



SLOVENSKI STANDARD
SIST EN 62769-101-1:2015
01-december-2015

Vključitev procesne naprave (FDI) - 101-1. del: Profili - Osnovno procesno vodilo H1 (IEC 62769-101-1:2015)

Field Device Integration (FDI) - Part 101-1: Profiles - Foundation Fieldbus H1 (IEC 62769-101-1:2015)

Feldgeräteintegration (FDI) - Teil 101-1: Profile - Foundation Fieldbus H 1 (IEC 62769-101-1:2015)

Intégration des appareils de terrain (FDI) - Partie 101-1: Profils - Foundation Fieldbus H1 (IEC 62769-101-1:2015)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 62769-101-1:2015](https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015>

Ta slovenski standard je istoveten z: EN 62769-101-1:2015

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry

SIST EN 62769-101-1:2015

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 62769-101-1:2015

<https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015>

EUROPEAN STANDARD

EN 62769-101-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2015

ICS 25.040.40; 35.100

English Version

**Field Device Integration (FDI) - Part 101-1: Profiles - Foundation
Fieldbus H1
(IEC 62769-101-1:2015)**

Intégration des appareils de terrain (FDI) - Partie 101-1:
Profils - Foundation Fieldbus H1
(IEC 62769-101-1:2015)

Feldgeräteintegration (FDI) - Teil 101-1: Profile -
Foundation Fieldbus H 1
(IEC 62769-101-1:2015)

This European Standard was approved by CENELEC on 2015-06-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 62769-101-1:2015**Foreword**

The text of document 65E/352/CDV, future edition 1 of IEC 62769-101-1, prepared by SC 65E "Devices and integration in enterprise systems", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62769-101-1:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-03-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-06-23

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice**iTeh STANDARD PREVIEW**

The text of the International Standard IEC 62769-101-1:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 62769-3:2015

NOTE Harmonized as EN 62769-3¹⁾.

1) To be published.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61158-5-9	2014	Industrial communication networks Fieldbus specifications - Part 5-9: Application layer service definition - Type 9 elements	-EN 61158-5-9	2014
IEC 61784-1	-	Industrial communication networks Profiles - Part 1: Fieldbus profiles	-EN 61784-1	-
IEC 61784-2	-	Industrial communication networks Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC 8802-3	-EN 61784-2	-
IEC 61784-3	2010	Industrial communication networks Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions	-EN 61784-3	2010
IEC 61804	series	Function Blocks (FB) for process control	EN 61804	series
IEC 62541-100	2015	OPC unified architecture - Part 100: Device Interface	EN 62541-100	2015
IEC 62769-2	-	Field Device Integration (FDI) - Part 2: FDI- Client	-	-
IEC 62769-4	2015	Field Device Integration (FDI) - Part 4: FDI- Packages	-	-
IEC 62769-5	2015	Field Device Integration (FDI) - Part 5: FDI- Information Model	-	-
IEC 62769-6	-	Field Device Integration (FDI) - Part 6: FDI- Technology Mapping	-	-

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 62769-101-1:2015

<https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015>



IEC 62769-101-1

Edition 1.0 2015-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Field Device Integration (FDI) –
Part 101-1: Profiles – Foundation Fieldbus H1**
(standards.iteh.ai)

**Intégration des appareils de terrain (FDI) –
Partie 101-1: Profils – Foundation Fieldbus H1**
SIST EN 62769-101-1:2015
copy standard from standards.iteh.ai
cd3819fe9e16/sist-en-62769-101-1-2015

