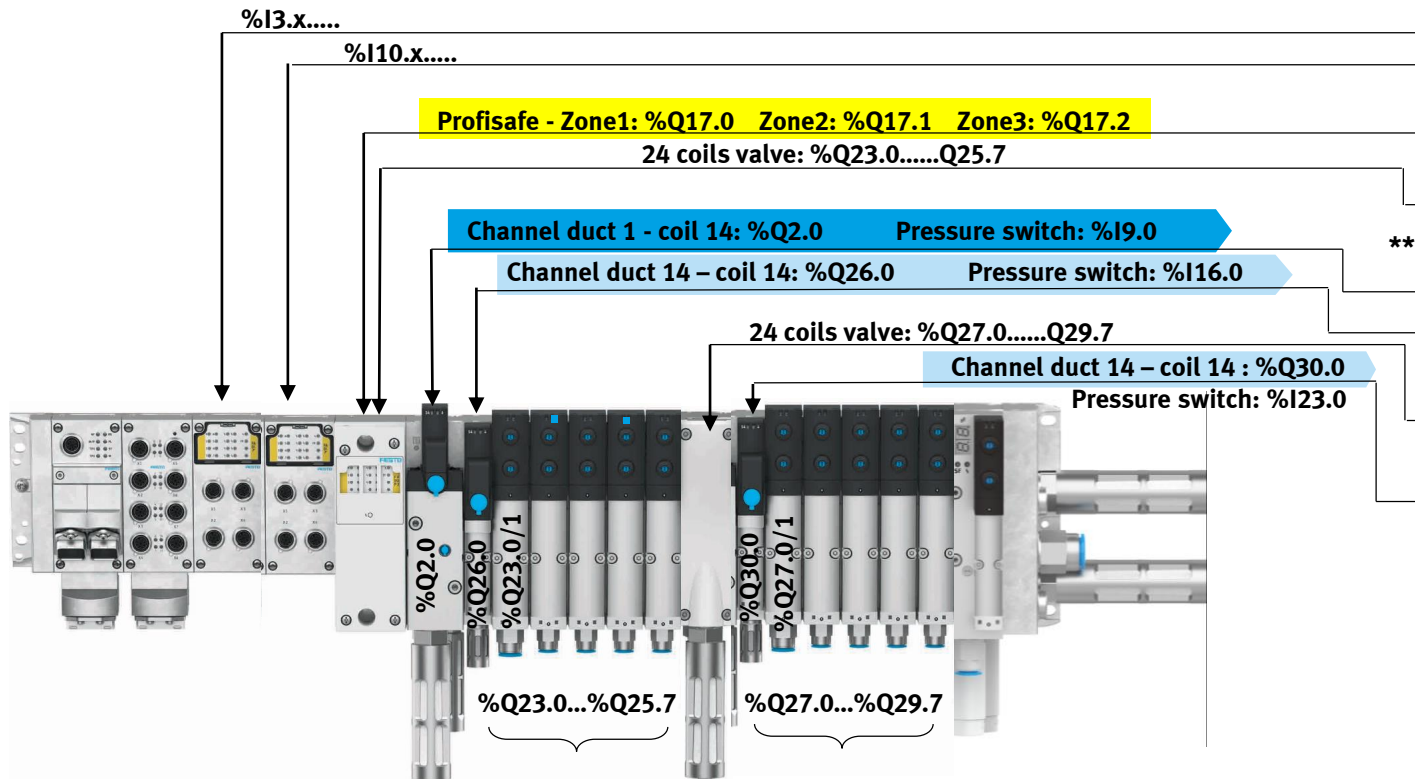
<Search>

Filter Profile: <All>

- Head module
- Module
 - Analog modules
 - CPX-P modules
 - CPX-Safety modules
 - Digital modules
 - Fieldbus coupler
 - Pneumatic
 - Pneumatic MPA-L
 - Pneumatic MPA-S/prop.
 - Pneumatic VTSA/VTSA-F
 - Pneumatic VTSA-F-CB
 - Shared modules
 - Technology modules
- Submodules
 - Valve diagnosis

CPX | VTSA-CB configuration in TIA

Terminal configuration – Zone and standard valves



Device overview					
Module	...	Rack	Slot	I address	Q address
▼ CPX		0	0		
▶ PN-IO Interface		0	0 X1		
FB34 PNIO Modul [Status]_1		0	1	68	
8DI-D [8DE]_1		0	2	2	
F8DI-P Word [8DE-F]_1	■	0	3	3...8	3...9
F8DI-P Word [8DE-F]_2	■	0	4	10...15	10...16
▼ VTSA-CB-IS_1		0	5		
VTSA-CB-IS	■	0	5 PRO...	17...22	17...22
VTSA-CB 24 spulen		0	5 Valv...		23...25
Valve diagnosis		0	5 Inp...	29...31	
VABV-1Q-CB_1		0	6	9	2
VABV-12HS-T5_1		0	7	16	26
▼ VABF-CB1_1		0	8		27...29
VABF-CB1		0	8 Valv...		27...29
		0	8 Inp...		
VABV-2HS-T5_1		0	9	23	30
VABF-V2B1-CB SPS Modus_1		0	10	24...28	31...35

