Features

- Interface between the I/O modules and the PCS/PLC
- Com unit for 80 analog or 184 digital channels
- Communication via MODBUS RTU
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- HART communication via service bus
- Configuration via FDT 1.2 DTM
- Non-volatile memory for configuration and parameter settings
- Self configuration in redundant systems
- Permanently self-monitoring
- Outputs drive to safe state in case of failures

Function

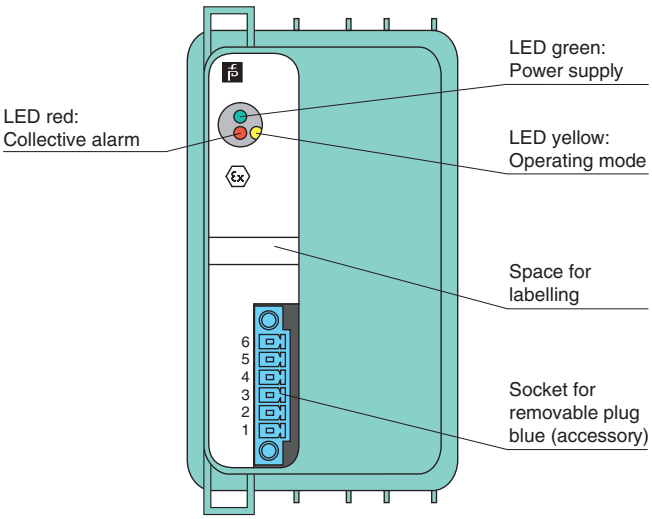
The MODBUS RTU com unit forms the interface between the I/O modules on the backplane and the process control system.

It supports all single width and 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.

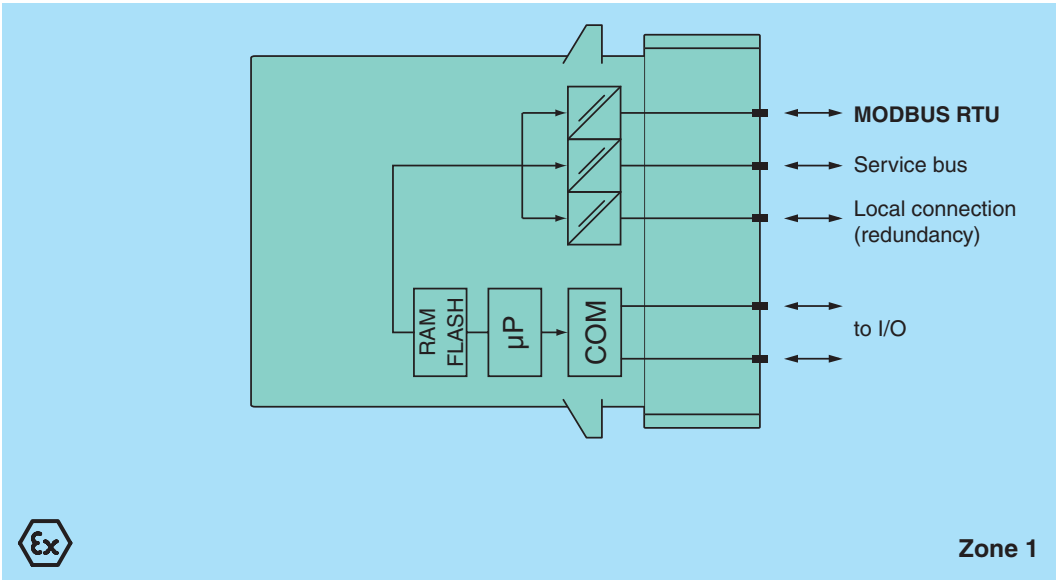
The com unit can be easily configured via DTM and supports redundancy as well as HART.

Assembly

Front view



Connection



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Supply	
Connection	backplane bus
Rated voltage U_r	5 V DC , only in connection with the power supplies FB92**
Power dissipation	1.8 W
Power consumption	1.8 W
Fieldbus interface	
Fieldbus type	MODBUS RTU
MODBUS RTU	
Connection	wired to Ex e terminals via backplane
Baud rate	max. 38.4 kBit/s
Number of stations per bus line	≤ 245 (MODBUS), ≤ 119 (service bus)
Number of channels per station	≤ 80 analog, ≤ 184 digital (standard configuration)
Number of stations per bus segment	≤ 31 (RS-485 standard)
Number of repeaters between Master and Slave	max. 3
Supported I/O modules	all FB remote I/O modules
Bus length	≤ 1200 m (FOL, 38.4 kBd), ≤ 1200 m (copper cable, 38.4 kBd)
FOL (fiber optic link)	additional hardware required
Addressing	via configuration software
MODBUS address	standard compliant (factory standard setting: 126)
Service bus address	max. 119 , redundancy address = base + 128 (automatic)
HART communication	via service bus
Redundancy	system dependent
Internal bus	
Connection	backplane bus
Redundancy	via front connector
Indicators/settings	
LED indication	LED green (power supply): On = operating, fast flash = cold start LED red (collective alarm): On = internal fault, flashing = no Modbus RTU connection LED yellow (operating mode): flashing 1 (1:1 ratio) = active, normal operation; flashing 2 (7:1 ratio) = active, simulation
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
Marking	⟨Ex⟩ II 2(1) G Ex d [ia Ga] IIC Gb
Directive conformity	

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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.

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