

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Industrial communication networks – Fieldbus specifications –
Part 5-5: Application layer service definition – Type 5 elements**

**Réseaux de communication industriels – Spécification des bus de terrain –
Partie 5-5: Définition des Services de la couche application – Éléments de
Type 5**

IEC 61158-5-5:2007

<https://standards.iteh.ai/standards/iec/astd/61158-5-5-2007>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2007 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Industrial communication networks – Fieldbus specifications –
Part 5-5: Application layer service definition – Type 5 elements**

**Réseaux de communication industriels – Spécification des bus de terrain –
Partie 5-5: Définition des Services de la couche application – Éléments de
Type 5**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE **XH**
CODE PRIX

ICS 25.040.40; 35.100.70

ISBN 978-2-8322-1463-3

**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.....	10
INTRODUCTION.....	12
1 Scope.....	13
1.1 Overview.....	13
1.2 Specifications.....	14
1.3 Conformance.....	14
2 Normative references.....	14
3 Terms and definitions.....	15
3.1 ISO/IEC 7498-1 terms.....	15
3.2 ISO/IEC 8822 terms.....	15
3.3 ISO/IEC 9545 terms.....	15
3.4 ISO/IEC 8824 terms.....	15
3.5 Fieldbus data-link layer terms.....	15
3.6 Fieldbus application layer specific definitions.....	16
3.7 Abbreviations and symbols.....	25
3.8 Conventions.....	27
4 Concepts.....	30
5 Data type ASE.....	30
5.1 Overview.....	30
5.2 Formal definition of data type objects.....	30
5.3 FAL defined data types.....	32
5.4 Data type ASE service specification.....	69
6 Communication model specification.....	69
6.1 Concepts.....	69
6.2 ASEs.....	69
6.3 ARs.....	212
6.4 Summary of FAL classes.....	236
6.5 Permitted FAL services by AREP role.....	237
7 Type 5 communication model specification.....	238
7.1 Concepts.....	238
7.2 ASEs.....	260
7.3 FDA sessions.....	296
7.4 Summary of FAL Type 9 and Type 5 classes.....	305
7.5 Permitted FAL Type 9 and Type 5 services by AREP role.....	306
8 Type 7 communication model specification.....	308
8.1 Concepts.....	308
8.2 ASEs.....	325
8.3 ARs.....	494
Bibliography.....	515
Figure 1 – The AR ASE conveys APDUs between APs.....	100
Figure 2 – 1-to-1 AR establishment.....	112
Figure 3 – 1-to-many AR establishment.....	112
Figure 4 – Event model overview.....	152

Figure 5 – Residence timeliness	226
Figure 6 – Synchronized timeliness.....	227
Figure 7 – Residence timeliness	233
Figure 8 – Synchronized timeliness.....	234
Figure 9 – VCR initiation.....	245
Figure 10 – Misordered message handling.....	251
Figure 11 – FF SM port message processing order	252
Figure 12 – FF FDA port message processing order	252
Figure 13 – FF TCP connection message processing order	253
Figure 14 – Session endpoint message processing order.....	253
Figure 15 – FDA LAN redundancy port message processing order.....	253
Figure 16 – Message processing by receiving entity	254
Figure 17 – Organisation of the ASEs and ARs	309
Figure 18 – Object model of the MPS ASE.....	329
Figure 19 – Time-out evaluation net.....	341
Figure 20 – Asynchronous promptness status evaluation net	345
Figure 21 – Synchronous promptness status evaluation net.....	346
Figure 22 – Punctual promptness status evaluation net	348
Figure 23 – Asynchronous refreshment status evaluation net.....	351
Figure 24 – Synchronous refreshment status evaluation net	352
Figure 25 – Punctual refreshment status evaluation net.....	354
Figure 26 – A_Readloc service procedure.....	357
Figure 27 – A_Writeloc service procedure.....	358
Figure 28 – A_Update service procedure	360
Figure 29 – A_Readfar service procedure.....	362
Figure 30 – A_Writefar service procedure	364
Figure 31 – A_Sent service procedure	365
Figure 32 – A_Received service procedure	366
Figure 33 – A_Read service procedure	368
Figure 34 – A_Read service state machine	369
Figure 35 – A_Write service procedure	370
Figure 36 – A_Write service state machine	371
Figure 37 – Model of a resynchronised variable	374
Figure 38 – Principles for resynchronisation of a produced variable	375
Figure 39 – Resynchronisation mechanism state machine for a produced variable.....	377
Figure 40 – Asynchronous refreshment private mechanism evaluation net.....	378
Figure 41 – Asynchronous refreshment public mechanism evaluation net	379
Figure 42 – Synchronous refreshment private mechanism evaluation net.....	380
Figure 43 – Synchronous refreshment public mechanism evaluation net.....	381
Figure 44 – Punctual refreshment private mechanism evaluation net	382
Figure 45 – Punctual refreshment public mechanism evaluation net.....	383
Figure 46 – Principles for the resynchronisation of a consumed variable.....	384
Figure 47 – Resynchronisation mechanism state machine for consumed variable	386