** Option for diagnosis via EA cycling date of the interface.
If you not need this function, just leave it blank.

CPX | VTSA-CB configuration in TIA

Terminal configuration – Zone and standard valves



The standard valves

14 = Q 23.0

12 = Q 23.1

14 = Q 23.2

12 = Q 23.3


And so on..... In total 3 byte



▼ VTSA-CB-IS_1		0	5			VTSA-CB-IS
VTSA-CB-IS		0	5 PRO...	17...22	17...22	VTSA-CB-IS
VTSA-CB 24 spulen		0	5 Valv...		23...25	VTSA-CB 24 coils


CPX | VTSA-CB configuration in TIA

Terminal configuration – Soft Start valve / Pilot air valve

 To switch the Soft Start Valve, you need to switch the first bit of the output address. The pressure switch is on the first bit of the input byte. If is there no pressure, it is on „1“.

14 = Q 2.0
PS = I 9.0

	VABV-1Q-CB_1	0	6	9	2	VABV-1Q-CB	TN 8068610
	VABV-12HS-T5_1	0	7	16	26	VABV-12HS-T5	TN 8068911

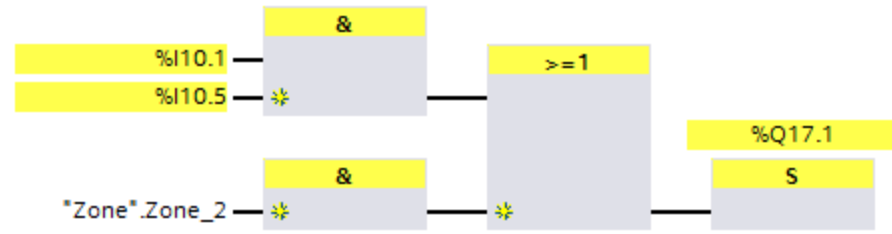
 To switch the Pilot Air Valve, you need to switch the first bit of the output address. The pressure switch is on the first bit of the input byte. If is there no pressure, it is on „1“.

14 = Q 26.0
PS = I 16.0

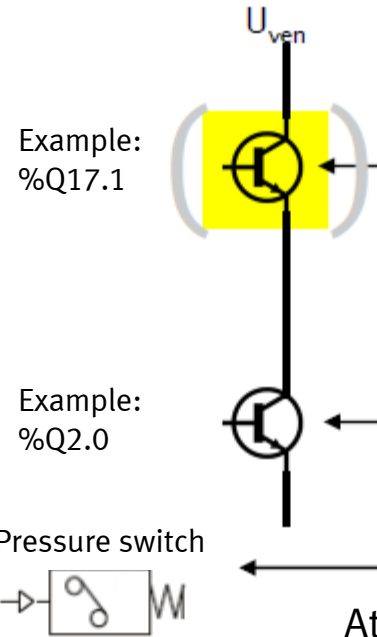
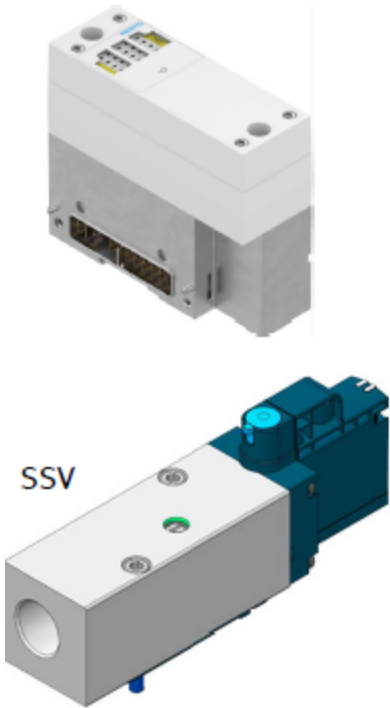
	VABV-1Q-CB_1	0	6	9	2	VABV-1Q-CB	TN 8068610
	VABV-12HS-T5_1	0	7	16	26	VABV-12HS-T5	TN 8068911

