

Test Application / Test Contract

For Certification of PROFINET IO Device Products
According to IEC 61158 / IEC 61784

Application for Testing a PROFINET IO Product

Please fill out completely and return with authorized signature, preferably via email (PDF scan), to:

pic.industry@siemens.com

NOTICE TO RETURNING CUSTOMERS – REQUIRED UPDATE TO PROFINET V2.3x

Customers who have previously certified a device according to the older PROFINET V2.2 standard should be aware that the V2.3x update incorporates both changes to the way PROFINET operates and the way the certification test is performed. Customers seeking to re-certify an existing PROFINET V2.2 device should consult their technology vendor and ask about updating their implementation prior to applying for a certification test.

Attn: **PROFINET Test Lab**

We,

Company	
Department	
Address Line 1	
Address Line 2	
Name of Applicant	
Email Address	
Telephone	
Fax	

are applying for certification of the product described in more detail on the next page.
Basis is the test specification for PROFINET IO products of the PROFIBUS User Organization (PNO).

Earliest possible Test Date	
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Required Test Features (Please check all that apply)

Conformance Class	<input type="checkbox"/> A	OR	<input type="checkbox"/> B	OR	<input type="checkbox"/> C
<i>Conformance Classes are defined in the PROFINET Specification "Profiles for decentralized periphery" document.</i>					
GSDML Version	<input type="checkbox"/> 2.4	OR	<input type="checkbox"/> 2.35	OR	<input type="checkbox"/> 2.34
<i>We recommend that vendors use the latest GSDML version available.</i>					
Netload Class	<input type="checkbox"/> I	OR	<input type="checkbox"/> II	OR	<input type="checkbox"/> III
<i>All PROFINET devices must support at least Netload Class I.</i>					
Implementation Type	<input type="checkbox"/> Stack	OR	<input type="checkbox"/> Module	OR	<input type="checkbox"/> ASIC
<i>How the PROFINET protocol is implemented on your product.</i>					

Type of Application	Supported Features	Supported Profiles
<input type="checkbox"/> IO-Device <input type="checkbox"/> IO-Controller <input type="checkbox"/> Other Application (specify below): 	<input type="checkbox"/> Alarms <input type="checkbox"/> Fast Start-Up <input type="checkbox"/> MRP Manager <input type="checkbox"/> MRP Client <input type="checkbox"/> DHCP <input type="checkbox"/> Wireless <input type="checkbox"/> System Redundancy	<input type="checkbox"/> PROFIenergy <input type="checkbox"/> Other Profile (specify below):
<i>Additional information:</i>		

Required Technical Data:

Product Name	
GSDML File Name	
Release HW Version <small>('HardwareRelease' Value in GSDML file)</small>	
Release SW (FW) Version <small>('SoftwareRelease' Value in GSDML file)</small>	
Vendor Ident Number (0x_ _ _ _)	
Device Ident Number (0x_ _ _ _)	

Optional Information – Product Variants

Are more than one products based on this exact implementation, and only vary in details like product name, number of ports, etc., and shall be certified at the same time?

If so, please describe the variant(s) here and list the product(s) below. All of these values should correspond with the device's GSDML file.

	Device Access Point Name (e.g. DAP 11)	DAP Module ID (e.g. 0x000012AB)	Order Number / Order ID (Device SKU or Model Number)

PRODUCT
VARIANTS

Optional Test Features (Please check all that apply)

These sections must only be completed if you have checked one of the corresponding items in the previous section.

OPTIONAL PROFILE:		PROFenergy
<i>The device submitted for certification conforms to the selected PROFenergy Entity class, defined in “Test Specification and Test Cases for PROFenergy - Technical Specification for PROFINET”</i>		
<input type="checkbox"/>	PE Entity Class 1	
<input type="checkbox"/>	PE Entity Class 2	<i>For PROFenergy Entity classes 2 and 3, please include your declaration of support for all implemented power switching services.</i>
<input type="checkbox"/>	PE Entity Class 3	