Figure 48 – Asynchronous promptness public mechanism evaluation net.....	387
Figure 49 – Asynchronous promptness private mechanism evaluation net	388
Figure 50 – Synchronous promptness public mechanism evaluation net	389
Figure 51 – Synchronous promptness private mechanism evaluation net.....	390
Figure 52 – Punctual promptness public mechanism evaluation net.....	392
Figure 53 – Punctual promptness private mechanism evaluation net.....	393
Figure 54 – Spatial consistency list variables interchange mechanism	395
Figure 55 – Spatial consistency – consistency variable interchange mechanism	396
Figure 56 – Spatial consistency – list recovery mechanism	396
Figure 57 – Spatial consistency – validity of the spatial consistency status.....	397
Figure 58 – Object model of a variable list	397
Figure 59 – A_Readlist service procedure.....	403
Figure 60 – Consistency variable value evaluation net.....	409
Figure 61 – Consistency interchange timing diagram	410
Figure 62 – Recovery mechanism evaluation net	411
Figure 63 – Recovery interchange timing diagram.....	411
Figure 64 – Flowchart of the sub-MMS environment management state.....	418
Figure 65 – Domain management state chart	448
Figure 66 – Domain upload flowchart.....	450
Figure 67 – Domain download sequence diagram.....	451
Figure 68 – Domain upload sequence diagram	451
Figure 69 – Program invocation state chart.....	464
Figure 70 – A_Associate service procedure.....	503
Figure 71 – A_Release service procedure.....	506
Figure 72 – A_Abort service procedure.....	507
Figure 73 – A_Data service procedure.....	509
Figure 74 – A_Unidata service procedure	512
Figure 75 – Associated mode service state chart	513
Figure 76 – Non-associated mode service state chart.....	514
Table 1 – PERSISTDEF	37
Table 2 – VARTYPE	38
Table 3 – ITEMQUALITYDEF.....	39
Table 4 – STATEDEF	43
Table 5 – GROUPEXCEPTIONDEF	43
Table 6 – ACCESSRIGHTSDEF.....	43
Table 7 – HRESULT	44
Table 8 – UUID.....	51
Table 9 – Data type names for value.....	67
Table 10 – UUID	69
Table 11 – Create service parameters	71
Table 12 – Delete service parameters.....	72
Table 13 – Get attributes service parameters.....	73