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040.40; 35.100

ISBN 978-2-8322-2634-6

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions, abbreviated terms and acronyms	8
3.1 Terms and definitions.....	8
3.2 Abbreviated terms and acronyms	8
4 Conventions	8
4.1 EDDL syntax.....	8
4.2 XML syntax.....	8
4.3 Capitalizations	8
5 Profile for CP 1/1 (FOUNDATION™ H1)	9
5.1 General.....	9
5.2 Catalog profile	9
5.2.1 Protocol support file.....	9
5.2.2 CommunicationProfile definition.....	9
5.2.3 Profile device.....	9
5.2.4 Protocol version information	9
5.3 Associating a Package with a CP 1/1 device.....	10
5.3.1 Device type identification mapping.....	10
5.3.2 Device type revision mapping.....	10
5.4 Information Model mapping.....	10
5.4.1 ProtocolType definition.....	10
5.4.2 DeviceType mapping	11
5.4.3 FunctionalGroup Identification definition	11
5.4.4 BlockType property mapping	11
5.4.5 Mapping to Block ParameterSet.....	12
5.5 Topology elements.....	12
5.5.1 ConnectionPoint definition	12
5.5.2 Communication Device definition	14
5.5.3 Communication service provider definition	15
5.5.4 Network definition	16
5.6 Methods.....	17
5.6.1 Methods for FDI Communication Servers	17
5.6.2 Methods for Gateways	24
Annex A (normative) Topology scan schema.....	25
A.1 General.....	25
A.2 FoundationH1AddressT	25
A.3 FoundationH1ConnectionPointT.....	25
A.4 FoundationH1NetworkT	26
A.5 Network	26
A.6 FoundationBlockIdentificationT	27
A.7 FoundationIdentificationT	27
Annex B (normative) Transfer service parameters.....	29
B.1 General.....	29

B.2	receiveData	29
B.3	sendData	29
B.4	OperationT	30
B.5	ResponseCodeT	30
B.6	TransferResultDataT	30
B.7	TransferSendDataT	31
Annex C (informative) Communication service arguments for Transfer Method		32
Bibliography		33
Table 1	– Capability File part	9
Table 2	– CommunicationProfile definition	9
Table 3	– Device type catalog mapping	10
Table 4	– ProtocolType Foundation_H1 definition	10
Table 5	– Inherited DeviceType Property mapping	11
Table 6	– Identification Parameters	11
Table 7	– Inherited BlockType property mapping	12
Table 8	– ConnectionPointType ConnectionPoint_Foundation_H1 definition	12
Table 9	– Communication device ParameterSet definition	15
Table 10	– Method Connect arguments	18
Table 11	– Method Disconnect arguments	19
Table 12	– Method Transfer arguments	20
Table 13	– Method GetPublishedData arguments	22
Table 14	– Method SetAddress arguments	23
Table A.15	– Attributes of FoundationH1ConnectionPointT	26
Table A.16	– Elements of FoundationH1ConnectionPointT	26
Table A.17	– Elements of FoundationH1NetworkT	26
Table A.18	– Attributes of FoundationBlockIdentificationT	27
Table A.19	– Attributes of FoundationIdentificationT	28
Table B.1	– Elements of receiveData	29
Table B.2	– Enumerations of OperationT	30
Table B.3	– Attributes of ResponseCodeT	30
Table B.4	– Attributes of TransferResultDataT	31
Table B.5	– Attributes of TransferSendDataT	31

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIELD DEVICE INTEGRATION (FDI) –

Part 101-1: Profiles – Foundation Fieldbus H1

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

International Standard IEC 62769-101-1 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

The text of this standard is based on the following documents:

CDV	Report on voting
65E/352/CDV	65E/415/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62769 series, published under the general title *Field Device Integration (FDI)*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 62769-101-1:2015](https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-cd3819fe9e16/sist-en-62769-101-1-2015>

INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning

- a) Method for the Supplying and Installation of Device-Specific Functionalities, see Patent Family DE10357276;
- b) Method and device for accessing a functional module of automation system, see Patent Family EP2182418;
- c) Methods and apparatus to reduce memory requirements for process control system software applications, see Patent Family US2013232186;
- d) Extensible Device Object Model, see Patent Family US12/893,680.

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holders of these patent rights have assured the IEC that he/she is willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

- a) ABB Research Ltd
Claes Ryttoft
Affolterstrasse 4
Zurich, 8050
Switzerland
- b) Phoenix Contact GmbH & Co. KG
Intellectual Property, Licenses & Standards
Flachsmarktstrasse 8, 32825 Blomberg
Germany
<https://standards.iteh.ai/catalog/standards/sist/b6b149c3-6371-4969-9d4f-9e16/sist-en-62769-101-1-2015>
- c) Fisher Controls International LLC
John Dilger, Emerson Process Management LLLP
301 S. 1st Avenue, Marshalltown, Iowa 50158
USA
- d) Rockwell Automation Technologies, Inc.
1 Allen-Bradley Drive
Mayfield Heights, Ohio 44124
USA

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

ISO (www.iso.org/patents) and IEC (<http://patents.iec.ch>) maintain on-line data bases of patents relevant to their standards. Users are encouraged to consult the data bases for the most up to date information concerning patents.