Com Unit for MODBUS RTU

FB8207H0706.3

- 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
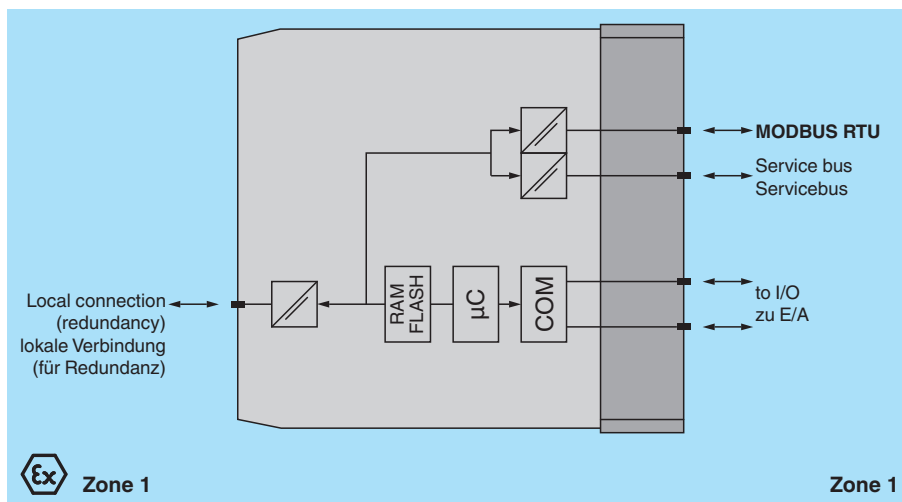- Outputs drive to safe state in case of failures

Com Unit for MODBUS RTU

CE   Ex

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.

Connection

Technical Data

Slots		
Occupied slots		2
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 connection		
Fieldbus type		MODBUS RTU
MODBUS RTU		
Connection		wired to Ex e terminals via backplane

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

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
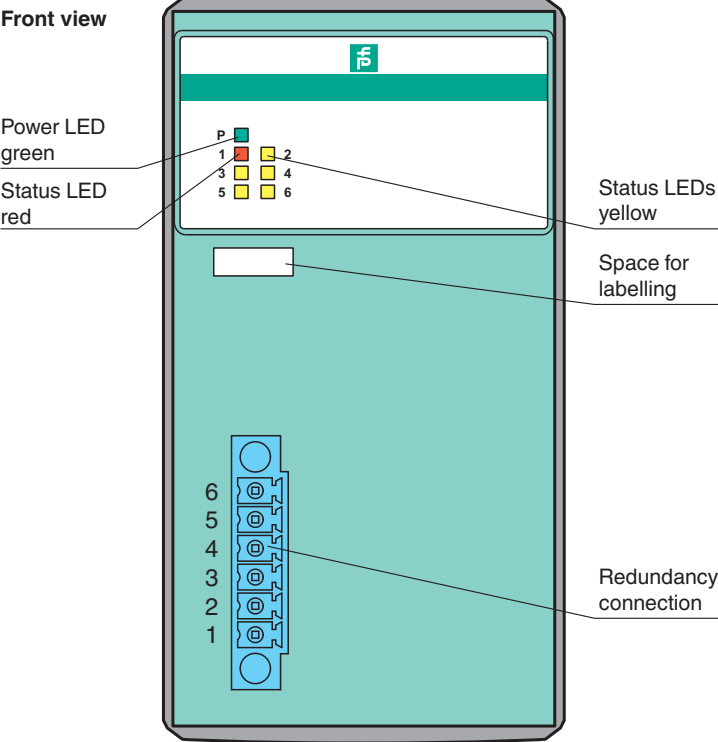pa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

1

Technical Data

Baud rate	max. 38.4 kBit/s
Number of stations per bus line	max. 245 (MODBUS), max. 119 (service bus)
Number of channels per station	max. 80 analog, max. 184 digital (standard configuration)
Number of stations per bus segment	max. 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	max. 1200 m (FOL, 38.4 kBd), max. 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 61326-1:2013
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 60068-2-78
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 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	Presafe 19 ATEX 14058U
Marking	Ex db eb q [ib] IIC Gb
Directive conformity	

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

Pepperl+Fuchs Group	USA: +1 330 486 0002	Germany: +49 621 776 2222	Singapore: +65 6779 9091
www.pepperl-fuchs.com	pa-info@us.pepperl-fuchs.com	pa-info@de.pepperl-fuchs.com	pa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

2

Technical Data

Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015+A1:2018 EN 60079-11:2012
International approvals	
ATEX approval	Presafe 19 ATEX 14058U
IECEx approval	IECEx PRE 19.0013U
Approved for	Ex db eb q [ib] IIC Gb
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

Power LED green

Status LED red

Status LEDs yellow

Space for labelling

Redundancy connection

Accessories

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

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

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

PEPPERL+FUCHS   3