CPX | VTSA-CB configuration in TIA

Activate a standard valve in a safe zone

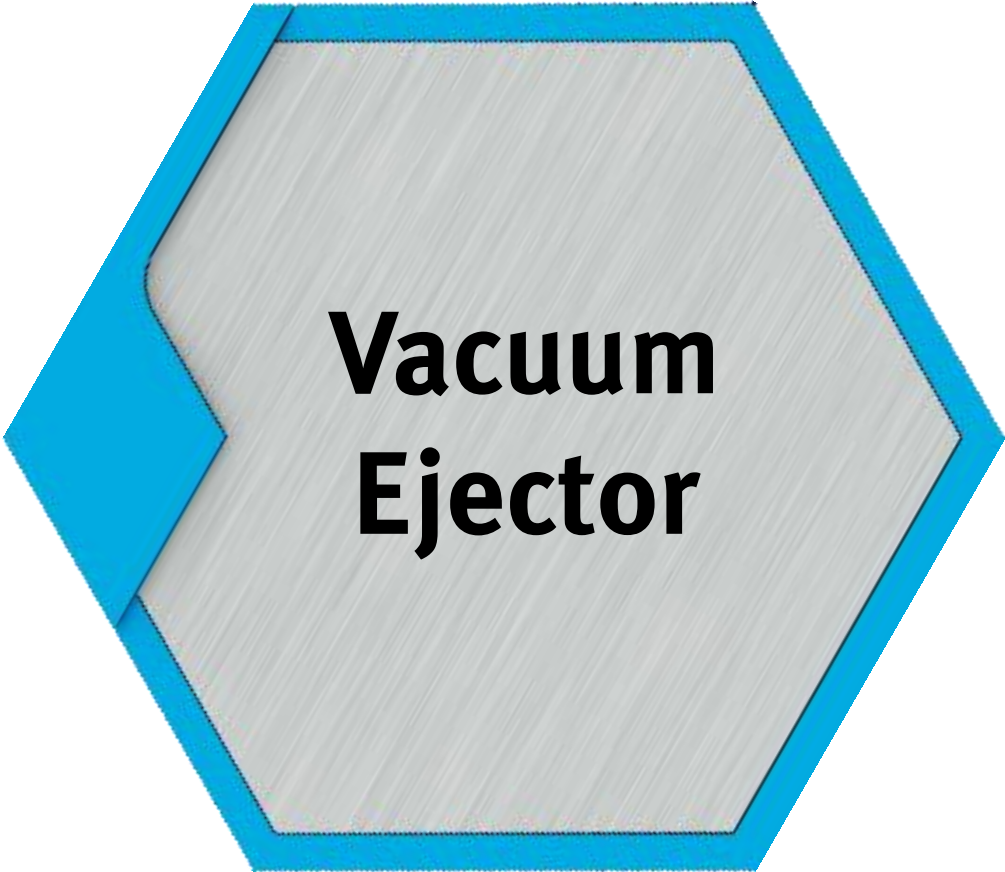


Modul	...	Baugru..	Steckpl..	E-A...	A-A...	Typ	Kommentar
VTSA-CB-IS_1		0	4			VTSA-CB-IS			Pneumatikadapter 3-FDO
VTSA-CB-IS		0	4 PROF...	17...	17...	VTSA-CB-IS			Integrated FVDA-P2

