



**SLOVENSKI STANDARD**  
**oSIST prEN IEC 62769-150-1:2022**  
**01-maj-2022**

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**Integracija procesne naprave (FDI) - 150-1. del: Profili - ISA100 BREZZIČNO**

Field device integration (FDI) - Part 150-1: Profiles - ISA100 WIRELESS

Feldgeräteintegration (FDI) - Teil 150-1: Profile - ISA100 WIRELESS

Intégration des appareils de terrain (FDI) - Partie 150 1: Profils - ISA100 WIRELESS

**Ta slovenski standard je istoveten z: prEN IEC 62769-150-1:2022**

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65E/866/CDV

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IEC SC 65E : DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS	
SECRETARIAT: United States of America	SECRETARY: Mr Donald (Bob) Lattimer
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 65C	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING <b>Attention IEC-CENELEC parallel voting</b> The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.  The CENELEC members are invited to vote through the CENELEC online voting system.	

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TITLE:

Field device integration (FDI) - Part 150-1: Profiles - ISA100 WIRELESS

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

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## FIELD DEVICE INTEGRATION (FDI) –

## Part 150-1: Profiles - ISA100

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62769-150-1 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.

This second edition cancels and replaces the first edition published in 2021. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) added namespace to Annex A.

127 The text of this International Standard is based on the following documents:

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

128

129 Full information on the voting for its approval can be found in the report on voting indicated in the above  
130 table.

131 The language used for the development of this International Standard is English.

132 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance  
133 with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at  
134 [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in  
135 greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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

- 139 • reconfirmed,
- 140 • withdrawn,
- 141 • replaced by a revised edition, or
- 142 • amended.

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## FIELD DEVICE INTEGRATION (FDI) –

### Part 150-1: Profiles - ISA100

#### 1 Scope

This part of IEC 62769 specifies an FDI profile of IEC 62769 for IEC 62734 (ISA100.11a)<sup>1</sup>.

#### 2 Normative References

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.

IEC 62734:2014: *Industrial networks - Wireless communication network and communication profiles - ISA 100.11a*

IEC 61804 (all parts), *Function blocks (FB) for process control and Electronic Device Description Language (EDDL)*

IEC 62541-100:2015, *OPC Unified Architecture – Part 100: OPC UA for Devices*

IEC 62541-2, *Field Device Integration (FDI) – Part 2: FDI Client*

IEC 62769-4, *Field Device Integration (FDI) – Part 4: FDI Packages*

IEC 62769-5, *Field Device Integration (FDI) – Part 5: FDI Information Model*

IEC 62769-7, *Field Device Integration (FDI) – Part 7: FDI Communication Devices*

#### 3 Terms, definitions, abbreviated terms and Acronyms

##### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions listed in the normative references given in Clause 2 apply.

For the purposes of this document, the terms and definitions given in IEC 62734, IEC 61804 (all parts), IEC 62541-100, IEC 62541-2, IEC 62769-4, IEC 62769-5, IEC 62769-7 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

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<sup>1</sup> ISA100 WIRELESS™ is a trade name of the non-profit consortium Wireless Compliance Institute. This information is given for the convenience of users of this standard and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance does not require use of the trade name. Use of the trade name requires permission of the trade name holder.

174 **3.1.1**  
 175 **Object**  
 176 basic entity which defines standardized behavior and features in a ISA100 WIRELESS device

## 177 **3.2 Abbreviations**

178 For the purposes of this specification, the following abbreviations apply.

179	EDD	Electronic Device Description
180	EDDL	Electronic Device Description Language (see IEC 61804 (all parts))
181	FDI	Field Device Integration
182	FCG	FieldComm Group
183	XML	Extensible markup language (see REC-xml-20081126)
184	CFF	Common file format
185	UAP	User Application Process
186	UAPMO	User Application Process Management Object
187	DMO	Device Management Object
188	IM	Information Model
189	SM	System Manager
190	WCI	Wireless Compliance Institute
191	CP	Communication profile

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## 193 **4 Conventions**

### 194 **4.1 EDDL syntax** <https://standards.iteh.ai/catalog/standards/sist/9df11ec3-9512-47e5-1204-584264521621/iec-62769-150-1-2022>

195 This part of FCG TS62769 specifies content for the EDD component that is part of FDI Communication  
 196 Packages. The specification content using EDDL syntax uses the font Courier New. The EDDL syntax  
 197 is used for method signature, variable, data structure and component declarations.

### 198 **4.2 XML syntax**

199 XML syntax examples use font Courier New. The XML syntax is used to describe XML document  
 200 schema.

201 Example: `<xs:simpleType name="ExampleType">`

### 202 **4.3 Capitalizations**

203 The FCG TS62769 series use capitalized terms to emphasize that these terms have a FDI specific  
 204 meaning.

205 Some of these terms using an acronym as a prefix for example

- 206 • FDI Client, or
- 207 • FDI Server.

