

Features

- Interface between the I/O modules and the PCS/PLC
- Com unit for 80 analog or 184 digital channels
- Installation in Zone 2, Div. 2 or safe area
- Communication via MODBUS RTU
- 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
- Module can be exchanged under voltage

Function

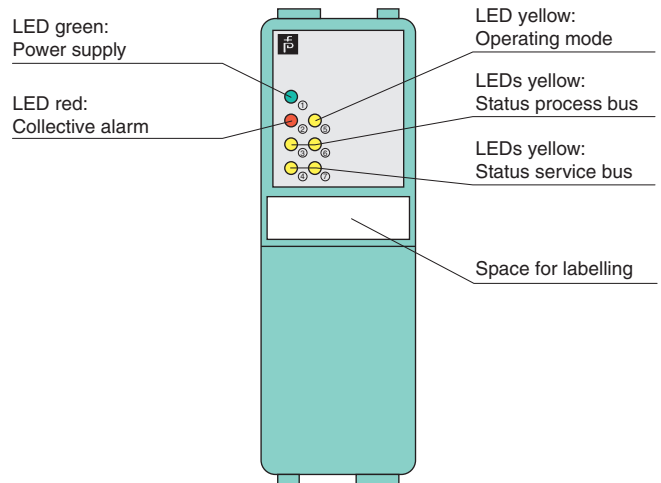
The MODBUS RTU com unit forms the interface between the I/O modules on the backplane and the process control system.

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.

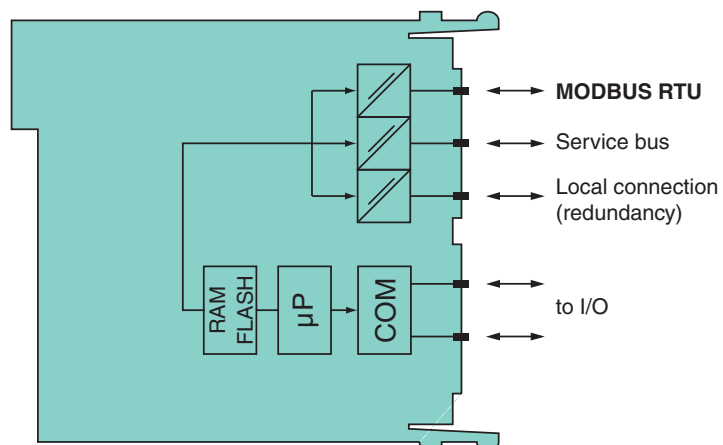
The com unit can be easily configured via DTM and supports redundancy as well as HART.

Assembly

Front view



Connection



Zone 2
Div. 2

Supply	
Connection	backplane bus
Rated voltage U_n	5 V DC , only in connection with the power supplies LB9***
Power consumption	2 W
Fieldbus interface	
Fieldbus type	MODBUS RTU
MODBUS RTU	
Connection	9-pin Sub-D socket 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 LB 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 (ex works standard: 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 backplane
Indicators/settings	
LED indicator	LED 1 (power supply): On = operating, fast flash = cold start LED 2 (collective alarm): On = internal fault, flashing = no Modbus RTU connection LED 3 (status process bus): flashing = Modbus receive channel active LED 4 (status service bus): flashing = service bus receive channel active LED 5 (operating mode): flashing 1 (1:1 ratio) = active, normal operation; flashing 2 (7:1 ratio) = active, simulation LED 6 (status process bus): flashing = Modbus response channel active LED 7 (status servicebus): flashing = service bus response channel active
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	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 50 m/s ² , number of shock directions 6, number of shocks per direction 100
Vibration resistance	frequency range 5 ... 500 Hz, amplitude 5 ... 13.2 Hz ± 1.5 mm, 13.2 ... 100 Hz 1g, sweep rate 1 octave/min, duration 10 sweeps 5 Hz - 100 Hz - 5 Hz
Damaging gas	for plugs: 21 days in 25 ppm SO ₂ , at 25 °C and 75 % rel. humidity, device G3
Mechanical specifications	
Degree of protection	IP20 (module) , mounted on backplane
Connection	via backplane
Mass	approx. 120 g
Dimensions	32 x 100 x 103 mm (1.26 x 3.9 x 4 in)
Data for application in connection with Ex-areas	
Statement of conformity	PF 08 CERT 1234 X
Group, category, type of protection, temperature class	⊕ II 3 G Ex nA IIC T4 Gc

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Directive conformity	
Directive 94/9/EC	EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010
International approvals	
UL approval	E106378
IECEx approval	BVS 09.0037X
Approved for	Ex nAc II T4
General information	
System information	The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, the corresponding declaration of conformity has to be observed. For use in hazardous areas (e. g. Zone 2, Zone 22 or Div. 2) the module must be installed in an appropriate enclosure.
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 .

Versions

Bus couplers are available with different firmware versions. The type code extension * designates the firmware version.