

First edition  
2003-11-15

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## **Industrial automation systems and integration — Open systems application integration framework —**

### **Part 3: Reference description for IEC 61158-based control systems**

*Systèmes d'automatisation industrielle et intégration — Cadres  
d'intégration d'application pour les systèmes ouverts —*

*Partie 3: Description de référence pour les systèmes de contrôle fondés  
sur la CEI 61158*



Reference number  
ISO 15745-3:2003(E)

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Published in Switzerland

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## Contents

	Page
Foreword.....	v
Introduction .....	vi
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	2
4 Abbreviated terms.....	3
5 Technology specific elements and rules.....	4
5.1 Integration models and IAS interfaces .....	4
5.2 Profile templates .....	4
5.2.1 General.....	4
5.2.2 Contents and syntax.....	4
5.2.3 Header .....	5
5.3 Technology specific profiles .....	5
6 Device and communication network profiles for IEC61158-based control systems .....	6
6.1 ControlNet.....	6
6.1.1 Device profile.....	6
6.1.2 Communication network profile .....	8
6.2 PROFIBUS.....	10
6.2.1 Device profile.....	10
6.2.2 Communication network profile .....	10
6.3 P-NET .....	12
6.3.1 Device profile.....	12
6.3.2 Communication network profile .....	13
6.4 WorldFIP .....	15
6.4.1 Device profile.....	15
6.4.2 Communication network profile .....	18
6.5 INTERBUS.....	25
6.5.1 Device profile.....	25
6.5.2 Communication network profile .....	32
Annex A (normative) ControlNet profile templates .....	36
A.1 General.....	36
A.2 Device profile template description .....	37
A.2.1 Device profile template description – XML based .....	37
A.2.2 Device profile template description – XML encapsulation of EDS files .....	55
A.3 Communication network profile template description.....	57
A.3.1 Communication network profile template description – XML based .....	57
A.3.2 Communication network profile template description – XML encapsulation of EDS files .....	75
A.4 Electronic Data Sheet (EDS) .....	76
A.4.1 Common CIP EDS requirements .....	76
A.4.2 ControlNet specific EDS requirements.....	116
Annex B (normative) PROFIBUS profile templates .....	121
B.1 General.....	121
B.2 Device profile template description .....	121
B.2.1 General.....	121
B.2.2 XML schema: GSD_Device_Profile_wrapper.xsd or EDD_Device_Profile_wrapper.xsd .....	122
B.3 Communication network profile template description.....	124
B.3.1 General.....	124
B.3.2 XML schema: GSD_CommNet_Profile_wrapper.xsd .....	124
B.4 Generic Station Description (GSD) .....	125

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<b>B.4.1</b>	<b>General</b> .....	<b>125</b>
<b>B.4.2</b>	<b>Syntax and format of the GSD files</b> .....	<b>126</b>
<b>B.5</b>	<b>Semantic of GSD</b> .....	<b>127</b>
<b>B.5.1</b>	<b>Conventions</b> .....	<b>127</b>
<b>B.5.2</b>	<b>General specifications</b> .....	<b>128</b>
<b>B.5.3</b>	<b>Master-related specifications</b> .....	<b>135</b>
<b>B.5.4</b>	<b>Slave-related specifications</b> .....	<b>142</b>
<b>B.6</b>	<b>Formal description of GSD</b> .....	<b>165</b>
<b>Annex C</b>	<b>(normative) P-NET profile templates</b> .....	<b>179</b>
<b>C.1</b>	<b>Device profile template description</b> .....	<b>179</b>
<b>C.2</b>	<b>Communication network profile template description</b> .....	<b>181</b>
<b>Annex D</b>	<b>(normative) WorldFIP profile templates</b> .....	<b>184</b>
<b>D.1</b>	<b>Device profile template description</b> .....	<b>184</b>
<b>D.1.1</b>	<b>Overview</b> .....	<b>184</b>
<b>D.1.2</b>	<b>DeviceConformityClass</b> .....	<b>184</b>
<b>D.1.3</b>	<b>Device profile template XML schema</b> .....	<b>187</b>
<b>D.2</b>	<b>Communication network profile template description</b> .....	<b>190</b>
<b>D.2.1</b>	<b>Overview</b> .....	<b>190</b>
<b>D.2.2</b>	<b>Application layers</b> .....	<b>190</b>
<b>D.2.3</b>	<b>Transport layers; DLConformityClass</b> .....	<b>193</b>
<b>D.2.4</b>	<b>Network Management</b> .....	<b>194</b>
<b>D.2.5</b>	<b>Communication network profile template XML schema</b> .....	<b>196</b>
<b>Annex E</b>	<b>(normative) INTERBUS profile templates</b> .....	<b>205</b>
<b>E.1</b>	<b>Device profile template description</b> .....	<b>205</b>
<b>E.1.1</b>	<b>Overview</b> .....	<b>205</b>
<b>E.1.2</b>	<b>Basics</b> .....	<b>205</b>
<b>E.1.3</b>	<b>DeviceIdentity object - deviceType object</b> .....	<b>207</b>
<b>E.1.4</b>	<b>DeviceManager object</b> .....	<b>209</b>
<b>E.1.5</b>	<b>Supplementary element descriptions</b> .....	<b>214</b>
<b>E.1.6</b>	<b>Device profile template XML schemas</b> .....	<b>217</b>
<b>E.2</b>	<b>Communication network profile template description</b> .....	<b>264</b>
<b>Bibliography</b>	.....	<b>269</b>

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## Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 15745-3 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 5, *Architecture, communications and integration frameworks*.

ISO 15745 consists of the following parts, under the general title *Industrial automation systems and integration — Open systems application integration framework*:

- *Part 1: Generic reference description*
- *Part 2: Reference description for ISO 11898-based control systems*
- *Part 3: Reference description for IEC 61158-based control systems*
- *Part 4: Reference description for Ethernet-based control systems*

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## Introduction

The application integration framework (AIF) described in ISO 15745 defines elements and rules that facilitate:

- the systematic organization and representation of the application integration requirements using integration models;
- the development of interface specifications in the form of application interoperability profiles (AIPs) that enable both the selection of suitable resources and the documentation of the "as built" application.

ISO 15745-1 defines the generic elements and rules for describing integration models and AIPs, together with their component profiles - process profiles, information exchange profiles, and resource profiles. The context of ISO 15745 and a structural overview of the constituents of an AIP are given in Figure 1 of ISO 15745-1:2003.

This part of ISO 15745 extends the generic AIF described in ISO 15745-1 by defining the technology specific elements and rules for describing both communication network profiles and the communication related aspects of device profiles specific to control systems based on IEC 61158 (P-NET<sup>®1</sup>, PROFIBUS<sup>2</sup>, WorldFIP<sup>®3</sup>, ControlNet<sup>™4</sup>, and INTERBUS<sup>®5</sup>). These technologies use profiles of IEC 61158 which are specified in IEC 61784-1. Profiles for ISO/IEC 8802-3-based control systems are outside the scope of this part of ISO 15745 and are specified in ISO 15745-4.

In particular, this part of ISO 15745 describes technology specific profile templates for the device profile and the communication network profile. Within an AIP, a device profile instance or a communication network profile instance is part of the resource profile defined in ISO 15745-1. The device profile and the communication network profile XML instance files are included in a resource profile XML instance using the ProfileHandle\_DataType as specified in ISO 15745-1:2003, 7.2.5.

AIFs specified using the elements and rules of ISO 15745-1 can be easily integrated with the component profiles defined using the elements and rules specified in this part.

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