Table 14 – Set attributes service parameters	75
Table 15 – Begin set attributes	77
Table 16 – End set attributes	78
Table 17 – Subscribe service parameters	87
Table 18 – Identify	90
Table 19 – Get status	91
Table 20 – Status notification	92
Table 21 – Initiate	93
Table 22 – Terminate	96
Table 23 – Conclude	98
Table 24 – Reject	98
Table 25 – Conveyance of service primitives by AREP role	101
Table 26 – Valid combinations of AREP roles involved in an AR	101
Table 27 – AR-Unconfirmed send	107
Table 28 – AR-Confirmed send	109
Table 29 – AR-Establish service	111
Table 30 – Valid combinations of AREP classes to be related	113
Table 31 – AR-Deestablish service	114
Table 32 – AR-Abort	115
Table 33 – AR-Compel service	116
Table 34 – AR-Get buffered message service	117
Table 35 – AR-Schedule communication service	118
Table 36 – AR-Cancel scheduled sequence service	119
Table 37 – AR-Status	120
Table 38 – AR-XON-OFF	121
Table 39 – AR-Remote read service	122
Table 40 – AR-Remote write service	123
Table 41 – Read service parameters	132
Table 42 – Read list service parameters	135
Table 43 – Write service parameters	137
Table 44 – Write list service parameters	139
Table 45 – Information report service	141
Table 46 – Information report list service	142
Table 47 – Exchange service parameters	145
Table 48 – Exchange list service parameters	148
Table 49 – Acknowledge event	160
Table 50 – Acknowledge event list service parameters	161
Table 51 – Enable event	163
Table 52 – Event notification service parameters	164
Table 53 – Enable event list	166
Table 54 – Notification recovery service parameters	167
Table 55 – Get event summary service parameters	168
Table 56 – Get event summary list service parameters	170

Table 57 – Query event summary list service parameters	173
Table 58 – Initiate load service parameters.....	180
Table 59 – Terminate load service parameters.....	182
Table 60 – Push segment service parameters.....	183
Table 61 – Pull segment service parameters.....	184
Table 62 – Discard service parameters	186
Table 63 – Pull upload sequencing of service primitives.....	187
Table 64 – Pull upload service parameter constraints	188
Table 65 – Pull upload state table	189
Table 66 – Pull download sequencing of service primitives	190
Table 67 – Pull download service parameter constraints	190
Table 68 – Pull download state table	191
Table 69 – Push download sequencing of service primitives	193
Table 70 – Push download service parameter constraints	193
Table 71 – Push download state table.....	194
Table 72 – Start service parameters	201
Table 73 – Stop service parameters.....	202
Table 74 – Resume service parameters.....	203
Table 75 – Reset service parameters.....	204
Table 76 – Kill service parameters.....	205
Table 77 – Action invoke service parameters.....	206
Table 78 – Action return service parameters.....	207
Table 79 – State transitions for a function invocation object.....	209
Table 80 – FAL class summary.....	236
Table 81 – Services by AREP role	237
Table 82 – Scope of Invoke Id	249
Table 83 – Types of misordering detectable by message numbers.....	250
Table 84 – Delivery of misordered message types on publisher/subscriber VCRs	250
Table 85 – Statistics gathered per VCR	250
Table 86 – Determination of misordering type at a subscriber VCR.....	251
Table 87 – Mapping of received messages to primitives.....	251
Table 88 – Mapping of received primitives to messages.....	252
Table 89 – Defined network addresses	255
Table 90 – Use of network addresses	255
Table 91 – Use of endpoint selectors in server VCRs.....	256
Table 92 – Use of endpoint selectors in publisher VCRs	256
Table 93 – Use of endpoint selectors in source VCRs	257
Table 94 – Network address and port numbers for device annunciation	258
Table 95 – Network address and port numbers for set/clear assignment info and clear address	258
Table 96 – Network address and port numbers for SM identify.....	258
Table 97 – Network address and port numbers for SM find tag	259
Table 98 – Network address and port numbers for clients and servers (part 1).....	259

