Part type designation	Part number
PROFIsafe F-Host RT	00036423-63

PROFIsafe F-Host

PROFIsafe® is a vendor-neutral functional safety fieldbus which enables safe communication between safe in- and output modules and the safety-CPU SLC284.

PROFIsafe® allows the user to integrate a large spectrum of third-party PROFIsafe® sensors and actuators into their safety solution along with safety I/O modules provided by Bachmann. This enables a wide range of additional possible solutions for functional safety tasks.

Examples of PROFIsafe-compatible sensors and actuators:

- Single or multiturn absolute encoders
- Light grids
- Laser scanner
- Drives
- Vibration sensors
- Inclination sensors

The Bachmann PROFIsafe F-Host allows to connect up to 32 PROFIsafe® F-devices with the SLC284.

PROFIsafe® technology

PROFIsafe® does not require a separate network connection but runs as a safety layer on an existing PROFINET® network. This allows the user to choose any bus topology supported by PROFINET® (line, tree, star etc.). Modern software technology permits to integrate a functional safe F-Host Gateway on the proven Bachmann standard CPUs and to realize safety applications up to safety level SIL 3, Performance Level PL e/Cat 4. The Bachmann F-Host therefore is a pure software solution in connection with the SLC284 and to integrate PROFIsafe F-Devices into a safety solution, no additional hardware is required.

Configuration

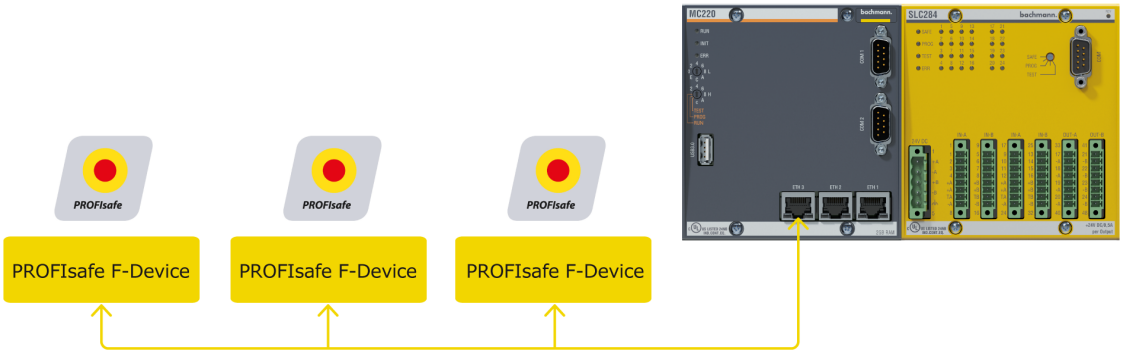
The configuration of PROFIsafe® connections is made without programming efforts and with the help of the intuitive PROFINET® configurator by Bachmann. External configuration tools for F-Devices are being integrated into the engineering workflow flow of the SolutionCenter via the Tool Calling Interface up to conformance class 3.

Programming

The programming of safety applications incorporating PROFIsafe® sensors and actors is supported by the proven Bachmann Safety Developer and works the same way as with safe sensors and actors provided by Bachmann.

Operation

An integrated iPar-Server facilitates the upload of configuration data from the F-Device onto the Bachmann CPU. In case the F-Device is replaced in the field the spare device can be configured using the data hosted by the iPar-Server.



PROFIsafe F-Host

General	
Protocols	PROFIsafe® 2.4 and 2.6.1
Conformance class DIN EN 61784-3-3	Factory Automation
Profinet	Version 2.35
Profibus	No
Features	Automatic re-integration (optional), deactivation of devices, channel-wise passivation, RIOforFA (RemoteIOforFactoryAutomation)
Interface	
Ethernet	All available Ethernet ports on the CPU as well as the ports on the EM213 module can be used. No dedicated hardware is required.
Number of F-Devices	Maximum 32
Variables per F-Device	Maximum 256
Safety	
Safety Integrity Level	SIL 3
Performance Level	PL e/category 4
Modular Machine	Yes
Configuration	
Tool Calling Interface (TCI)	Conformance classes 1, 2 and 3
iPar server	Yes
Diagnostics	
Diagnosis data available in the PROFIsafe® monitor	Yes
System requirements	
Delivery form	PROFIsafe® service ps202.m
Driver	PROFINET® driver pn202.m version as of V2.04R
SLC firmware	Slc284.h86 minimum version V1.08R
Safety driver	Safety.m minimum version V1.26R
SolutionCenter	Minimum version V2.50
Hardware	
M200 Processor modules	MC206, MC212, MC220, MH230, in addition the SLC284
Safety-related parameters	
Maximum performance level acc. to EN ISO 13849-1	PL e with category 4
Maximum safety integrity level acc. to EN 62061	SIL 3
DC	> 99.99 %
SFF	> 99.99 %
β	1 %
PFD (operating time = 20 years)	$5.84 * 10^{-7}$
PFH (operating time = 20 years)	$6.67 * 10^{-12}$
Certificates	
EN 61508:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1 to 7
EN 62061:2005 + A2:2015	Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems
EN ISO 13849-1:2015	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design

Certificates	
EN 61511-1:2005	Functional safety – Safety instrumented systems for the process industry – Part 1: Framework, definitions, system, hardware and application programming requirements
EN 61131-2:2008	Programmable logic controllers – Part 2: Equipment requirements and tests
EN 61131-6:2013	Programmable logic controllers – Part 6: Functional safety approvals / Certificates standard ColdClimate
Conformity	
F-Host certificate	Yes, certificate number Z20283

Order data

Part type designation	Part number	Description
PROFIsafe F-Host	00036423-63	License for the operation of a PROFIsafe F-Host on a controller CPU of following types: MC206, MC212, MC220, MH230. Enables functional safe communication of I/O variables between the SLC284 and up to 32 PROFIsafe I/O F-Devices provided by third-party manufacturer. Supported protocol versions 2.4 and 2.6.1, DIN EN 61784-3-3 conformance class „Factory Automation“, up to SIL 3 or PL e