

Readme for PROFINET Device Tests

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As a member of PI you will have free access to the PROFINET test bundle. The goal of this test bundle is to have all the necessary documents as well as the test systems for RT and IRT and Security Level 1 (Net Load) combined in one bundle with all the electronic test cases to be performed during a certification test:

<http://www.profibus.com/nc/download/software-and-tools/downloads/profinet-io-test-bundle/display/>

As a nonmember of PI you will find here a list of useful documents and tools to guide you through your development of a PROFINET device. Some of the documents are with costs. Access to the software is only granted for members.

To buy documents from PI please use the literature list and order form:

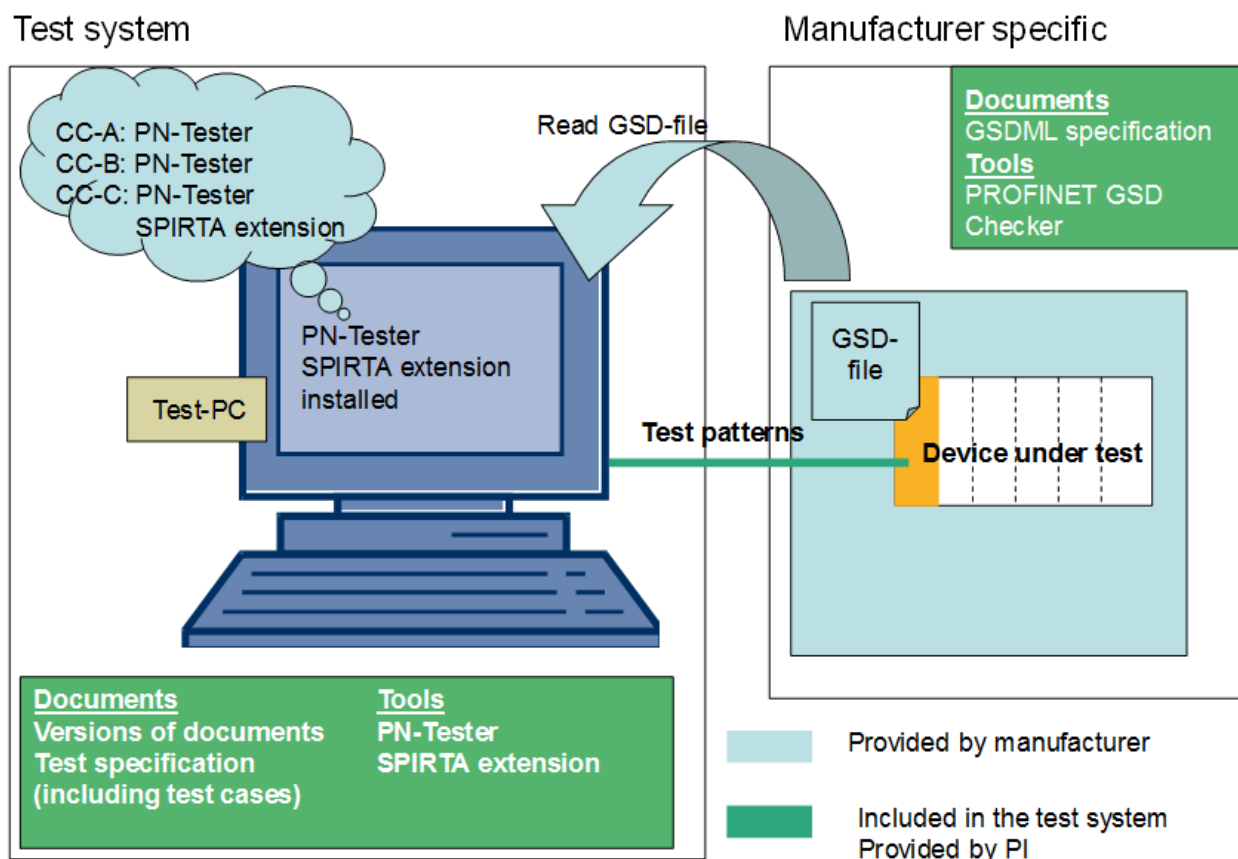
<http://www.profibus.com/nc/download/general-pi-documents/downloads/literature-list-order-form-1/display/>

Important Hint:

For preparation of a certification test please read the document “How to get a certificate for a PROFINET device”. In this document the necessary conformance declarations to be handed over to the test lab are mentioned.

<http://www.profibus.com/nc/download/test-and-certification/downloads/how-to-get-a-certificate-for-a-profinet-device/display/>

Overview test strategy



This bundle is intended to be used for development support. It does not substitute a certification test and a certificate!