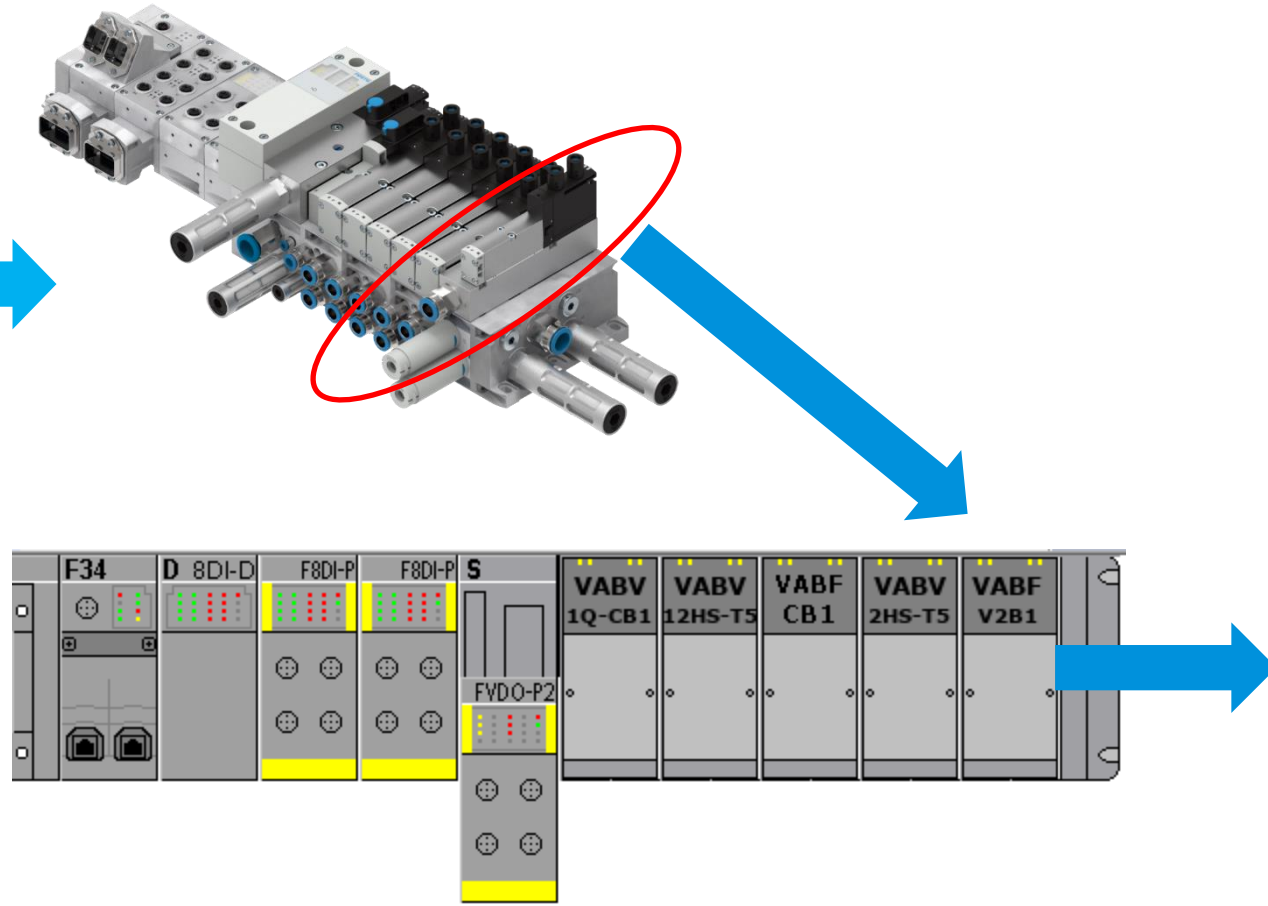


VABV-1Q-CB_1	0	6	9	2	VABV-1Q-CB	Softstart valve
--------------	---	---	---	---	------------	-----------------

Attention: When using a Softstart valve (SSV) together with a PROFIsafe Interface you **must switch two outputs** → the safety zone for power supply and the standard output from the SSV.



Vacuum-Ejector - Parameterization



Module #10

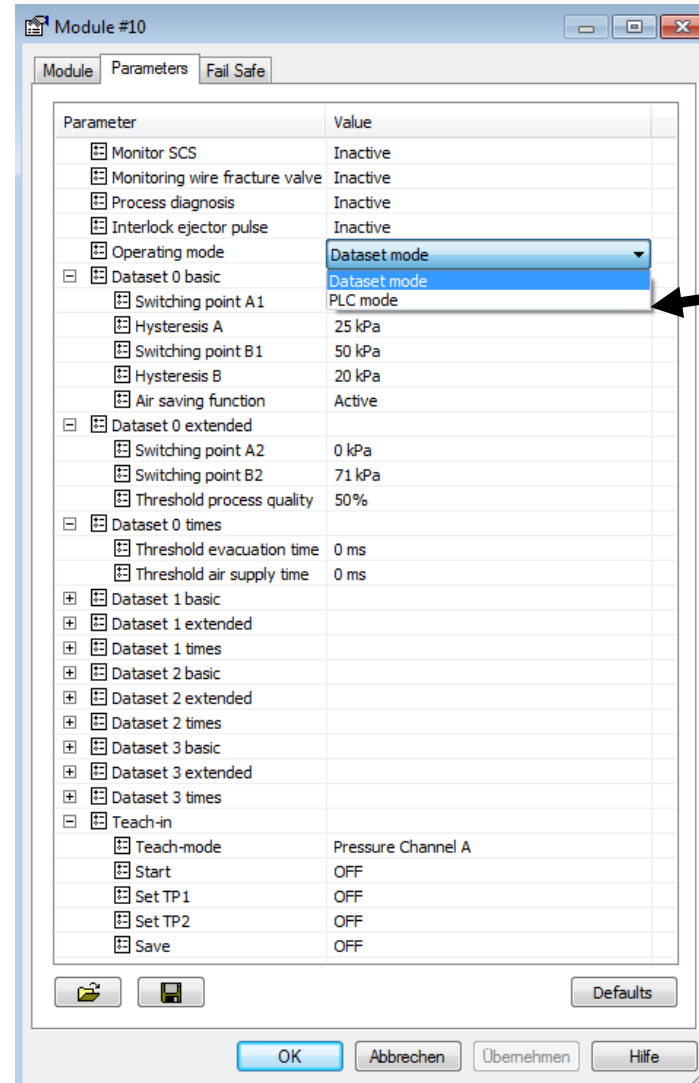
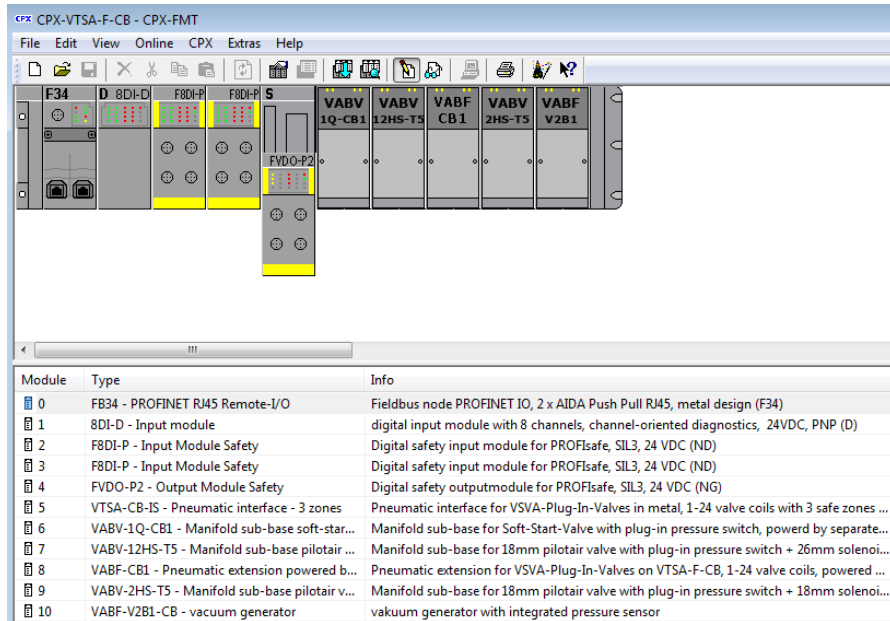
Module Parameters Fail Safe

