SVENSK STANDARD SS-EN 61512-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2002-12-04	1	1 (1+103)	SEK TK 65

Satsstyrning –
Del 2: Datastrukturer och vägledning beträffande språk

Batch control –
Part 2: Data structures and guidelines for languages

Som svensk standard gäller europastandarden EN 61512-2:2002. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61512-2:2002.

Nationellt förord

Europastandarden EN 61512-2:2002*)

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61512-2, First edition, 2001 - Batch control - Part 2: Data structures and guidelines for languages**

utarbetad inom International Electrotechnical Commission, IEC.

*) EN 61512-2:2002 ikraftsattes 2002-12-04 som SS-EN 61512-2 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

ICS 35.240.50

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@elstandard.se. *Internet*: www.elstandard.se

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven 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

EUROPEAN STANDARD **EN 61512-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM October 2002

ICS 35.240.50

English version

Batch control
Part 2: Data structures and guidelines for languages
(IEC 61512-2:2001)

Contrôle-commande des processus
de fabrication par lots (batch)
Partie 2: Structures de données et
règles générales relatives aux langages
(CEI 61512-2:2001)

Chargenorientierte Fahrweise
Teil 2: Datenstrukturen und Leitfaden
für Sprachen
(IEC 61512-2:2001)

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61512-2:2002 E

SEK Svensk Elstandard

Foreword

The text of the International Standard IEC 61512-2:2001, prepared by SC 65A, System aspects, of IEC TC 65, Industrial-process measurement and control, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 61512-2 on 2002-10-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-10-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B and ZA are normative and annexes C, D and E are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61512-2:2001 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-351	1998	International Electrotechnical Vocabulary Part 351: Automatic control	-	-
IEC 60848 [1)]	1988	Preparation of function charts for control systems	-	-
IEC 61131-3	1993	Programmable controllers Part 3: Programming languages	EN 61131-3	1993
IEC 61512-1	1997	Batch control Part 1: Models and terminology	EN 61512-1	1999
ISO/IEC 9075	1992	Information processing systems - Database language SQL with integrity enhancement	-	-

[1)] IEC 60848:2002 is harmonized as EN 60848:2002.

CONTENTS

INTRODUCTION

Part 1 of this International Standard on batch control provides models and terminology applicable to batch control. Part 2 addresses data structures and guidelines for languages. Data structures are addressed by the data model that is defined in clause 4 that more precisely identifies objects and relationships that were addressed by models and concepts of part 1. Data structures are also addressed by relational tables for information exchange that are defined in clause 5. Languages are addressed by a recipe depiction methodology that is defined in clause 6.

The intended use of the data model is to provide a starting point for developing interface specifications for software components that address any subset of part 1 of this standard. The data model addresses all of part 1 of this standard as an integrated object model, but it does not presume or preclude any specific system architecture or information exchange. The model does not assume any specific division of functionality between systems.

A specific method for the exchange of selected data is defined in clause 5. Relational tables are used as the information exchange method because, within the bounds of the information treated, they:

– utilise broadly available technologies;
– are amenable to translation to other technologies;
– are adequate;
– are consistent with other sections of the standard.

Multiple methods of information transfer have not been defined, nor has there been an attempt to identify all information that might be exchanged. In the future, additional methods may be defined to provide alternate ways of exchanging data.

Clause 6 defines the symbols and rules for a graphical language that can be used to depict recipes. Recipes are the central feature of batch control and they can address a wide range of complexity, but there is no one depiction that is ideal for all circumstances. A simple table, for example, might be the most appropriate recipe form for simple cases. This standard specifies a method for depiction of master and control recipe procedures that can be applied over a broader range of complexity.

Although this standard is intended primarily for batch processes, it may be of considerable value for other types of processes.

BATCH CONTROL –

Part 2: Data structures and guidelines for languages

1 Scope

This part of this standard on batch control defines data models that describe batch control as applied in the process industries, data structures for facilitating communications within and between batch control implementations and language guidelines for representing recipes. Refer to Annex A for an explanation of the UML notation that is used in this part of this standard. Refer to Annex B for a summary of all of the SQL definitions from clause 5.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61512. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61512 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60848:1988, *Preparation of function charts for control systems*

IEC 60050-351:1998, *Industrial-process measurement and control – Terms and definitions*

IEC 61131-3:1993, *Programmable controllers – Part 3: Programming languages*

IEC 61512-1:1997, *Batch control – Part 1: Models and terminology*

ISO/IEC 9075:1992, *Information processing systems – Database language – SQL with integrity enhancement*