OPTIONAL APPLICATION:		PROFINET IO-Controller
Controller testing incorporates many manual test cases, and this information helps the test lab understand both your device and your resources to help reproduce any issues that may arise during these tests.		
<input type="checkbox"/> <i>The controller submitted for certification has been tested with the following equipment:</i>		
Configuration software name (e.g. STEP7, PCWorx, Proficy, etc)		
Configuration software minimum hardware requirements (e.g. Windows 7 x64, 2 GB RAM, 60 GB HDD, etc)		
<input type="checkbox"/> <i>The controller submitted for certification operates with the following performance values:</i>		
Supported SendClock values (e.g. 1ms, 2ms, 4ms)		
Minimum supported cycle time (e.g. 1ms, 2ms, etc...)		
Maximum number of simultaneous PROFINET connections (e.g. 10 devices can be connected simultaneously)		
<input type="checkbox"/> <i>The controller submitted for certification has been tested with the following devices prior to submission for certification testing:</i>		
List of PROFINET devices the Controller will be tested with at customer site (e.g. Siemens ET200SP, Phoenix Contact Axioline, GE RX3iCEP, etc).		

Return Shipping Information

Once a device has completed testing, we retain the device for use in our PROFINET integration test apparatus. If you require the return of your device, please indicate your preferred method of shipping and billing below.

<input type="checkbox"/> Customer will provide a printed return label with device	OR	FedEx Account Number (nine digits)	OR	UPS Account Number (six digits)

Items required For Certification

These items are supporting documentation necessary to determine the scope of the Conformance Test and compile a test report. They may all be submitted at different times, but a failure on the part of the customer to provide any of this documentation will lead to a delay in issuing a Test Report.

Required with Application:

- 1) A draft GSDML file and a general description of the product.
- 2) A copy of the form/email confirming the VendorID assigned by the PNO.
- 3) DeviceID assigned to the device by the manufacturer (shown above).
- 4) A purchase order addressed to the PROFI Interface Center for the testing fee(s), see Page 5.

Required at the Test Date:

- 1) Descriptions and explanations needed to understand how the product functions, e.g., a product manual, as well as a complete description of the PROFINET functions supported.
- 2) Final GSDML file.
- 3) The exact type designation, and release versions of the hardware and firmware/software.
- 4) If the device does not utilize RJ45 or M12 connectors, the customer must provide any hardware necessary to connect the device to a RJ45 or M12 network.
- 5) In addition to the device itself, any auxiliary equipment required to test the operational functionality of the device, e.g., motor for drive testing, etc.
- 6) Wireshark capture file of the Device submitted for certification connecting to a controller. Capture should span the time from the first DCP Identify Request from the controller to at least 100 real-time cyclic frames produced after the controller sends the Application Ready Response.

For complex devices, it is *strongly* suggested that the applicant plan to have a representative at the lab for at least the 1st day of testing in order to help resolve any unforeseen issues. It is further suggested that this representative have the capability to make any software/firmware changes necessary to resolve any critical issues.

Deliverables from the test lab upon completion of testing:

- 1) For successful device tests, a positive test report will be issued from the Test Lab.
- 2) For device tests failed after revision, an issue list and a quote for a re-test will be sent from the Lab.
 - a) The new quote will be based on the severity and number of issues the lab finds in the original test.
 - b) Between the issuance of the new quote and the start of the next test cycle, the test lab will answer all email support questions related to the issues cited within 10 business days at no additional charge.
 - c) At customer request, phone support regarding reported issues may be available for an additional fee.

The guidelines described in Attachments 1 and 2 apply to the execution of this order for testing. The applicant agrees to their content.

I understand that if the device is not provided for testing within 6 months, this test application is void and a new test application and purchase order must be supplied.

Signature of Applicant _____

Place _____ and Date _____

Fee Schedule

Conformance Class	Device			Controller	
	A	B	C	A	B
Reserved Lab Time ¹	3 days	4 days	4 days	4 days	5 days
Included Firmware Updates ¹	3	3	3	3	3
Standard Cost ²	\$4,500	\$6,000	\$6,000	\$6,000	\$7,500

¹ If a certification test cannot be completed in the reserved time or with the allotted firmware updates, additional day(s) of lab time may be purchased at a cost of \$2,000 and two firmware updates per day of test time.

² Additional features, such as support for MRP, PROFlenergy, or variants, may incur additional time and cost. Tests that conclude faster than the minimum allotted lab time will be discounted.

PURCHASE ORDER REQUIREMENTS

Address PO to:

Siemens Industry, Inc
 1000 Deerfield Parkway
 Buffalo Grove, IL 60089-4513

Email for remittance:

ar.industry@siemens.com

TERMS: net 30

Email PO to: pic.industry@siemens.com

Attachment 1 for Test Application

Processing of Test Requests

The PNO-PROFINET Test Lab carries out the tests impartially, in the chronological sequence in which the orders were received. During the entire process, from arrival to return shipment, it is ensured that unauthorized persons will have no access to the test item.