Parameter	Value
Monitor SCS	Inactive
Monitoring wire fracture valve	Inactive
Process diagnosis	Inactive
Interlock ejector pulse	Inactive
Operating mode	Dataset mode
Dataset 0 basic	
Switching point A1	70 kPa
Hysteresis A	25 kPa
Switching point B1	50 kPa
Hysteresis B	20 kPa
Air saving function	Active
Dataset 0 extended	
Switching point A2	0 kPa
Switching point B2	71 kPa
Threshold process quality	50%
Dataset 0 times	
Threshold evacuation time	0 ms
Threshold air supply time	0 ms
Dataset 1 basic	
Dataset 1 extended	
Dataset 1 times	
Dataset 2 basic	
Dataset 2 extended	
Dataset 2 times	
Dataset 3 basic	
Dataset 3 extended	
Dataset 3 times	
Teach-in	
Teach-mode	Pressure Channel A
Start	OFF
Set TP1	OFF
Set TP2	OFF
Save	OFF

Defaults

OK Abbrechen Überehmen Hilfe

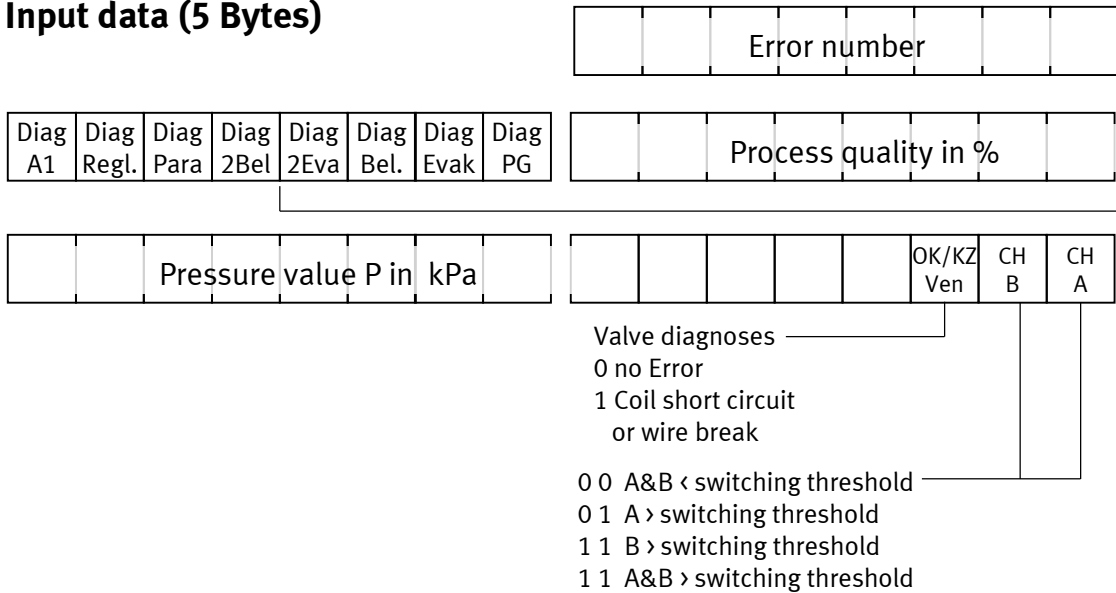
Vacuum-Ejector - Parameterization