Table 99 – Network address and port numbers for clients and servers (part 2).....	259
Table 100 – Network address and port numbers for publishers and subscribers.....	259
Table 101 – Network address and port numbers for report distribution.....	259
Table 102 – Network address and port numbers for LAN redundancy get and put information.....	260
Table 103 – Network address and port numbers for LAN redundancy diagnostics.....	260
Table 104 – VCR types.....	262
Table 105 – Use of VCR user id.....	262
Table 106 – Use of FDA address.....	263
Table 107 – Initiate.....	265
Table 108 – Find tag query service parameters.....	270
Table 109 – SMK IDs.....	271
Table 110 – Find tag reply service parameters.....	272
Table 111 – Identify service parameters.....	275
Table 112 – Annunciate service parameters.....	278
Table 113 – Set assignment info service parameters.....	280
Table 114 – Clear assignment info service parameters.....	283
Table 115 – Clear address service parameters.....	285
Table 116 – Diagnostic message service.....	290
Table 117 – Get redundancy info service.....	291
Table 118 – Put redundancy info service.....	293
Table 119 – Get redundancy statistics service.....	295
Table 120 – Open session service.....	302
Table 121 – Idle session service.....	305
Table 122 – FAL class summary.....	306
Table 123 – Services by AREP role.....	307
Table 124 – Access protection.....	324
Table 125 – Binary time coding.....	340
Table 126 – Asynchronous promptness events and actions.....	345
Table 127 – Synchronous promptness events and actions.....	346
Table 128 – Punctual promptness events and actions.....	348
Table 129 – Asynchronous refreshment events and actions.....	351
Table 130 – Synchronous refreshment events and actions.....	352
Table 131 – Punctual refreshment events and actions.....	355
Table 132 – A_Readloc service parameters.....	356
Table 133 – A_WriteLOC service parameters.....	357
Table 134 – A_Update service parameters.....	359
Table 135 – A_Readfar service parameters.....	361
Table 136 – A_Writefar service parameters.....	363
Table 137 – A_Sent service parameters.....	365
Table 138 – A_Received service parameters.....	366
Table 139 – A_Read service parameters.....	367
Table 140 – A_Write service parameters.....	369

Table 141 – Asynchronous refreshment private mechanism events and actions	378
Table 142 – Asynchronous refreshment public mechanism events and actions	379
Table 143 – Synchronous refreshment private mechanism events and actions.....	380
Table 144 – Synchronous refreshment public mechanism events and actions	381
Table 145 – Punctual refreshment private mechanism events and actions	383
Table 146 – Punctual refreshment public mechanism events and actions.....	384
Table 147 – Asynchronous promptness public mechanism events and actions.....	387
Table 148 – Asynchronous promptness private mechanism events and actions	388
Table 149 – Synchronous promptness public mechanism events and actions.....	389
Table 150 – Synchronous promptness private mechanism events and actions	391
Table 151 – Punctual promptness public mechanism events and actions.....	392
Table 152 – Punctual promptness private mechanism events and actions.....	393
Table 153 – A_Readlist service parameters	402
Table 154 – Confirmed initiate service parameters.....	422
Table 155 – Detailed structure of the extension calling parameter.....	423
Table 156 – Detailed structure of the init request detail parameter.....	424
Table 157 – Detailed structure of the extension called parameter	425
Table 158 – Detailed structure of the init request detail parameter.....	426
Table 159 – Conclude service parameter.....	427
Table 160 – Unconfirmed abort service parameters	429
Table 161 – Unconfirmed reject service parameters.....	430
Table 162 – Confirmed status service parameters.....	432
Table 163 – Unconfirmed unsolicited status service parameter	432
Table 164 – Confirmed identify service parameters.....	433
Table 165 – Confirmed get name list service parameters	434
Table 166 – Access group attribute description for domain object	437
Table 167 – Access rights attribute description for domain object	437
Table 168 – Confirmed delete domain service parameters	438
Table 169 – Confirmed initiate download sequence service parameters.....	439
Table 170 – Confirmed download segment service parameters	440
Table 171 – Confirmed terminate download sequence service parameters.....	441
Table 172 – Confirmed initiate upload sequence service parameters	442
Table 173 – Confirmed upload segment service parameters	443
Table 174 – Confirmed terminate upload sequence service parameters	444
Table 175 – Confirmed get domain attributes service parameters	445
Table 176 – Access group attribute details for program invocation object	453
Table 177 – Access rights attribute details for program invocation object.....	454
Table 178 – Confirmed create program invocation service parameters.....	455
Table 179 – Confirmed delete program invocation service parameters.....	456
Table 180 – Confirmed start service parameters	457
Table 181 – Confirmed stop service parameters	458
Table 182 – Confirmed resume service parameters	459
Table 183 – Confirmed reset service parameters	460