The bundle includes:**Table 1 – Content of the ZIP file**

Number	Document / Software	Version
	Overview document	
1	PNIOD_Versions_for_certifications	Feb. 01st, 2015
2	How to get a certificate	March 2014
3	Important hints for development and test	May 1st, 2014
---	Disclaimer PN Test Bundle.pdf	---
---	Readme.pdf	---
6	Test setup V2_3 tests.pdf	Sept. 2014
	General Station Description	
4	GSDML Specification	V2.31
5	PROFINET GSD_Checker	V2.31 – 2014-05-12
	PROFINET device test	
7	PN-Tester	2.3.5.23.4427
8	SPIRTA extension for additional Conformance Class C tests	2.3.5.23.313
9	Test Specification PROFINET devices	V2.3.5.25
	Net Load test / Security Level 1 test	
10	Security Level 1 Tester (Net Load)	V1.3.7
11	How to install and to run the security level 1 tester.pdf	V1.3.7
12	Test Specification Security Level 1	V1.1.3
13	PI Guideline: PN IO Net Load	V1.1
	Guidelines	
18	PNIO-Diagnosis Guideline	V1.0
19	PNIO-Topology Guideline	V1.0
20	PNIO-IRT-Engineering-Guideline	V1.3
21	PNIO-Configure-in-run-Guideline	V1.04
22	PNIO-System-Redundancy-Guideline	V1.08
23	Profile-Guideline I&M	V2.0
24	Profile-Guideline PROFIenergy	V1.1Ed.2
25	Profile-Guideline PROFIsafe	V2.6.1
	PN-Specification	
14	Overview and guidance for PROFINET specifications	V2.3
15	PROFINET Application layer Service specification	V2.3Ed.2MU2
16	PROFINET Application layer Protocol specification	V2.3Ed.2MU2
17	PROFINET Profile specification	V2.3Ed.2MU2
	Test Case Specification	
26	TCS_V2.32_00000001_DiffAccessWays_V_01.00	V01.00

Number	Document / Software	Version
27	TCS_V2.32_00000002_Pdev_Read_V_01.00	V01.00
28	TCS_V2.32_00000003_Pdev_Check_V_01.00	V01.00
29	TCS_V2.32_00000004_Pdev_Adjust_V_01.00	V01.00

Table 1 number 1:

This document shall give you an overview about the current test possibilities. Please read first!

Table 1 number 2:

This document shall give you an overview about the certification.

Table 1 number 3:

Important document with hints for development and test of a PROFINET device.

Table 1 number 4:

In this area you can find a description how to write the GSDML file for your device. Here also are attached examples and style sheets.

Table 1 number 5:

With the help of this software you can check the correctness of GSDML files.

Table 1 number 6:

These slides describe in an overview the requirements, setup and configurations for PN tests.

Table 1 number 7:

For the requirements please see the manual and the "Test Specification PN IO devices V2.3.5.24". The test setup is described in the document "Test Specification PN IO devices V2.3.5.24". The test case "TOPO-TED" may fail in the first run, then this test case a second time is run and checked then. For checking Topology see also: <http://ted-check.profibus.cz/>

Table 1 number 8:

For the requirements please see the manual and the "Test Specification PN IO devices V2.3.5.24". The test setup is described in the document "Test Specification PN IO devices V2.3.5.24". The test case "ReductionRatio" may fail with the information that "Too few Ping responses received". In that case this test case shall be checked in a suitable way.

Table 1 number 9:

This document describes which tests have to be done in an authorized PROFINET test laboratory to get a PROFINET certificate for a new developed PROFINET device.

Table 1 number 10:

PROFINET Security Level 1 Tester

For the simple execution of the security tests level 1 according the guidelines the PNO offers a test environment. It can be used as a means for preparation of the optional certification for PROFINET devices.

For the Minimum System Requirements please read the "Test Specification Security Level 1 V1.1.3" document.

Table 1 number 11:

This document describes the installing and test preparation of the software for the Security Level 1 (Net Load) tester.

Table 1 number 12:

In this document the test, requirements and the test setup for Security Level 1 (Net Load) is described.

Table 1 number 13:

The goals of this paper are:

- Definition of a uniform behavior for devices under different network loads.
- Definition of network load limits.
- Definition of appropriate reactions regarding the related network load limits.

Table 1 number 14 to 17:

These are the actual valid PROFINET specifications (V2.3 Ed.2 MU2).

Table 1 number 18:

This PI Guideline describes the handling and usage of diagnosis.

Table 1 number 19:

This PI Guideline describes the handling, requirements and usage of Topology discovery.

Table 1 number 20:

This PI Guideline describes the handling, requirements and usage of IRT engineering.

Table 1 number 21:

This PI Guideline describes the handling, requirements and usage for dynamic reconfiguration.

Table 1 number 22:

This PI Guideline describes the handling, requirements and usage of system redundancy.

Table 1 number 23:

This PI Guideline describes the handling, requirements and usage of I&M.

Table 1 number 24:

This PI Guideline describes the handling, requirements and usage of profile PROFIenergy.

Table 1 number 25:

This PI Guideline describes the handling, requirements and usage of profile PROFIsafe.

Table 1 number 26 to 29:

These are the actual valid Test Case specifications that extend the file "Test Specification PROFINET devices".

Helpful Tools:

PRONETA you can download at: <http://support.automation.siemens.com/WW/view/en/67460624>

Topology checking tool available at: <http://ted-check.profibus.cz/>

If you have any questions please contact the test lab where you intend to perform the certification test.

Please read the test specification for applying a certification test. The specification is part of the PN Test Bundle <http://www.profibus.com/nc/download/software-and-tools/downloads/profinet-io-test-bundle/display/>.

To obtain an application contract please contact the test lab. The actual list of testlabs with the internet addresses is available on <http://www.profibus.com/pi-organization/institutions-support/test-labs/>

Issuing the certificate

After passing the certification test successfully you will get a test report. Send this test report together with an application form to PI certification office to apply for a certificate. You will find the form here:

<http://www.profibus.com/nc/download/device-application-forms/downloads/application-form-for-a-certificate/display/>

Do not sell your PROFINET device without a valid certificate!

Certification is mandatory for PROFINET devices!

Beware of patents

The patents from this list: http://www.profibus.com/nc/download/general-technology-documents/downloads/list-of-patents-to-profibus-profisafe-profidrive-and-or-profinet-technology/display/?submit_logout=Log+out&logintype=logout&pid=7&redirect_url=http%3A%2F%2Fwww.profibus.com%2F are granted to all **members of PI** for products being equipped with a PROFINET interface.

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