

TECHNICAL REPORT

IEC TR 61499-3

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Function blocks for industrial-process measurement and control systems –

Part 3: Tutorial information

Withdrawn

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Frequently asked questions (FAQ).....	7
3.1 General questions	7
3.2 Object orientation	8
3.3 The event-driven model	9
3.4 Engineering methodologies	11
3.5 Applications.....	13
4 Examples	14
4.1 Applications of SIFBs	14
4.1.1 Views	14
4.1.2 Trending.....	15
4.1.3 Remote sensing.....	17
4.1.4 Remote actuation	18
4.1.5 Remote control	19
4.1.6 Combined control and actuation.....	20
4.2 System configuration.....	21
4.3 Use of communication function blocks.....	24
4.4 Contained variables in process control function blocks	24
4.5 Use of adapter interfaces to implement object-oriented concepts	25
4.6 Initialization algorithms.....	28
5 State chart implementation with ECCs.....	30
6 Device and resource management.....	32
6.1 Distributed management application	32
6.2 Device management function blocks.....	33
6.3 FBMG Document Type Definition (DTD).....	35
6.4 Request/Response semantics.....	40
Annex A (informative) Relationships to other standards.....	45
Annex B (informative) IEC 61499 and object-oriented development	46
Bibliography.....	48
Figure 1 – Views of a PI_REAL type block	14
Figure 2 – Human interface.....	15
Figure 3 – Function block type PI_OP_HMI.....	15
Figure 4 – TREND_16_REAL_VS function block type	16
Figure 5 – Resource type TC_XMTR.....	17
Figure 6 – SIFB type TC_INTFC	17
Figure 7 – Resource type VALVE_XCVR	18

Figure 8 – S type VALVE_INTFC	19
Figure 9 – Resource type PID_RSRC	20
Figure 10 – SIFB type PID	20
Figure 11 – Resource type PID_VALVE	21
Figure 12 – System configuration TC_LOOP	23
Figure 13 – Example system timing	23
Figure 14 – Polymorphic adapter type declaration	26
Figure 15 – Polymorphic acceptor ("client") function block type	26
Figure 16 – Provider ("server") function block types	27
Figure 17 – Resource configuration for testing adapter interfaces	28
Figure 18 – Test results	28
Figure 19 – HMI example	30
Figure 20 – State machine for hypothetical VCR motor control	31
Figure 21 – Basic function block implementation of state chart	32
Figure 22 – Device management application	32
Figure 23 – Remote device proxy	33
Figure 24 – Device management resource	33
Figure 25 – Device management kernel	34
Figure 26 – Device management service interface	35
Table 1 – FBMGT DTD	35
Table 2 – FBMGT DTD Elements	38
Table 3 – Request elements and Response Reason codes	40
Table 4 – QUERY Request and Response elements	42

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUNCTION BLOCKS FOR INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL SYSTEMS –

Part 3: Tutorial information

FOREWORD

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IEC 61499-3, which is a technical report, has been prepared by working group 6: Function blocks, of IEC technical committee 65: Industrial-process measurement and control systems.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
65/308/DTR	65/321/RVC

Full information on the voting for the approval of this technical report 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.

IEC 61499 consists of the following parts under the general title *Function blocks for industrial-process measurement and control systems*:

Part 1: Architecture

Part 2: Software tools requirements

Part 3: Tutorial information

Part 4: Communication requirements

NOTE Parts 1 and 2 are under consideration.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

A bilingual version of this publication may be issued at a later date.

Withdrawn

INTRODUCTION

The following gives a description of the contents of the various parts of IEC 61499.

- a) Part 1 contains
- general requirements, including an introduction, scope, normative references, definitions, and reference models;
 - rules for the declaration of function block types, and rules for the behaviour of instances of the types so declared;
 - rules for the use of function blocks in the configuration of distributed industrial-process measurement and control systems (IPMCSs);
 - rules for the use of function blocks in meeting the communication requirements of distributed IPMCSs;
 - rules for the use of function blocks in the management of applications, resources and devices in distributed IPMCSs.
- b) Part 2 defines requirements for software tools to support the following systems engineering tasks enumerated in 1.1 of IEC 61499-1:
- the specification of function block types;
 - the functional specification of resource types and device types;
 - the specification, analysis, and validation of distributed IPMCSs;
 - the configuration, implementation, operation, and maintenance of distributed IPMCSs;
 - the exchange of information among software tools.
- c) Part 3 has the purpose of increasing the understanding, acceptance, and both generic and domain-specific applicability of IPMCS architectures and software tools meeting the requirements of the other parts, by providing
- answers to Frequently Asked Questions (FAQs) regarding IEC 61499;
 - examples of the use of IEC 61499 constructs to solve frequently encountered problems in control and automation engineering.
- d) Part 4 defines rules for the development of compliance profiles which specify the features of IEC 61499-1 and IEC 61499-2 to be implemented in order to promote the following attributes of IEC 61499-based systems, devices and software tools:
- interoperability of devices from multiple suppliers;
 - portability of software between software tools of multiple suppliers; and
 - configurability of devices from multiple vendors by software tools of multiple suppliers.

FUNCTION BLOCKS FOR INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL SYSTEMS –

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1 Scope

This part of IEC 61499, which is a technical report, is intended to provide a simple shorthand for common functionality in a broad number of "application domains" and, to that extent, may be considered a "language". It should be noted that IEC 61499 is not a programming methodology *per se*.

2 Normative references

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

IEC 61131-3:2003, *Programmable controllers – Part 3: Programming languages*

IEC 61804-1:2003, *Function blocks (FB) for process control – Part 1: Overview of system aspects*

IEC 61804-2:2004, *Function blocks (FB) for process control – Part 2: Specification of FB concept and Electronic Device Description Language (EDDL)*