Table 184 – Confirmed kill service parameters.....	461
Table 185 – Access group attribute details for variable object.....	466
Table 186 – Access rights attribute details for variable object.....	467
Table 187 – Access group attribute details for variable list object.....	468
Table 188 – Access right attribute details for variable list objects.....	468
Table 189 – Confirmed read service parameters.....	469
Table 190 – Confirmed write service parameters.....	471
Table 191 – Unconfirmed information report service parameters.....	472
Table 192 – Confirmed define variable-list service parameters.....	473
Table 193 – Confirmed delete variable-list service parameters.....	475
Table 194 – Confirmed get variable access attributes service parameters.....	476
Table 195 – Confirmed get variable-list attributes service parameters.....	477
Table 196 – Data type specification.....	479
Table 197 – Variable access specification.....	480
Table 198 – Variable access description attribute details.....	480
Table 199 – Path selection parameters.....	481
Table 200 – Access group attribute detail for event object.....	484
Table 201 – Access rights attribute details for event object.....	485
Table 202 – Unconfirmed event notification service parameters.....	486
Table 203 – Event type parameter details.....	486
Table 204 – Confirmed acknowledged event notification service parameter.....	488
Table 205 – Confirmed alter event condition monitoring service parameters.....	489
Table 206 – Confirmed get alarm summary service parameters.....	491
Table 207 – Confirmed get event condition attributes service parameters.....	493
Table 208 – Classification of service quality parameters.....	496
Table 209 – Identification parameters.....	500
Table 210 – List of MCS AR ASE services.....	501
Table 211 – A_Associate service parameters.....	501
Table 212 – A_Release service parameters.....	506
Table 213 – A_Abort service parameters.....	507
Table 214 – A_Data service parameters.....	508
Table 215 – A_Unidata service parameters.....	509

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –
FIELD BUS SPECIFICATIONS –****Part 5-5: Application Layer Service definition**

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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

NOTE Use of some of the associated protocol types is restricted by their intellectual-property-right holders. In all cases, the commitment to limited release of intellectual-property-rights made by the holders of those rights permits a particular data-link layer protocol type to be used with physical layer and application layer protocols in Type combinations as specified explicitly in the IEC 61784 series. Use of the various protocol types in other combinations may require permission from their respective intellectual-property-right holders.

International Standard IEC 61158-5-5 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This first edition and its companion parts of the IEC 61158-5 subseries cancel and replace IEC 61158-5:2003. This edition of this part constitutes an editorial revision.

This edition of IEC 61158-5 includes the following significant changes from the previous edition:

- a) deletion of the former Type 6 fieldbus for lack of market relevance;
- b) addition of new types of fieldbuses;
- c) partition of part 5 of the third edition into multiple parts numbered -5-2, -5-3, ...

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 bilingual version (2014-06) corresponds to the monolingual English version, published in 2007-12.

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

FDIS	Report on voting
65C/475/FDIS	65C/486/RVD

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

The French version of this standard has not been voted upon.

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.

NOTE The revision of this standard will be synchronized with the other parts of the IEC 61158 series.

The list of all the parts of the IEC 61158 series, under the general title *Industrial communication networks – Fieldbus specifications*, can be found on the IEC web site.

INTRODUCTION

This part of IEC 61158 is one of a series produced to facilitate the interconnection of automation system components. It is related to other standards in the set as defined by the “three-layer” fieldbus reference model described in IEC/TR 61158-1.

The application service is provided by the application protocol making use of the services available from the data-link or other immediately lower layer. This standard defines the application service characteristics that fieldbus applications and/or system management may exploit.

Throughout the set of fieldbus standards, the term “service” refers to the abstract capability provided by one layer of the OSI Basic Reference Model to the layer immediately above. Thus, the application layer service defined in this standard is a conceptual architectural service, independent of administrative and implementation divisions.

Withdrawing

iTech Standards
(<https://standards.iteh.ai>)
Document Preview

[IEC 61158-5-5:2007](https://standards.iteh.ai/standards/iec/61158-5-5:2007)

<https://standards.iteh.ai/standards/iec/61158-5-5:2007>