



IEC 61850 Client MICS

Last update :	September 2, 2021
Revision :	2.2/15.1.3
Content :	This document contains Model Implementation Conformance Statement of the CimWay built-in client driver for IEC 61850.

The last revision of the technical content accommodates changes in PcVue 15.1.3. Unless otherwise stated, this document is valid for releases made publicly available since.

The information in this book is subject to change without notice and does not represent a commitment on the part of the publisher. The software described in this book is furnished under a license agreement and may only be used or copied in accordance with the terms of that agreement. It is against the law to copy software on any media except as specifically allowed in the license agreement. No part of this manual may be reproduced or transmitted in any form or by any means without the express permission of the publisher. The author and publisher make no representation or warranties of any kind with regard to the completeness or accuracy of the contents herein and accept no liability of any kind including but not limited to performance, merchantability, fitness for any particular purpose, or any losses or damages of any kind caused or alleged to be caused directly or indirectly from this book. In particular, the information contained in this book does not substitute to the instructions from the products' vendor. This book may contain material belonging to third-parties. Such information is used exclusively in internal work processes and is not intended to be disclosed. In addition, this notice is not a claim of property on such third-party information. All product names and trademarks mentioned in this document belong to their respective owner.

Authorization

	Name	Stamp	Date
Written by	JSB		June 15 th , 2013
Checked by	BL		August 14 th , 2013
Authorized by	AB		August 14 th , 2013

Revision history

Revision	Author	Action	Editing	Date	Distribution
2.0	BL	Editorial changes - PcVue 11 release		November, 8 th 2013	Public
2.1	BL	Editorial changes		November, 5 th 2020	Public
2.2	BL	Update to MICS template Ed2 and content update for certification ed2, including new CDC in ed2.1		August, 4 th 2021	Public

Content

1	INTRODUCTION	4
2	SUPPORTED COMMON DATA CLASSES	4
2.1	CDC SPECIFICATIONS FOR STATUS INFORMATION	4
2.2	CDC SPECIFICATIONS FOR MEASUREMENT INFORMATION	4
2.3	CDC SPECIFICATIONS FOR CONTROLS.....	5
2.4	CDC SPECIFICATIONS FOR STATUS SETTINGS.....	6
2.5	CDC SPECIFICATIONS FOR ANALOGUE SETTINGS.....	6
2.6	CDC SPECIFICATIONS FOR DESCRIPTION INFORMATION	7
2.7	CDC SPECIFICATIONS FOR TRACKING	7
3	QUALITY MAPPING	7
4	TIME QUALITY MAPPING	8

1 Introduction

This document specifies the Model Implementation Conformance Statement (MICS) of the CimWay built-in driver for IEC 61850, further referred to as “the Client”. This MICS document specifies the supported Common Data Classes for IEC 61850 Edition 1 and Edition 2 and mapping of the quality.

Together with the PICS, PIXIT and TICS, the MICS forms the basis for conformance testing according to IEC 61850-10.

The following documents are available separately:

- The Protocol Implementation Conformance Statement (PICS),
- The Protocol Implementation eXtra Information for Testing (PIXIT),
- The Model Implementation Conformance Statement (MICS),
- The Tissues Implementation Conformance Statement (TICS).

2 Supported Common Data Classes

The « Ed » column indicates Edition 1 and/or Edition 2.

The « Comment » column indicates which Data Attributes are used when mapping a PcVue variable on a DO derived from the respective CDC type.

2.1 CDC specifications for status information

CDC	Ed	Description	Supported	Comment
SPS	1,2	Single point status	Yes	Bit variable (stVal q and t)
DPS	1,2	Double point status	Yes	Bit or Register variable (stVal q and t)
INS	1,2	Integer status	Yes	Register variable (stVal q t)
ENS	2	Enumerated status	Yes	Register variable (stVal q t)
ACT	1,2	Protection activation information	Yes	Bit variable (general q t)
ACD	1,2	Directional protection activation information	Yes	Bit variable (general q t) Register variable (dirGeneral q t)
SEC	1,2	Security violation counting	Yes	Register variable (cnt t)
BCR	1	Binary counter reading	No	
BCR	2	Binary counter reading	Yes	Register variable (actVal q t)
HST	2	Histogram	No	
VSS	2	Visible string status	Yes	Text variable (stVal q t)
ORS	2.1	Object reference status	Yes	Text variable (stVal q t)
TCS	2.1	Time value status	Yes	Text variable (stVal q t)

2.2 CDC specifications for measurement information

CDC	Ed	Description	Supported	Comment
MV	1,2	Measured value	Yes	Register variable (mag\$f q t) Register variable (mag\$i q t)
CMV	1,2	Complex measured value	Yes	Register variable (cVal\$mag\$f q t) Register variable (cVal\$mag\$i q t) Register variable (cVal\$ang\$f q t) Register variable (cVal\$ang\$i q t)

CDC	Ed	Description	Supported	Comment
SAV	1,2	Sampled value	Yes	Register variable (instMag\$f q t) Register variable (instMag\$i q t)
WYE	1,2	Phase to ground/neutral related measured values of a three-phase system	Yes	Supported by mapping CMV sub-data-objects on Register variables
DEL	1,2	Phase to phase related measured values of a three-phase system	Yes	Supported by mapping CMV sub-data-objects on Register variables
SEQ	1,2	Sequence	Yes	Supported by mapping CMV sub-data-objects on Register variables
HMV	1	Harmonic value	No	
HMV	2	Harmonic value	No	
HWYE	1	Harmonic value for WYE	No	
HWYE	2	Harmonic value for WYE	No	
HDEL	1	Harmonic value for DEL	No	
HDEL	2	Harmonic value for DEL	No	

