



# PUBLICLY AVAILABLE SPECIFICATION

## PRE-STANDARD

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**Communication networks and systems for power utility automation –  
Part 9-3: Precision time protocol profile for power utility automation**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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ICS 33.200

ISBN 978-2-8322-2725-1

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## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms, definitions, abbreviations and acronyms .....	6
3.1 Terms and definitions .....	6
3.2 Abbreviations and acronyms.....	7
4 Identification.....	7
5 Clock types .....	7
6 Protocol specifications.....	8
7 Requirements .....	8
7.1 Measurement conditions.....	8
7.2 Network time inaccuracy .....	9
7.3 Network elements .....	9
7.4 Requirements for grandmasters.....	9
7.4.1 Grandmaster time inaccuracy.....	9
7.4.2 Grandmaster holdover.....	9
7.4.3 Grandmaster clockClass in holdover and recovery.....	9
7.5 Requirements for TCs .....	9
7.6 Requirements for BCs .....	10
7.6.1 BC time inaccuracy.....	10
7.6.2 BC as free-running grandmaster.....	10
7.6.3 BC as master in holdover .....	10
7.7 Requirements for media converters.....	10
7.8 Requirements for links.....	10
7.9 Network engineering .....	10
8 Default settings .....	11
9 Redundant clock handling.....	12
10 Protocol Implementation Conformance Statement (PICS) .....	12
10.1 Conventions.....	12
10.2 PICS.....	12
Table 1 – PTP attributes for the Power Utility Automation profile.....	11
Table 2 – PICS for clocks.....	12

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

#### Part 9-3: Precision time protocol profile for power utility automation

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The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document

<b>Draft PAS</b>	<b>Report on voting</b>
57/1551/PAS	57/1575/RVD

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

Withdrawn

## INTRODUCTION

This PAS specifies a precision time protocol (PTP) profile of IEC 61588:2009 applicable to power utility automation which allows compliance with the highest synchronization classes of IEC 61850-5 and IEC 61869-9.

This PAS applies Layer 2 communication according to IEC 61588:2009, Annex F, and uses peer-to-peer delay measurement according to the IEC 61588:2009, Annex J.4, default profile with restricted range values.

When clocks have a single attachment, this profile is a subset of IEC 61588:2009 with the above restrictions.

When clocks have an optional double attachment, this profile extends the BMCA of IEC 61588:2009 as IEC 62439-3:2015, Annex A, specifies.

Withdrawn

## COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

### Part 9-3: Precision time protocol profile for power utility automation

#### 1 Scope

This PAS specifies a precision time protocol (PTP) profile of IEC 61588:2009 applicable to power utility automation which allows compliance with the highest synchronization classes of IEC 61850-5 and IEC 61869-9.

#### 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 61588:2009, *Precision clock synchronization protocol for networked measurement and control systems*

IEC TR 61850-90-4:2013, *Communication networks and systems for power utility automation – Part 90-4: Network engineering guidelines*

IEC 62439-3:2015, *Industrial communication networks – High availability automation networks – Part 3: Parallel Redundancy Protocol (PRP) and High-availability Seamless Redundancy (HSR)*

ISO/IEC 9646-7, *Open systems interconnection – Conformance testing methodology and framework – Part 7: Implementation conformance statements*