



## INTERBUS Certification

# General Information



## Introduction

Users of devices in industrial automation must ensure the continuous operational safety of components that are used. In particular, the networking of products from various manufacturers places specific demands on interfaces. The former INTERBUS Club and various partner institutes have offered certification for several years to ensure maximum safety when selecting components. Independent test laboratories carry out comprehensive tests on devices as part of this process. The device only receives the "INTERBUS Certified" quality mark, which is increasingly important among users, if the test object passes all the INTERBUS conformance tests.

The conformance test is used to ensure that all devices meet the following requirements:

- Comply with the protocol standard
- Resist electromagnetic interference
- Work together without any adverse effects.

## Innovations

The test is currently being revised to take new technologies into account and so that it can be quickly adapted to future developments. The documentation for the conformance test and certification consists of 3 main sections:

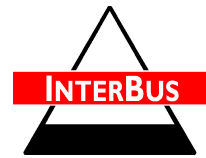
- Introduction and general conditions
- Conformance test
- Forms and additional appendices

The conformance test is also divided into additional sections.

## Procedure

When developing an INTERBUS interface, the technical requirements for the certification of an interface must be met in every respect. This means that every point specified in these guidelines must be observed as early as the development stage. During the development of an INTERBUS-compatible interface assistance is offered through various partners, whose contact details are listed at the end of this introduction.

The following steps are required for the creation of certified INTERBUS device:



- Development of the interface according to the information given here and following the directions in the appropriate user manuals of the available blocks for slave implementations.
- Test of the device conformance by an independent test laboratory accredited by the INTERBUS Club.
- After successful completion of the INTERBUS conformance test and receipt of the corresponding test documentation from the test laboratory, the conformance mark certificate is awarded by the INTERBUS certification committee.

The entire procedure is described in detail later in the document.

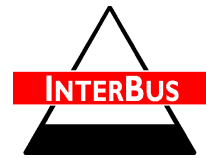
## Conformance Test

The conformance test comprises tests and examinations, which are carried out by test laboratories using various tools. It is therefore possible for each manufacturer to carry out function tests in advance, which means that the test object is more likely to pass the test. This also means that the special features of the individual parts of the test are taken into consideration. The conformance test is divided into the following sections:

- Basic function test - **mandatory**
  - General section (valid for all interface types)
  - Optical fibers (for devices with optical fiber interfaces)
  - Loop (for devices with Loop 2 interfaces)
- Burst noise immunity test - **mandatory**
- PCP protocol software conformance test (for devices with PCP communication) - **dependent**

For the conformance test, the test laboratory must be provided with the following (please also read the description for the individual sections of the test):

- Client checklist for the INTERBUS conformance test
- Comprehensive documentation for the device
- Circuit diagram documentation for the INTERBUS interface
- Device description in electronic form
- Necessary manufacturer declarations
- Required test tools for practical operation of the test object
- The PICS file or three files kbl.dat, vfd.dat, and ov.dat for the PCP conformance test (optional)
- The actual test object



## ***Handling***

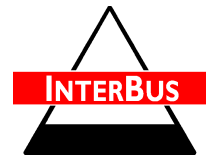
The manufacturer declarations in the conformance test are only an excerpt from the individual basic tests. This means that the individual points in the manufacturer declarations have been grouped together and may be used several times. Only the relevant sections for the corresponding interface should be edited, e.g., "HE LWL" for optical fiber interfaces. The manufacturer declarations act as a safety measure when testing the interface implementation.

## **Certification**

Certification by the INTERBUS certification committee refers to the actual act of issuing a certificate. The documentation submitted by the applicant is assessed by members of the committee. Only the certification committee may decide whether an applicant is issued a certificate or not. The test report from the accredited test laboratory provides the basis for this decision.

The following must be submitted to the INTERBUS certification committee for certification:

- Application for INTERBUS conformance mark certificate
- Declaration that the applicant recognizes the terms of certification
- Complete and signed test report from the test laboratory
- Client checklist for the INTERBUS conformance test
- Necessary manufacturer declarations
- Comprehensive documentation for the device
- Circuit diagram documentation for the INTERBUS interface
- Device description in electronic form



## Addresses

The following contacts are available at any time to answer any questions you may have, concerning certification and/or the conformance test. An FAQ section is available on the Internet for general certification questions.

### General questions about certification:

#### INTERBUS Staffoffice

Postbox 11 08

32817 Blomberg, Germany

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Fax: +49 - 52 35 - 34 12 34

E-mail: [germany@interbus.com](mailto:germany@interbus.com)

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# **INTERBUS Club**

## **Conformance Test and Certification**

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