

PROFIsafe Policy

Guideline for PROFIBUS and PROFINET

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Prepared by the PROFIBUS Working Group 6 “PROFIsafe Marketing” in the Technical Committee 5 “Marketing”.

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In this specification the following key words (in bold text) will be used:

may: indicates flexibility of choice with no implied preference.

should: indicates flexibility of choice with a strongly preferred implementation.

shall: indicates a mandatory requirement. Designers shall implement such mandatory requirements to ensure interoperability and to claim conformance with this specification.

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Revision Log

Version	Team	Date	Changes/History
0.9	TC5, WG6	09-Oct-2002	Working draft of special sub-team
1.0	TC5, WG6	03-Dec-2002	Version after review within the "PROFsafe Marketing" WG for release by the advisory board
1.1	TC5, WG6	22-Jan-2003	Rework by PROFsafe marketing WG
1.2	TC5, WG6	03-Feb-2003	Editorial changes
1.3	TC5, WG6	27-Feb-2003	List of standards corrected. Right to use the "button" restricted. Abbreviation of PNO.
1.4	TC5, WG6	04-Feb-2010	List of standards corrected. Introduction of new Logo. F-Host certification.
1.45	TC5, WG6	21-Oct-2010	Changes Meeting PROFsafe Marketing
1.46	TC5, WG6, Wenzel	22-Dec-2010	Translation of new content and remarks Dr. Stripf
1.47	TC5, WG6	14-Feb-2011	Version with integrated Review Comments for WG discussion
1.48	TC5, WG6	17-Feb-2011	Resolution of Review Comments during WG meeting
1.5	TC5WG6	06-Jul-2011	Final Version

1 Management Summary - Scope of this Document

PROFsafe, the safety technology for PROFIBUS and PROFINET is a very sensitive part of the automation business and thus requires carefully and responsively chosen approaches. The PROFsafe policy provides a set of rules for the community PROFIBUS and PROFINET International (PI) in order to define a high quality-level of PROFsafe products and services through:

- *Consistent public relations* regarding the PROFsafe technology by manufacturers, integrators, distributors, competence centers and consultants
- *Careful implementation* in safety products
- *A high degree of reputation* on the market and its perpetuation (image)
- *Responsible handling* of the safety aspects to avoid risk and harm or damage for people, environment, and assets
- *High-quality training and seminars*

The observance of the rules hereinafter is an important precondition to achieve customer satisfaction and to minimize the risk of product liability for manufacturers, distributors and end users of PROFsafe equipment.

Manufacturers, distributors and end users, who are complying with this policy and its obligations, are eligible to obtain special rights.

2 Related documents and references

2.1 References

None

2.2 Related documents

IEC 61784-3-3 "Industrial communication networks – Profiles, Part 3-3: Functional safety fieldbuses – Additional specifications for CPF 3" or PROFsafe profile specification "PROFsafe – Profile for Safety Technology on PROFIBUS DP and PROFINET IO, Order No: 3.192b" if more recent including the accepted items of the PROFsafe change request data base

IEC/TR 62685 "Industrial communication networks - Profiles - Assessment guideline for safety devices using IEC 61784-3 functional safety communication profiles (FSCPs)"

Amendment for PROFIBUS PA devices "Amendment 1 to the PROFIBUS Profile for Process Control Devices, PROFsafe for PA Devices, Order No: 3.042"

Amendment for PROFIdrive "Amendment PROFIdrive on PROFsafe Interface for functional safety, Order No: 3.272"

IEC 61918 Installation Guide "Industrial communication networks - Installation of communication networks in industrial premises" and IEC 61784-5-3 "Industrial communication networks - Profiles - Part 5-3: Installation of fieldbuses - Installation profiles for CPF 3"

PI guideline regarding installation, immunity, and electrical safety: "PROFsafe – Environmental Requirements related to PROFsafe – Profile for Safety Technology on PROFIBUS DP and PROFINET IO (IEC 61784-3-3) Guideline for PROFIBUS and PROFINET, Order No: 2.232"

Testing principles: "PROFsafe – Test Specification for F-Slaves, F-Devices, and F-Hosts related to PROFsafe – Profile for Safety Technology on PROFIBUS DP and PROFINET IO, Order No: 2.242"

3 Definitions and Abbreviations

3.1 Definitions

None

3.2 Abbreviations

IFA	Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (Institute for Occupational Safety), formerly BGIA
PI	PROFIBUS & PROFINET International (User Organization)
PNO	PROFIBUS Nutzerorganisation (User Organization)
SIL	Safety Integrity Level
PL	Performance Level
TÜV	Technischer Überwachungsverein (Organization for global Certification)

4 PROFIsafe license conditions

For the development and distribution of products and documents using the PROFIsafe logo a membership of PI (which means membership in one of the RPA (Regional PI Association)) is a precondition.

