

## Features

- Interface between the I/O modules and the PCS/PLC
- Com unit for 80 analog or 184 digital channels
- Communication via MODBUS TCP
- Mounting in Zone 2, Class I/Div.2 or in the safe area
- HART communication via MODBUS TCP or 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

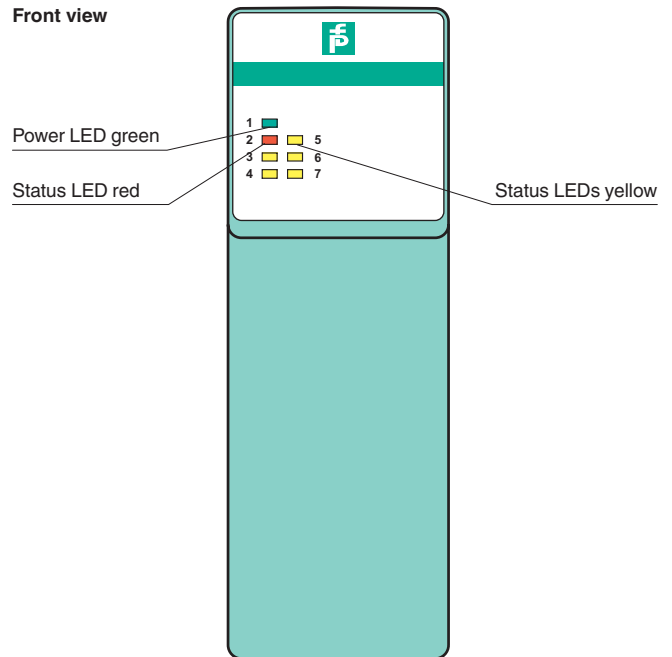
The MODBUS TCP com unit forms the interface between the I/O modules on the backplane and the process control system.

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.

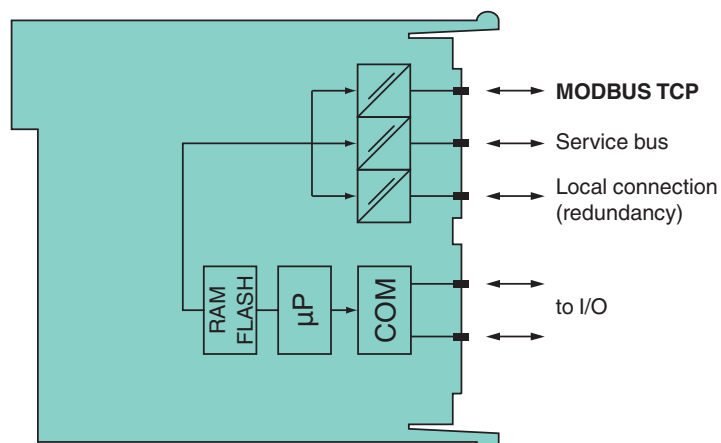
The com unit can be easily configured via DTM and supports redundancy as well as HART.

## Assembly


Front view



## Connection



Zone 2  
Div. 2

<b>Supply</b>	
Connection	backplane bus
Rated voltage $U_r$	5 V DC , only in connection with the power supplies LB9***
Power dissipation	2.5 W
Power consumption	2.5 W
<b>Fieldbus interface</b>	
Fieldbus type	MODBUS TCP
<b>Ethernet Interface</b>	
Connection type	RJ-45 , via backplane
Transfer rate	10 MBit/s
Station connection	directly to PCS or PLC or via hubs or switches
Bus length	≤ 100 m (CAT 7 cable)
Addressing	IP address assigned via Ethernet
Ethernet address	IP V4 address (factory standard setting: 0.0.0.0, auto IP, DHCP)
Number of channels per station	≤ 80 analog, ≤ 184 digital
Supported I/O modules	all LB remote I/O modules
HART communication	via Ethernet or service bus
<b>Internal bus</b>	
Connection	backplane bus
Redundancy	via backplane
<b>Service interface</b>	
Connection	9-pole to RS 485 standard , Sub-D
Number of stations per bus line	31 (RS-485 standard)
<b>Indicators/settings</b>	
LED indication	LED 1 (power supply): On = operating, fast flash = cold start LED 2 (collective alarm): On = internal fault, flashing = no Modbus TCP connection LED 3 (status process bus): On = Network link OK 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
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1
<b>Conformity</b>	
Degree of protection	IEC 60529
Fieldbus standard	IEEE 802.3
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
<b>Ambient conditions</b>	
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
<b>Mechanical specifications</b>	
Degree of protection	IP20 (module) , mounted on backplane
Connection	via backplane
Mass	approx. 150 g
Dimensions	32.5 x 100 x 102 mm (1.28 x 3.9 x 4 inch)
<b>Data for application in connection with hazardous areas</b>	
Certificate	PF 08 CERT 1234 X
Marking	 II 3 G Ex nA IIC T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010
<b>International approvals</b>	

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

ATEX approval	PF 08 CERT 1234 X
UL approval	E106378
Control drawing	116-0321
Approved for	cUL (Canada): CL I Zn. 2 IIC; IS circuits for CL I Zn. 0 IIC ULus (USA): CL I Div. 2 Grp. A, B, C, D; IS circuits for CL I, II, III Div. 1 Grp. A, B, C, D, E, F, G
IECEX approval	BVS 09.0037X
Approved for	Ex nA IIC T4 Gc
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
<b>General information</b>	
System information	The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, observe the corresponding declaration of conformity. 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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com