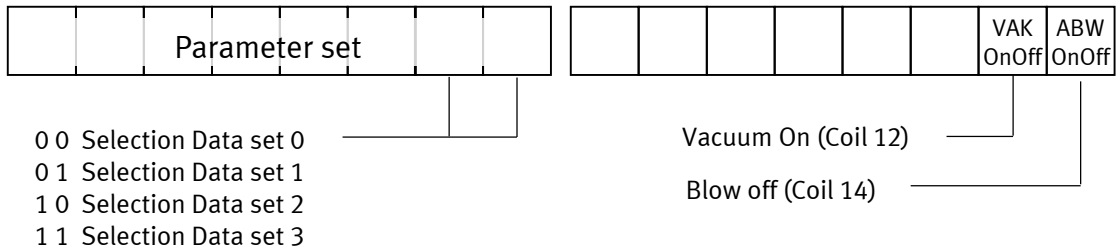
Switch between „Dataset mode“ and „PLC mode“ is possible.

Vacuum-Ejector – EA-assignment „Dataset mode“

Input data (5 Bytes)



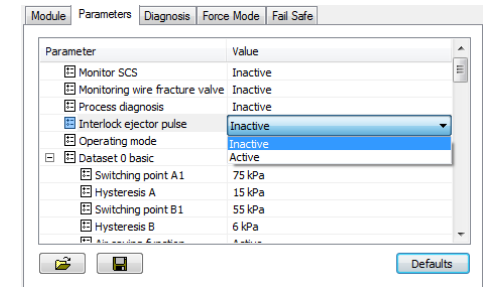
Output data (2 Bytes)



Definition	Process data	Default	Org
Switching output A	CH_A	0	Bit
Switching output B	CH_B	0	Bit
Open Load / short circuit	OL/KZ Ven	1	Bit
Pressure	P	0	Byte
Warning process quality	Diag PG	1	Bit
Warning evacuation time	Diag EVAK	1	Bit
Warning blow off time	Diag Bel	1	Bit
Warning 2x evacuation time	Diag 2Eva	1	Bit
Warning 2x blow off time	Diag 2Bel	1	Bit
Warning parameter	Diag Para	1	Bit
Warning control parameter	Diag Regl	1	Bit
Warning Diag A1	Diag A1	1	Bit
Error number	Fehlernummer	0	Byte
process quality	Prozessguete	0	Byte

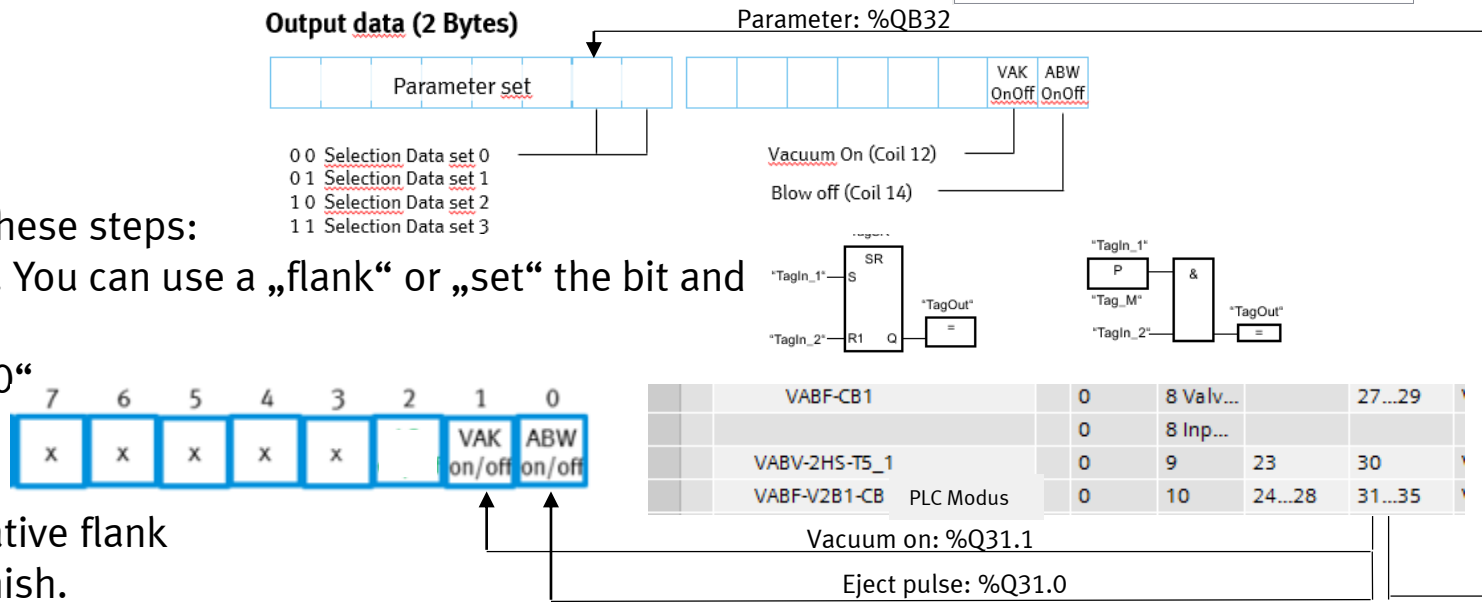
Vacuum-Ejector – How to start the process in Dataset mode

