

© Copyright SEK. Reproduction in any form without permission is prohibited.

Larmsystem – Del 11-32: Passerkontrollsyste m – IP-interoperabilitet baserad på webbtjänster – Övervakning av passerkontroll

*Alarm and electronic security systems –
Part 11-32: Electronic access control systems –
Access control monitoring based on Web services*

Som svensk standard gäller europastandarden EN 60839-11-32:2017. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60839-11-32:2017.

Nationellt förord

Europastandarden EN 60839-11-32:2017

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60839-11-32, First edition, 2016 - Alarm and electronic security systems -
Part 11-32: Electronic access control systems -
Access control monitoring based on Web services**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 13.320.00

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

March 2017

ICS 13.320

English Version

Alarm and electronic security systems -
Part 11-32: Electronic access control systems - Access control
monitoring based on Web services
(IEC 60839-11-32:2016)

Systèmes d'alarme et de sécurité électroniques -
Partie 11-32: Systèmes de contrôle d'accès électronique -
Commande de contrôle d'accès en fonction des services
Web
(IEC 60839-11-32:2016)

Alarmanlagen - Teil 11-32: Elektronische
Zutrittskontrollanlagen - IP Interoperabilität auf Basis von
Webservices - Spezifikation der Zutrittskontrolle
(IEC 60839-11-32:2016)

This European Standard was approved by CENELEC on 2016-12-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 79/523/CDV, future edition 1 of IEC 60839-11-32, prepared by IEC/TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60839-11-32:2017.

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) 2017-09-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-12-29

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60839-11-32:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60839-11-31 NOTE Harmonized as EN 60839-11-31.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

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.

NOTE 1 When 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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60839-11-1	-	Alarm and electronic security systems - Part 11-1: Electronic access control systems - System and components requirements	EN 60839-11-1	-
IEC 60839-11-2	-	Alarm and electronic security systems - Part 11-2: Electronic access control systems - Application guidelines	EN 60839-11-2	-

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms, definitions and abbreviated terms	8
3.1 Terms and definitions	8
3.2 Abbreviated terms	10
4 Overview	10
4.1 Interoperability	10
4.2 Event handling	10
4.3 Architecture	10
4.4 External authorization (Overriding)	11
4.5 Security considerations	11
4.6 Door (access point) control	12
4.7 Design considerations	12
4.7.1 Instance-level capabilities	12
4.7.2 Retrieving status	12
4.7.3 Retrieving system configuration	12
5 Access control	13
5.1 General	13
5.2 Service capabilities	13
5.2.1 General	13
5.2.2 Data structures: ServiceCapabilities	13
5.2.3 GetServiceCapabilities command	13
5.3 Access point (portal side) information	14
5.3.1 Data structures	14
5.3.2 GetAccessPointInfoList command	15
5.3.3 GetAccessPointInfo command	16
5.4 Area information	17
5.4.1 Data structures: AreaInfo	17
5.4.2 GetAreaInfoList command	17
5.4.3 GetAreaInfo command	17
5.5 Access point (portal side) status	18
5.5.1 General	18
5.5.2 Data structures: AccessPointState	18
5.5.3 GetAccessPointState command	18
5.6 Access control commands	19
5.6.1 General	19
5.6.2 Data structures: Decision enumeration	19
5.6.3 EnableAccessPoint command	19
5.6.4 DisableAccessPoint command	20
5.6.5 ExternalAuthorization command	20
5.7 Notification topics	21
5.7.1 Event overview	21
5.7.2 General transaction event layout	21
5.7.3 Access granted	22

5.7.4	Access taken	23
5.7.5	Access not taken	23
5.7.6	Access denied	24
5.7.7	Duress	26
5.7.8	External authorization (Override)	26
5.7.9	Status changes	28
5.7.10	Configuration changes	28
6	Door (access point) control	29
6.1	General	29
6.2	Service capabilities	29
6.2.1	General	29
6.2.2	Data structures: ServiceCapabilities	29
6.2.3	GetServiceCapabilities command	29
6.3	Door (access point) information	30
6.3.1	Data structures	30
6.3.2	GetDoorInfoList command	31
6.3.3	GetDoorInfo command	32
6.4	Door (access point) status	33
6.4.1	General	33
6.4.2	Data structures	33
6.4.3	GetDoorState command	35
6.5	Door (access point) control commands	36
6.5.1	General	36
6.5.2	AccessDoor command	36
6.5.3	LockDoor command	37
6.5.4	UnlockDoor command	38
6.5.5	BlockDoor command	38
6.5.6	LockDownDoor command	39
6.5.7	LockDownReleaseDoor command	39
6.5.8	LockOpenDoor command	40
6.5.9	LockOpenReleaseDoor command	40
6.5.10	DoubleLockDoor command	41
6.6	Notification Topics	42
6.6.1	General	42
6.6.2	Status changes	42
6.6.3	Configuration changes	43
Annex A (normative)	Access control interface XML schemata	45
A.1	Access control service WSDL	45
A.2	Door control service WSDL	52
A.3	Common schema	62
Annex B (informative)	Mapping of mandatory functions in IEC 60839-11-1	64
Bibliography	73
Figure 1 – Schematic overview of an access controlled door.....	11	
Table 1 – GetServiceCapabilities command	14	
Table 2 – GetAccessPointInfoList command	16	
Table 3 – GetAccessPointInfo command	16	

