Irish Standard
I.S. EN 62382:2013

Control systems in the process industry - Electrical and instrumentation loop check (IEC 62382:2012 (EQV))

I.S. EN 62382:2013

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English version

Control systems in the process industry - Electrical and instrumentation loop check
(IEC 62382:2012)

Systèmes de commande pour les procédés industriels - Contrôle de boucle des circuits électriques et des appareillages (CEI 62382:2012)

Leittechnische Systeme in der verfahrenstechnischen Industrie - PLT-Stellenprüfung (IEC 62382:2012)

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

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Ref. No. EN 62382:2013 E

Foreword

The text of document 65E/271/FDIS, future edition 2 of IEC 62382, prepared by SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62382:2013.

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)	2013-09-13
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-12-13

This document supersedes EN 62382:2007.

EN 62382:2013 includes the following significant technical changes with respect to EN 62382:2007:

- The definition of the documents mentioned in the standards is in accordance with EN 62708 [1)]: *Documents for electrical and instrumentation projects in the process industry*.
- Subclause 6.3 has been revised.

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 62382:2012 was approved by CENELEC as a European Standard without any modification.

1) Under consideration.

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 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 61131	Series	Programmable controllers	EN 61131	Series
IEC 62337	-	Commissioning of electrical, instrumentation and control systems in the process industry - Specific phases and milestones	EN 62337	-
IEC 62424	-	Representation of process control engineering - Requests in P&I diagrams and data exchange between P&ID tools and PCE-CAE tools	EN 62424	-
IEC 62708 [1)]	-	Documents for electrical and instrumentation projects in the process industry	prEN 62708	-

[1)] Under consideration.

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONTROL SYSTEMS IN THE PROCESS INDUSTRY – ELECTRICAL AND INSTRUMENTATION LOOP CHECK

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.
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International Standard IEC 62382 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

– The definition of the documents mentioned in the standards is in accordance with IEC 62708: *Documents for Electrical and Instrumentation Projects in the Process Industry*.
– Subclause 6.3 has been revised.

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

FDIS	Report on voting
65E/271/FDIS	65E/282/RVD

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.

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

The inspection and verification of the individual measurements and controls in conjunction with the control systems used to monitor these devices (DCS, PLC, etc.) is referred to as loop check. In industry, numerous methods and philosophies are used to check the instrumentation and controls after mechanical installation within projects for modified or new facilities.

This standard was created to provide a better understanding of what loop check consists of and also to provide a standard methodology for executing a loop check.

The annexes of this standard contain forms which may be used in the check procedures. Buyers of this standard may copy these forms for their own purposes only in the required amount.

CONTROL SYSTEMS IN THE PROCESS INDUSTRY – ELECTRICAL AND INSTRUMENTATION LOOP CHECK

1 Scope

This International Standard describes the steps recommended to complete a loop check, which comprises the activities between the completion of the loop construction (including installation and point-to-point checks) and the start-up of cold commissioning. This standard is applicable for the construction of new plants and for expansion/retrofits (i.e. revamping) of E&I installations in existing plants (including PLC, BAS, DCS, panel-mounted and field instrumentation). It does not include a detailed checkout of power distribution systems, except as they relate to the loops being checked (i.e. a motor starter or a power supply to a four-wire transmitter).

For application in the pharmaceutical or other highly specialized industries, additional guidelines (for example, Good Automated Manufacturing Practice (GAMP)), definitions and stipulations should apply in accordance with existing standards, for example, for GMP Compliance 21 CFR (FDA) and the Standard Operating Procedure of the European Medicines Agency (SOP/INSP/2003).

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 61131 (all parts), *Programmable controllers*

IEC 62337, *Commissioning of electrical, instrumentation and control systems in the process industry – Specific phases and milestones*

IEC 62424,*Representation of process control engineering – Requests in P&I diagrams and data exchange between P&ID tools and PCE-CAE tools*

IEC 62708, *Documents for Electrical and Instrumentation Projects in the Process Industry*[1]

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
precommissioning
phase, during which the activities of non-operating adjustments, cold alignment checks, cleaning, and testing of machinery take place

EXAMPLE Please refer to the annexes.

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1 This standard is under consideration.