SLOVENSKI STANDARD
SIST EN IEC 62439-2:2022

01-junij-2022

Nadomešča:
SIST EN 62439-2:2018
SIST EN 62439-2:2018/AC:2018

Industrijska komunikacijska omrežja - Omrežja za avtomatizacijo z visoko razpoložljivostjo - 2. del: Protokol z redundanco medijev (MRP) (IEC 62439-2:2021)

Industrial communication networks - High availability automation networks - Part 2: Media Redundancy Protocol (MRP) (IEC 62439-2:2021)

Industrielle Kommunikationsnetze: Hochverfügbare Automatisierungsnetze - Teil 2: Medienredundanz-Protokoll (MRP) (IEC 62439-2:2021)

Réseaux industriels de communication - Réseaux d'automatisme à haute disponibilité - Partie 2: Media Redudancy Protocol (MRP) (IEC 62439-2:2021)

Ta slovenski standard je istoveten z: **EN IEC 62439-2:2022**

ICS:

25.040.01	Sistemi za avtomatizacijo v industriji na splošno	Industrial automation systems in general
35.110	Omreževanje	Networking

SIST EN IEC 62439-2:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62439-2

February 2022

ICS 25.040.40; 35.100.05

Supersedes EN 62439-2:2017 and all of its amendments and corrigenda (if any)

English Version

Industrial communication networks - High availability automation networks - Part 2: Media Redundancy Protocol (MRP) (IEC 62439-2:2021)

Réseaux de communication industriels - Réseaux de haute disponibilité pour l'automatisation - Partie 2: Protocole de redondance du support (MRP) (IEC 62439-2:2021)

Industrielle Kommunikationsnetze: Hochverfügbare Automatisierungsnetze - Teil 2: Medienredundanz-Protokoll (MRP) (IEC 62439-2:2021)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 65C/1118/FDIS, future edition 3 of IEC 62439-2, prepared by SC 65C "Industrial networks" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62439-2:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-10-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-01-19

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Endorsement notice

The text of the International Standard IEC 62439-2:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61158-1 NOTE Harmonized as EN IEC 61158-1

IEC 61784-1 NOTE Harmonized as EN IEC 61784-1

IEC 61784-2 NOTE Harmonized as EN IEC 61784-2

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-192	-	International Electrotechnical Vocabulary (IEV) - Part 192: Dependability	-	-
IEC 61158-6-10	2019	Industrial communication networks - Fieldbus specifications - Part 6-10: Application layer protocol specification - Type 10 elements	EN IEC 61158-6-10	2019
IEC 62439-1	2010	Industrial communication networks - High availability automation networks - Part 1: General concepts and calculation methods	EN 62439-1	2010
AMD1	2012		A1	2012
AMD2	2016		A2	2017
ISO/IEC 10164-1		Information technology - Open Systems Interconnection - Systems Management: Object Management Function	-	-
ISO/IEC/IEEE 8802-3		Telecommunications and exchange between information technology systems - Requirements for local and metropolitan area networks - Part 3: Standard for Ethernet	-	-
IEEE Std 802.1Q	2018	IEEE Standard for Local and Metropolitan Area Network - Bridges and Bridged Networks	-	-
IEEE Std 802.3	2018	IEEE Standard for Ethernet	-	-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Industrial communication networks – High availability automation networks – Part 2: Media Redundancy Protocol (MRP)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INDUSTRIAL COMMUNICATION NETWORKS – HIGH AVAILABILITY AUTOMATION NETWORKS –

Part 2: Media Redundancy Protocol (MRP)

FOREWORD

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IEC 62439-2 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.

This third edition cancels and replaces the second edition published in 2016. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) improvements for the Continuity Check Protocol,
b) introduction of further specifiers for the rings, the interconnection links, and the device roles,
c) extensions and information on the use of baudrates smaller than 100 Mbit/s,
d) information on using MRP together with scheduling and shaping mechanisms,
e) introduction of an MRP Interconnection profile for a 30 ms reconfiguration time.

The text of this International Standard is based on the following documents:

Draft	Report on voting
65C/1118/FDIS	65C/1137/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This International Standard is to be read in conjunction with IEC 62439-1.

A list of all parts of the IEC 62439 series, published under the general title *Industrial communication networks – High availability automation networks*, can be found on the IEC website.

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The IEC 62439 series specifies relevant principles for high availability networks that meet the requirements for industrial automation networks.

In the fault-free state of the network, the protocols of the IEC 62439 series provide ISO/IEC/IEEE 8802-3 (IEEE Std 802.3™) compatible, reliable data communication, and preserve determinism of real-time data communication. In cases of fault, removal, and insertion of a component, they provide deterministic recovery times.

These protocols retain fully the typical Ethernet communication capabilities as used in the office world, so that the software involved remains applicable.

The market is in need of several network solutions, each with different performance characteristics and functional capabilities, matching diverse application requirements. These solutions support different redundancy topologies and mechanisms which are introduced in IEC 62439-1 and specified in the other Parts of the IEC 62439 series. IEC 62439-1 also distinguishes between the different solutions, giving guidance to the user.

The IEC 62439 series follows the general structure and terms of the IEC 61158 series.

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