The clients, as well as persons from the PNO advisory board designated by the board of the PNO, have the right to be present during the test as witnesses. The person responsible for the test will ensure that the principle of confidentiality vis-à-vis other clients as well as safety measures are not jeopardized by this.

Processing of the Test Request

For the test, the applicant makes available to the PNO-PROFINET Test Lab the device to be tested, including technical documentation. For the test to be considered a prototype test, the specimen has to correspond to the devices of the series.

On arrival, the test objects are immediately taken to the rooms of the PNO-PROFINET Test Lab. As a rule, this is done with the specimen still packaged. The PNO-PROFINET Test Lab checks and documents the complete shipment.

During arrival inspection, the scope and the testability of the test item are determined and documented. The test request is returned with a corresponding explanation if it is determined that the client's requirements exceed the testing capability of the PNO-PROFINET Test Lab regarding testing scope and measuring accuracy, or that the test item does not meet the technical prerequisites for a test according to the testing methods and testing procedures used as a basis. In addition, all those applications are returned which endanger objective results or which are of small significance.

Storing the Test Object

If testing of the item cannot be started immediately after its receipt, it will be properly stored and placed under lock and key.

Test

The test is carried out exclusively according to PNO guidelines for operating PNO-PROFINET test labs and according to internal instructions of the PNO-PROFINET Test Lab. The test is carried out by appropriately trained personnel expressly assigned by the director of the PNO-PROFINET Test Lab.

The test is based on testing methods, including testing instructions and testing specifications, of the PNO-PROFINET Test Lab recognized by the PNO. The testing procedures, and the results gained through it, are monitored by the director of the PNO-PROFINET Test Lab or his representative. The client will be informed within a reasonable time about discrepancies which occur during testing. Steps to correct them can only be initiated by the client.

After the entire test has been concluded, the PNO-PROFINET Test Lab will summarize the results of the test in a test report.

The test report lists all test items which were passed, not passed and which are undecided. The test report states explicitly that the test as executed means a single run of the test items indicated, with a single specimen of the customer implementation. From this, neither a general claim of proven standard conformity of the tested implementation can be derived, nor is a statement included regarding stability or quality. On request, the test protocols made by the test system during testing are made available to the customer in their entirety.

Appeal

Within two weeks, the customer can, in writing, **appeal** the test results mentioned in the test report. If, within an additional 4 weeks, no agreement can be reached between the customer and the PROFINET Test Lab, the customer has the right to turn to the advisory board of the PROFIBUS User Organization (PNO) for arbitration, to whom the PNO itself assigns the task of a mediation- and arbitration center, according to its overall requirements for testing and certification (FA1/PNO-PRZ/05 Dec 1992).

Therefore, the PNO advisory board is to be approached first for a mediation discussion. If this effort is not successful, the test customer can call for an expert accepted by both parties.

Shipping/Storing

In accordance with the PNO guideline "PROFINET IO Device Test", the test plant is continually expanded -within the scope of what is technically possible- with a wide spectrum of PROFINET-products by different manufacturers, in order to ensure interoperability of as many PROFINET-products as possible. An agreement must be made between the manufacturer and the PROFINET Test Lab if the customer wishes the device to be returned. It is assumed unless otherwise noted that the product under test will remain at the LAB facility.

Shipping by the PNO-PROFINET Test Lab

If the tested product is to be returned to the customer, the following procedure is followed. Within a reasonable time after the test has been completed, the PNO-PROFINET Test Lab will provide for suitable packaging and proper shipment of the devices, data media and documents. How the items are shipped is to be agreed on with the client beforehand. In every case it is guaranteed that the item is protected from damage and unauthorized interference during storage, transport and shipping. The customer and the PNO-PROFINET Test Lab will receive copies of the shipping papers. Costs for packaging and shipping are borne by the customer.

The Customer Transports Devices, Data Media and Documents Themselves

The customer (or their representative) is provided suitable opportunity and assistance to pack, load and transport the items mentioned above. The transfer is confirmed by the customer or their representative. The customer bears the cost for packaging.

Confidential Treatment of Customer-Specific Information and Products

The employees of the PNO-PROFINET Test Lab are obligated to treat all customer-specific information and products confidentially.