1. Check, if you need the interlock eject pulse switched „active“ or „inactive“. This you have to choose in the FMT tool. As default it is „Inactive“ and load the right parameter set as “INT”



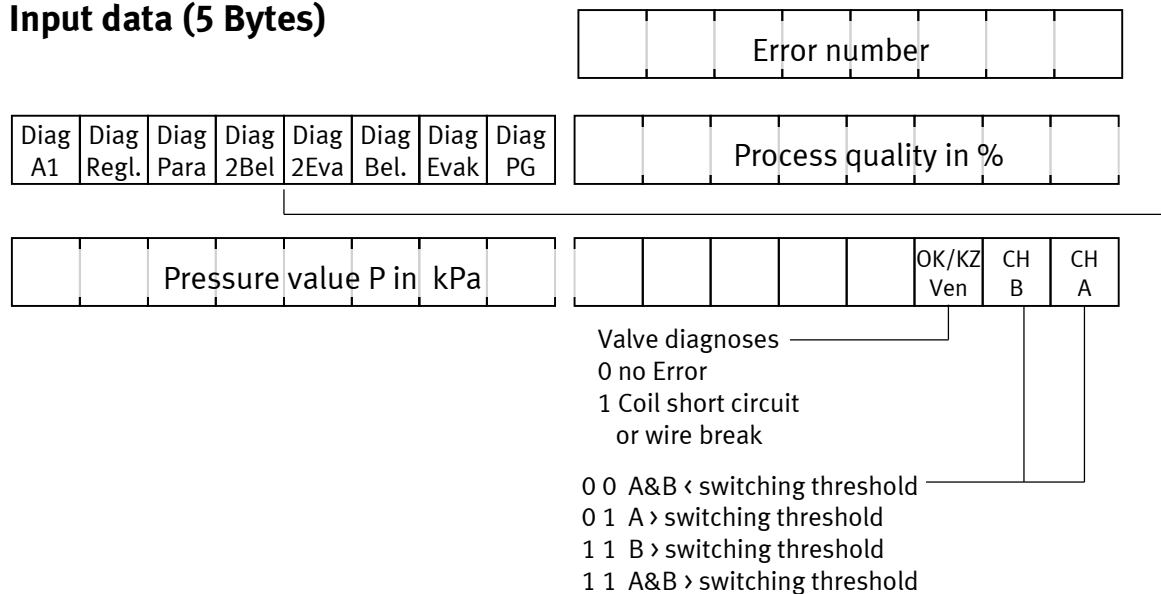
2. To run through the process, you have to follow these steps:

1. Start the process with a „positive“ signal. You can use a „flank“ or „set“ the bit and „reset“. It is the bit „x.1“.
2. To stop the vacuum, be sure bit „x.1“ is „0“
3. Then you need a positive flank on the eject pulse, like you do it on the start.
4. If the eject pulse on bit “x.0“ gives a negative flank to the system, the complete process is finish.