Table 4 – GetAreaInfoList command	17
Table 5 – GetAreaInfo command.....	18
Table 6 – GetAccessPointState command.....	19
Table 7 – EnableAccessPoint command.....	19
Table 8 – DisableAccessPoint command.....	20
Table 9 – ExternalAuthorization command	20
Table 10 – GetServiceCapabilities command	30
Table 11 – GetDoorInfoList command	32
Table 12 – GetDoorInfo command.....	32
Table 13 – GetDoorState command	36
Table 14 – AccessDoor command.....	37
Table 15 – LockDoor command.....	37
Table 16 – UnlockDoor command	38
Table 17 – BlockDoor command	38
Table 18 – LockDownDoor command	39
Table 19 – LockDownReleaseDoor command	40
Table 20 – LockOpenDoor command	40
Table 21 – LockOpenReleaseDoor command.....	41
Table 22 – DoubleLockDoor command.....	41
Table B.1 – Access point interface requirements.....	64
Table B.2 – Indication and annunciation requirements	65
Table B.3 – Recognition requirements	69
Table B.4 – Duress signalling requirements	71
Table B.5 – Overriding requirements.....	71
Table B.6 – System self protection requirements	72

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ALARM AND ELECTRONIC SECURITY SYSTEMS –**Part 11-32: Electronic access control systems –
Access control monitoring based on Web services****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 itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 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.

International Standard IEC 60839-11-32 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

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

CDV	Report on voting
79/523/CDV	79/547/RVC

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

A list of all parts in the IEC 60839 series, published under the general title *Alarm and electronic security systems*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

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

This document makes it possible to build an alarm and electronic security system with clients, typically a monitoring console, and devices, typically an access control unit, from different manufacturers using common and well defined interfaces.

This document specifies only the data and control flow between a client and the services without reference to any physical device as the services required to implement a compliant electronic access control system (EACS) are not necessarily implemented on a single device, i.e. all services can be run on a control panel, event aggregator software on PC, etc.

This document does not define internal communication between an access control unit and its components if they are implemented on a single device.

This document is based upon work done by the ONVIF open industry forum. The ONVIF Access Control specification and ONVIF Door Control specification are compatible with this document.

This document is accompanied by a set of computer readable interface definitions:

- Access control service WSDL, see Clause A.1;
- Door control service WSDL, see Clause A.2;
- Common schema, see Clause A.3;

Due to the differences in terminology used in IEC 60839-11-1, IEC 60839-11-2 and the ONVIF specification that this part of IEC 60839 is based on, a reader should take special notice of the terms and definitions clause.

Additional services needed for configuration of an EACS such as definitions of schedules, handling of access rules, readers and credentials are outside the scope of this document. These services will be covered by other parts of the IEC 60839-11-3x family of standards.

ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 11-32: Electronic access control systems – Access control monitoring based on Web services

1 Scope

This part of IEC 60839 defines the Web services interface for electronic access control systems. This includes listing electronic access control system components, their logical composition, monitoring their states and controlling them. It also includes a mapping of mandatory and optional requirements as per IEC 60839-11-1.

This document applies to physical security only. Physical security prevents unauthorized personnel, attackers or accidental intruders from physically accessing a building, room, etc.

Web services usage and device management functionality are outside of the scope of this document. Refer to IEC 60839-11-31 for more information.

This document does not in any way limit a manufacturer to add other protocols or extend the protocol defined here. For rules on how to accomplish this refer to IEC 60839-11-31.

2 Normative references

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.

IEC 60839-11-1, *Alarm and electronic security systems – Part 11-1: Electronic access control systems – System and components requirements*

IEC 60839-11-2, *Alarm and electronic security systems – Part 11-2: Electronic access control systems – Application guidelines*