208 Some of these terms are compound terms such as:

- 209 • Communication Servers, or

- 210 • Profile Package.

211 Parameter names or attributes are concatenated to a single term, where the original terms start in this  
212 term with a capital letter such as:

- 213 • ProtocolSupportFile or  
214 • ProtocolType.

215 Parameter names or attributes can also be constructed by using an underscore character to concatenate  
216 two or more terms such as:

- 217 • DEVICE\_REV or  
218 • DEVICE\_MODEL

## 219 5 Profile for ISA100 WIRELESS

### 220 5.1 General

221 This profile specifies the protocol specifics needed for FDI Packages describing communication servers,  
222 gateways and devices.

### 223 5.2 Catalog profile

#### 224 5.2.1 Protocol support file

##### 225 5.2.1.1 Capability file

226 Each ISA100 WIRELESS FDI Device Package shall contain a capability file. The capability file part is  
227 described in Table 1.

228 **Table 1 – Capability file part**

Parameter	Description
Content Type:	txt/plain
Root Namespace:	Not applicable
Source Relationship:	<a href="http://fdi-cooperation.com/2010/relationships/attachment-protocol">http://fdi-cooperation.com/2010/relationships/attachment-protocol</a>
Filename:	Use file extension .CFF

229

#### 230 5.2.2 CommunicationProfile definition

231 FCG TS62769-4 defines a CommunicationProfileT string for the Catalog XML schema. The ISA100 WIRELESS  
232 specific value shall be “ISA100\_Wireless”.

#### 233 5.2.3 Profile device

234 Not supported in this standard.

#### 235 5.2.4 Protocol version information

236 FCG TS62769-4 defines an element type named InterfaceT for the Catalog XML schema. The element  
237 type InterfaceT contains an element named Version which is supposed to provide version information  
238 about the applied communication protocol profile. The value has to follow the FCG TS62769-4 defined  
239 version information schema defined in the element type VersionT.

240 ISA100 WIRELESS defines the version of the protocol as a value of the parameter  
241 DMO.Comm\_SW\_Minor\_Version. A value of 0 indicates protocol version 2009 and a value of 1 indicates  
242 protocol version 2011. The general rule is to use the value of DMO.Comm\_SW\_Minor\_Version parameter

243 as the major version part of VersionT and the value “0” for the minor version and build parts Table 2 shows  
244 the protocol version information:

245 **Table 2 – Protocol Version Information**

Protocol Version	InterfaceT Version value
ISA100 WIRELESS 2009	1.0.0
ISA100 WIRELESS 2011	2.0.0
The Protocol Version defined in a package is provided for informational purposes only, and shall not be used to determine the compatibility or applicability of a package to a device.	

246

### 247 **5.3 Associating a Package with a device**

#### 248 **1.1.1 Device type identification mapping**

249 The purpose of device type identification mapping is to enable FDI host systems to compare the scan  
250 result against the topology representation in the Information Model. FDI host systems shall also be enabled  
251 to determine the FDI Device Package that fits for a device entry contained in the scan result. This will  
252 enable the user of an FDI host system to synchronize the Information Model with the actual installation.

253 The Communication Server implemented scan service (defined in 5.6.1.7 provides the scan result through  
254 an XML document (the schema is defined in Clause A.6).

255 The scan result contains device type identification and device instance identification.

256 FDI host systems comparing the actual network topology configuration against the topology representation  
257 in the Information Model shall be enabled to handle the following situations:

- 258 a) The physical Device instance identified at a specific device address is not logically present in the  
259 Information Model (as Instance): Enable the FDI Host system to find the appropriate FDI Device  
260 Package according to the device catalog information.
- 261 b) The physical Device instance identified by the device address is logically present in the Information  
262 Model (as Instance): Enable the FDI Host system to compare device type information presented in  
263 scan result (see the identification in Clause A.6) and the device type specific information of the  
264 Instance present in the Information Model.

265 The FDI Device Package contains device type identification information that can be compared to scan  
266 result based on the Catalog Schema in FCG TS62769-4 defining the XML (simple) element types  
267 “DeviceModel” and “Manufacturer”.

268 As a result of the FDI Package deployment the FDI Package information is then present in the Information  
269 Model as the specified FunctionalGroup Identification containing SerialNumer and Tag (see 5.4.2).

270 The mapping between different device identification data sources is described in Table 3. Since scan  
271 results provided by the Communication Server can convey data that is produced by the device (firmware)  
272 the device type identification mapping shall be supported by providing corresponding data in the FDI  
273 Device Package contained Catalog and Information Model.