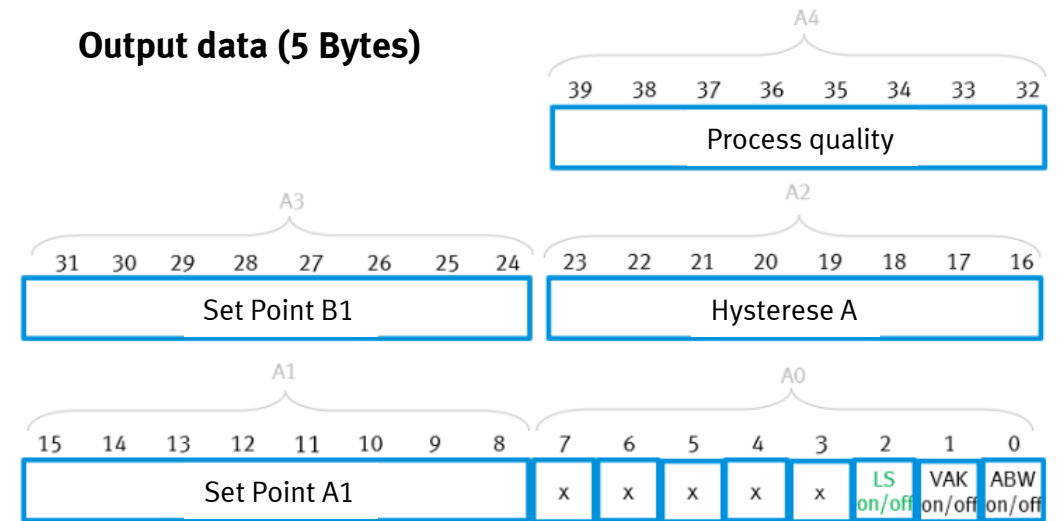


Vacuum-Ejector – EA-assignment „PLC mode“

Input data (5 Bytes)



Output data (5 Bytes)

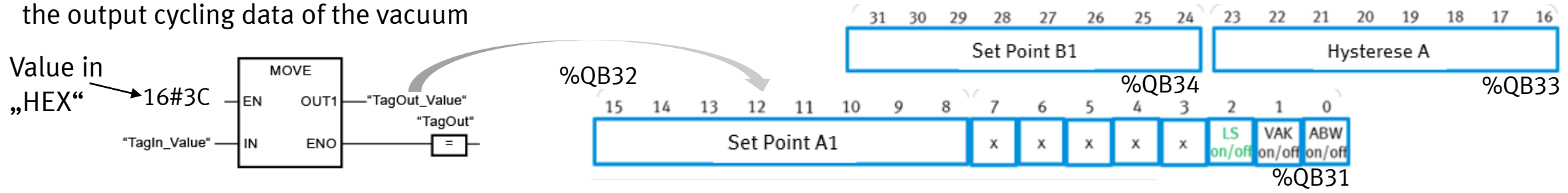
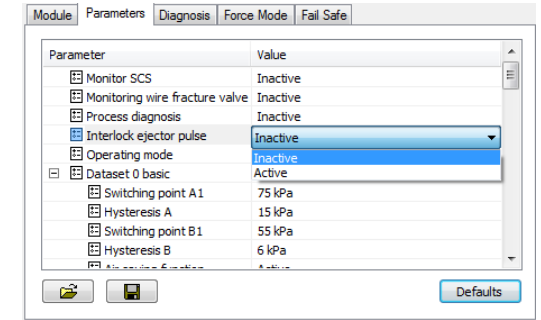


Definition	Prozessdaten	Default	Min	Max	Org
Vakuum ON/OFF	Vakuum	0	0	1	Bit
Abwurfimpuls ON/OFF	Abwurfimpuls	0	0	1	Bit
Luftsparen ON/OFF	Luftsparen	0	0	1	Bit
Paramtersatz Auswahl / Schaltpunkt A1	Parameter Set / Schaltpunkt A1	0	0	3 / 100	Byte
Hysterese A	Hysterese A	0	0	100	Byte
Schaltpunkt B1	Schaltpunkt B1	0	0	100	Byte
Prozessgütegrenzwert	Prozessgütegrenzwert	0	0	100	Byte

▼ Vacuum_Parameter_1	Struct			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
■ State	Byte	16#6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bit 0 PowerEject/Bit 1 Vacuum/ Bit 2 Air Safe
■ SetPoint_A1	Byte	16#1e	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80kpa=50hex / 60kpa=3Chex
■ Hysterese_A	Byte	16#A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20kpa=14 hex / 10kpa=A hex
■ SetPoint_B1	Byte	16#0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Vacuum-Ejector – How to start the process in PLC mode

1. Check, if you need the interlock eject pulse switched „active“ or „inactive“. This you have to choose in the FMT tool. As default it is „Inactive“ and load the right parameter set as “INT”
2. Load the parameter like hysteresis and setpoint with, for an example “MOVE” command, into the output cycling data of the vacuum



1. To run trough the process, you have to follow these steps:
 1. Start the process with a „positive“ signal. You can use a „flank“ or „set“ the bit and „reset“. It is the bit „x.1“.
 2. To stop the vacuum, be sure bit „x.1“ is „0“
 3. Then you need a positive flank on the eject pulse, like you do it on the start.
 4. If the eject pulse on bit “x.0“ gives a negative flank to the system, the complete process is finish.