The right to implement PROFIsafe is granted free of charge for PI members for use in conjunction with PROFIBUS and/or PROFINET systems.

Because of the endpoint-to-endpoint principle of PROFIsafe (Black-Channel), the use of PROFIsafe in backplane busses and sub-system busses as not disclosed transmission channels is granted free of charge for PI members.

The use of PROFIsafe in systems without any PROFIBUS and / or PROFINET communication paths has to be agreed by PI. The license conditions in these cases have to be negotiated with the patent holders.

5 Quality requirements for PROFIsafe products

Product can be an 'F-Host' (with PROFIBUS DP Master or PROFINET IO Controller) as well as an 'F-Device' (PROFIBUS DP Slave/Module or PROFINET IO Device/Module/Submodule).

Additionally, a manufacturer shall observe the following issues:

- Passed Test of a PROFIsafe product by a PI Test Laboratory (mandatory)
- Certification of a PROFIsafe product by a notified body (IFA, TÜV, FM, etc.). Mandatory or highly recommended depending on SIL or PL, applicable directives and regulations.
- Conformance with the relevant standards and legal requirements
- Provision of user (safety) manuals according to corresponding clauses of IEC 61784-3-3
- Contents of training, seminars, workshops and consulting

Presentations regarding the PROFIsafe technology shall be neutral. Preferably the official slide sets of the PROFIsafe marketing group without manufacturer specifics shall be used. A special "liability" slide set from the PROFIsafe marketing group shall be an obligatory part of any activities regarding consulting, training, seminars, and workshops. It comprises, amongst other things:

- Instructions for product liability
- Experience from accident analysis ("Pitfalls")
- Introduction into safety standards
- Procedure Model ("V" Model of the IEC 61508)
- PROFIsafe test and certification

The PROFIsafe marketing group will provide and maintain this slide set. It will be downloadable by PI members from the web-site www.profibus.com. This obligatory presentation may be complemented according to company or country specifics.

To support product development and other engineering tasks, PI accredits and runs PROFIsafe Competence Centers and Test Labs. Their experts have to successfully participate on the PI's official "PROFIsafe Certified Designer" Training by passing the exam. The expert certificates are valid for three years. To extend their validity, PI's official refresher training needs to be successfully participated,

Members are asked to forward CRs for the above mentioned documents to PI via PROFIBUS-Projects, non members via email to the PI office info@profibus.com.

In order to prevent and protect the community from possibly misleading understandings or wrong expectations and gross negligence actions regarding safety relevant developments and applications the following text shall be used and explained in each training, seminar, workshop and consultancy:

Important Notice

- 1. A product automatically will not be suitable for safety relevant applications just by using PROFIBUS/PROFINET and PROFIsafe technology.**
- 2. In order to enable a product for safety relevant applications, appropriate development processes according to safety standards shall be observed and/or a certification from a notified body shall be achieved.**
- 3. The manufacturer of a PROFIsafe-product is responsible for the correct implementation of the PROFIsafe technology, the correctness and completeness of the product documentation and information.**
- 4. The usage of PROFIBUS/PROFINET terms and logos are protected by PI/PNO copyrights and need a special agreement with PI/PNO.**
- 5. The accreditation scope of PI Competence Centers and PI Test Laboratories is only limited to PROFIsafe technology. It does not include functional safety aspects for complete product architectures and applications.**
- 6. The information provided in any training, seminar, workshop and consultancy is excluding any liability for correctness and completeness.**

- Problems handling

Negative statements to the public about problems without prior consultation or clarification with the PI Working Groups shall be avoided. Violators may be liable for any damage.

6 Rights and Obligations

The manufacturers, distributors and end users of PROFIsafe technology complying with the obligations and rules stated in this policy are eligible to obtain the following rights:

- The right to apply for a test of PROFIsafe devices and to receive PI certificates if test is passed.
- The right to use the PROFIsafe logo on products, information and documents that are conform to the rules described in this policy. Only the PROFIsafe logo downloadable from the PI web-site www.profibus.com shall be used. By downloading the logo file, the user agrees to the terms of this policy.



- This logo can only be used for PROFIsafe products (F-Host as well as F-Devices) tested or retested through a PI Test Laboratory – as mentioned in chapter 2.
- The right to present products within the official PI Product Guide.
- The right to exhibit products on the RPA booths of fairs and roadshows.

7 Exclusion of Liability

The PNO/PI is excluding any liability for correctness and completeness of the information and the documents.

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