

Com Unit for FOUNDATION Fieldbus Modular I/O

FB8210*



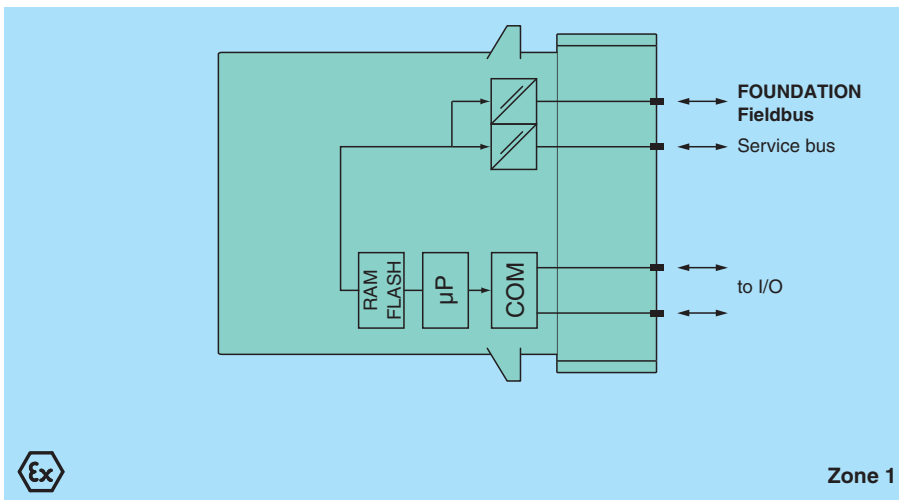
- Interface between the I/O modules and the PCS/PLC
- Com unit for 20 analog or 40 digital channels
- Communication via FOUNDATION Fieldbus H1
- HART communication via service bus
- Configured via the process control system
- Non-volatile memory for configuration and parameter settings
- Quick communication set-up
- Permanently self-monitoring
- Outputs drive to safe state in case of failures
- Supports multichannel I/O modules
- Installation in suitable enclosures in Zone 1 or Zone 21
- Module can be exchanged under voltage (hot swap)
- Installation in suitable enclosures in Zone 1



Function

The FOUNDATION Fieldbus com unit forms the interface between the I/O modules on the backplane and the process control system. It supports only dual width I/O modules. Thereby signals from NAMUR sensors, mechanical contacts, high-power solenoid drivers, power relays, sounders, and alarm LEDs are transported to the higher-level bus system. The com unit can be easily configured via DTM and supports HART.

Connection



Technical Data

Supply

Connection		backplane bus
Rated voltage	U_r	5 V DC , only in connection with the power supplies FB92**
Power consumption		2 W
Auxiliary energy		24 V DC Trunk load 20 mA

Fieldbus interface

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Technical Data

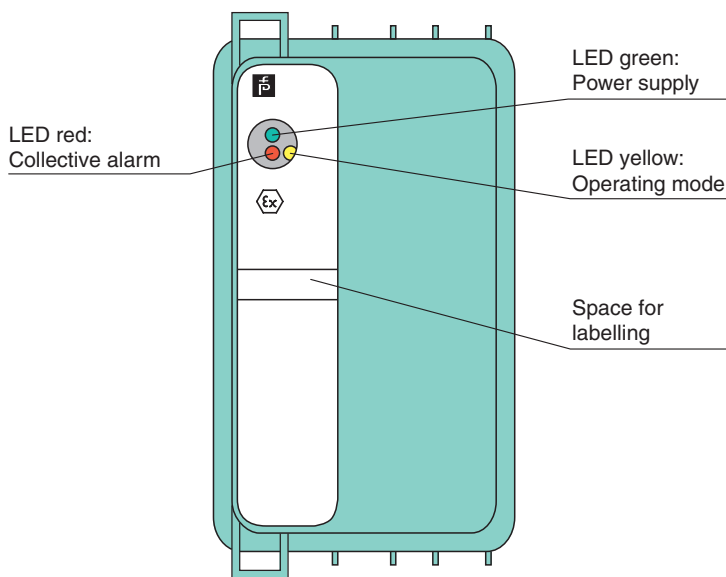
Fieldbus type	FOUNDATION Fieldbus H1
FOUNDATION Fieldbus	
Connection	wired to Ex e terminals via backplane
Baud rate	31.25 kBit/s , MBP
Protocol	H1 to IEC 1158-2
Station connection	directly at the trunk or via spur protector
Number of stations per bus line	1 or 2, depending on the required response times
Number of channels per station	max. 20 analog, max. 40 digital
Supported I/O modules	5 slots, to be filled with (combinations possible): 1*08 digital input, 8-channel, NAMUR 3*05 analog input, 4-channel, 20 mA (HART via service bus) 4*05 analog output, 4-channel, 20 mA (HART via service bus) 5204 Pt100 RTD input, 4-channel 5205 thermocouple input, 4-channel 6305 relay output, 4-channel, 230 V 6306 relay output, 8-channel, 24 V 6*08 digital output, 8-channel, Ex i 6210-6215 digital output, 4-channel, Ex i power * = variable (2=IS, 3=Ex e)
Bus length	max. 1900 m (must not be exceeded by the sum of all trunk and spur lines)
Spur length	max. 120 m (depending on the number of field devices. Modular I/O station = 1 field device)
Addressing	via PCS (software)
Internal bus	
Connection	backplane bus
Indicators/settings	
LED indicator	LED green (power supply): On = operating, fast flash = cold start LED red (collective alarm): On = internal fault, flashing = no fieldbus LED yellow (operating mode): Flashing = active
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1
Conformity	
Electromagnetic compatibility	NE 21
Degree of protection	IEC 60529
Fieldbus standard	IEC 61158-2
Environmental test	EN 60068-2-14
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Damaging gas	EN 60068-2-42
Relative humidity	EN 60068-2-56
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)
Relative humidity	95 % non-condensing
Shock resistance	shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	frequency range 10 ... 150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ± 0.075 mm/1 g; 10 cycles frequency range 5 ... 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration ± 1 mm/0.7 g; 90 minutes at each resonance
Damaging gas	designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications	
Degree of protection	IP20 (module) , a separate housing is required acc. to the system description
Connection	via backplane
Mass	approx. 750 g
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 inch)
Data for application in connection with hazardous areas	
EU-Type Examination Certificate	PTB 97 ATEX 1074 U

Technical Data


Marking	Ⓔ II 2 G Ex d IIC Gb
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2009 EN 60079-1:2007 EN 60079-11:2007 EN 60079-26:2007 EN 61241-11:2006
International approvals	
ATEX approval	PTB 97 ATEX 1075
EAC approval	Russia: RU C-IT.MIII06.B.00129
Marine approval	
Lloyd Register	15/20021
DNV GL Marine	TAA0000034
American Bureau of Shipping	T1450280/UN
Bureau Veritas Marine	22449/B0 BV
General information	
System information	The module has to be mounted in appropriate backplanes (FB92**) in Zone 1, 2, or outside hazardous areas. Observe the corresponding EC-type examination certificate.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view



Accessories

	DTM LB/FB	
	FB9224*	Field Unit
	FB9225*	
	FB9248*	

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Product Versions

Model / Order No.	Function
FB 8210 H *	Temperature measured in degrees Celsius
FB 8210 C *	Temperature measured in degrees Fahrenheit