2.3 CDC specifications for controls

CDC	Ed	Description	Supported	Comment
SPC	1,2	Controllable single point	Yes	Bit variable (stVal q and t) Commandable Bit variable (ctlVal)
DPC	1,2	Controllable double point	Yes	Bit variable (stVal q and t) Register variable (stVal q and t) Commandable Bit variable (ctlVal)
INC	1,2	Controllable integer status	Yes	Register variable (stVal q and t) Commandable Register variable (ctlVal)
ENC	2	Controllable enumerated status	Yes	Register variable (stVal q and t) Commandable Register variable (ctlVal)
BSC	1,2	Binary controlled step position information	Yes	Register variable (valWTr\$posVal q and t) Bit variable (valWTr\$transInd q and t) Commandable Register variable (ctlVal)
ISC	1,2	Integer controlled step position information	Yes	Register variable (valWTr\$posVal q and t) Bit variable (valWTr\$transInd q and t) Commandable Register variable (ctlVal)
APC	1	Controllable analogue process value	Yes	Register variable (setMag\$f q t) Register variable (setMag\$i q t) Commandable Register variable (ctlVal\$i) Commandable Register variable (ctlVal\$f) Commandable Register variable (ctlVal\$i)

CDC	Ed	Description	Supported	Comment
APC	2	Controllable analogue process value	Yes	Register variable (mxVal\$f q t) Register variable (mxVal\$i q t) Commandable Register variable (ctlVal\$i) Commandable Register variable (ctlVal\$f) Commandable Register variable (ctlVal\$i)
BAC	2	Binary controlled analog process value	Yes	Register variable (mxVal\$f q t) Register variable (mxVal\$i q t) Commandable Register variable (ctlVal\$i) Commandable Register variable (ctlVal\$f) Commandable Register variable (ctlVal)

2.4 CDC specifications for status settings

CDC	Ed	Description	Supported	Comment
SPG	1,2	Single point setting	Yes	Bit variable (setVal)
ING	1,2	Integer status setting	Yes	Register variable (setVal)
ENG	2	Enumerated status setting	Yes	Register variable (setVal)
ORG	2	Object reference setting	No	Text variable (setSrcRef q t)
TSG	2	Time setting group	No	While mapping on a DO is useless (and not supported), the useful data attributes can be mapped on Text variables
CUG	2	Currency setting group	No	While mapping on a DO is useless (and not supported), the useful data attributes can be mapped on Text variables
VSG	2	Visible string setting	Yes	Text variable (setVal)

2.5 CDC specifications for analogue settings

CDC	Ed	Description	Supported	Comment
ASG	1,2	Analogue setting	Yes	Register variable (setMag\$f) Register variable (setMag\$i)
CURVE	1,2	Setting curve	No	
CSG	2	Curve shape setting	No	

2.6 CDC specifications for description information

CDC	Ed	Description	Supported	Comment
DPL	1,2	Device name plate	Yes	Text variable (vendor)
LPL	1,2	Logical node name plate	Yes	Text variable (vendor)
CSD	1,2	Curve shape description	No	
VSD	2.1	Visible string description	Yes	Text variable (val)

2.7 CDC specifications for tracking

CDC	Ed	Description	Supported	Comment
CST	2	Common service tracking	No	
BTS	2	Buffered report tracking service	No	
CTS	2	Control tracking service	No	
GTS	2	GOOSE Control block tracking service	No	
LTS	2	Log control block tracking service	No	
MTS	2	MSVCB tracking service	No	
NTS	2	USVCB control block tracking service	No	
OTS	2	Log tracking service	No	
STS	2	SGCB tracking service	No	
UTS	2	Unbuffered report tracking service	No	

Notes: The tracking services are not supported.

Supported

Yes = Client can issue an ACSI service on this CDC and process the data from/to the CDC

No = Client can't issue an ACSI service on this CDC and doesn't process the data from/to the CDC

3 Quality mapping

61850 Quality	CimWay quality
Good	Valid
Questionable	NS
Invalid	NS
Reserved	NS
Overflow	Depends on Validity: - NS if Questionable, Invalid or Reserved, - Otherwise Valid.
Out of range	
Bad reference	
Oscillatory	
Failure	
Old data	
Inconsistent	
Inaccurate	
Process	
Substituted	
Test	
Operator blocked	

Note: Raw Validity & Detailed quality information can be mapped to variable extended attributes for ad'hoc processing.

4 Time quality mapping

61850 Time Quality	CimWay quality
Leap seconds known	PLC – Indicating a valid timestamp
Clock not synchronised	PLC ? – Indicating a questionable or invalid timestamp
Clock failure	PLC ? – Indicating a questionable or invalid timestamp
Accuracy	PLC – Indicating a valid timestamp

Note: Timestamp quality information can be mapped to variable extended attributes for ad'hoc processing.

ARC Informatique

Headquarters and Paris offices
2 avenue de la Cristallerie
92310 Sèvres - France
tel + 33 1 41 14 36 00
fax + 33 1 46 23 86 02
hotline +33 1 41 14 36 25
arcnews@arcinfo.com
www.pcvuesolutions.com

ARC Informatique

Private limited company
capitalized
at 1 250 000 €
RCS Nanterre B 320 695 356
APE 5829C
SIREN 320 695 356
VAT N°FR 19320695356

IEC 61850 Client MICS

© 2021 ARC Informatique.
All rights reserved.
Partial or integral reproduction is
prohibited without prior authorization
All names and trademarks are the
property of their respective owners.



ISO 9001 and ISO 14001 certified

We would love to hear your thoughts and suggestions
so we can improve this document
Contact us at team-doc@pcvuesolutions.com