Corresponding to the capacity of the PNO-PROFINET Test Lab, simultaneous processing of test requests is provided for. To ensure confidentiality vis-à-vis different customers, an agreement is made that only one customer (or his representative) respectively shall be present in the PNO-PROFINET Test Lab, and that confidentiality vis-à-vis the other customers is maintained. An agreement can be made that several customers (or their representatives) are present at the same time but this requires the consent of all customers.

Special Arrangement if Orders for Testing are Interrupted

The customer's devices, data media and documents remain in the PNO-PROFINET Test Lab if there is an interruption of the test assignment and the customer doesn't take them back.

If, due to customer delays, the testing is delayed from the agreed-upon start date, the PNO-PROFINET Test Lab reserves the right to void the original test date and reassign a new test date to the customer. If a device has begun testing but the test must be delayed more than three business days (e.g. to update firmware to address issues), the PNO-PROFINET Test Lab may place the test on hold and assign a new test date to the customer.

Documentation of the Test Results

The documentation of the test results which are summarized in the test report ensures that the test can be repeated any time under the same conditions. All documentation is marked unmistakably with at least the following entries:

- name of document
- unmistakable test number
- date

All test results are treated confidentially and are suitably filed. The safekeeping period is 3 years. The documents are saved electronically on a controlled access server. After this time has expired, the documents are destroyed and the data media deleted.

Corrections or additions after the test report has been issued are marked as additions to the test report. The additions are marked with a consecutive number, and are assigned clearly to this test report by its number. Regarding format, the additions correspond to the specifications for test reports. The test reports do not contain advice or suggestions which ensue from the test results.

Attachment 2 for Test Application

Terms of Delivery and Payment

The delivery and payment terms of SIEMENS INDUSTRY, INC. apply.

The contractor only guarantees the following:

- that the tests are carried out correctly by adhering to the latest version of the PNO guidelines when the order was placed, and to the test guidelines agreed on with the client;
- that the data in the documents prepared about these tests corresponds to the test result
- that the evaluations of the product tested are made as conscientiously as is done with the contractor's own products

Warranty

The warranty period is 12 months starting with the return of the tested product by the contractor to the client or after submitting the test report to the client if the tested product remains with the contractor for expanding the test system.

Warranty claims are to be filed including a fault description that is as exact as possible. If the claim is valid, the contractor, under exclusion of further claims, is obligated to remedy the fault at his expense, with a new test if required, and to correct data in the test documents which doesn't apply. If it turns out that the fault reported did not exist, the client has to bear the cost for the new test.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS AND CONSTITUTES THE ONLY WARRANTY OF SIEMENS INDUSTRY, INC. WITH RESPECT TO THE SERVICES PROVIDED.

The foregoing states Clients exclusive remedy against Siemens Industry, Inc. for any defect in the Services or for failure of the Services to be as warranted, whether Client's remedy is based on contract, warranty, failure of such remedy to achieve its essential purpose, tort (including negligence), strict liability, indemnity or any other legal theory, and whether arising out of warranties, representations, instructions, installations or defects from any cause.

Liability

LIMITATION OF LIABILITY- NEITHER SIEMENS INDUSTRY INC. ,NOR ITS SUPPLIERS SHALL BE LIABLE, WHETHER IN CONTRACT, WARRANTY, FAILURE OF A REMEDY TO ACHIEVE ITS ESSENTIAL PURPOSE, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY, FOR LOSS OF USE, REVENUE OR PROFIT, OR FOR COST OF CAPITAL OR OF SUBSTITUTE USE OR PERFORMANCE, OR FOR INDIRECT, SPECIAL, LIQUIDATED, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF A SIMILAR TYPE, OR FOR CLAIMS BY CLIENT FOR SUCH DAMAGES RESULTING TO ANY THIRD PARTY.

Place of Settlement

Governing Law and Assignment- The laws of the State of Tennessee shall govern the validity, interpretation and enforcement of this Agreement. Assignment of this agreement may be made only upon the written consent of both parties, except that Siemens Industry, Inc. may assign this Agreement to a subsidiary of Siemens Industry, Inc. or the parent or a subsidiary of the parent of Siemens Industry, Inc. without the consent of the Client. Any attempted assignment or transfer of any of the rights, duties or obligations of this Agreement by either party, other than as specifically allowed by Siemens Industry, Inc. herein, shall be void. If consent is given, this Agreement shall be binding upon and inure to the benefit of the assigns.