US NATIONAL FOREWORD

In order to promote consistency in usage across IEC member countries, ISA is adopting IEC 62381:2024, *Automation systems in the process industry – Factory acceptance test (FAT), site acceptance test (SAT), and site integration test (SIT),* as an ISA and American National Standard.

The following American National Standard should be substituted for the normative reference in this document.

American National Standard Version	IEC Version
ANSI/ISA-62382-2026 / IEC 62382:2024, *Control systems in the process industry – Electrical and instrumentation loop check (IEC 62382:2024 IDT)*	IEC 62382, *Control systems in the process industry – Electrical and instrumentation loop check*

The following American National Standards should be substituted for the informational references in this document.

American National Standard Version	IEC Version
ANSI/ISA-61511-1/IEC 61511-1, *Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Part 1: Framework, Definitions, System, Hardware and Application Programming Requirements* ANSI/ISA-61511-2/IEC 61511-2, *Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Part 2: Guidelines for the Application of IEC 61511-1 (IEC 61511-2 IDT)* ANSI/ISA-61511-3/IEC 61511-3, *Functional Safety – Safety Instrumented Systems for the Process Industry Sector – Part 3: Guidance for the Determination of the Required Safety Integrity Levels (IEC 61511-3 IDT)*	IEC 61511 (all parts), *Functional safety – Safety instrumented systems for the process industry sector*
ISA-TR99.00.01, *Security Technologies for Industrial Automation and Control Systems* ISA-62443-1-1, *Security for Industrial Automation and Control Systems – Part 1-1: Terminology, Concepts and Models* ANSI/ISA-62443-2-1, *Security for Industrial Automation and Control Systems – Part 2-1: Security Program Requirements for IACS Asset Owners* ISA-TR62443-2-2, *Security for Industrial Automation and Control Systems, Part 2-2: IACS Security Protection Scheme* ISA-TR62443-2-3, *Security for Industrial Automation and Control Systems – Part 2-3: Patch Management in the IACS Environment* ANSI/ISA-62443-2-4/IEC 62443-2-4, *Security for Industrial Automation and Control Systems – Part 2-4: Security Program Requirements for IACS Service Providers (IEC 62443-2-4 IDT)* ANSI/ISA-62443-3-2, *Security for Industrial Automation and Control Systems – Part 3-2: Security Risk Assessment for System Design*	IEC 62443 (all parts), *Industrial communication networks – Network and system security*

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American National Standard Version	IEC Version
ANSI/ISA-62443-3-3, *Security for Industrial Automation and Control Systems – Part 3-3: System Security Requirements and Security Levels* ANSI/ISA-62443-4-1, *Security for Industrial Automation and Control Systems – Part 4-1: Secure Product Development Lifecycle Requirements* ANSI/ISA-62443-4-2, *Security for Industrial Automation and Control Systems – Part 4-2: Technical Security Requirements for IACS Components*	

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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AUTOMATION SYSTEMS IN THE PROCESS INDUSTRY – FACTORY ACCEPTANCE TEST (FAT), SITE ACCEPTANCE TEST (SAT), AND SITE INTEGRATION TEST (SIT)

FOREWORD

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IEC 62381 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, 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 2012. This edition constitutes a technical revision.

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

a) general reorganization of the standard;

b) current technology incorporated;

c) optional factory integration test (FIT) added;

d) replaced the forms in the annexes with detailed checklists of activities which can be used to develop project-specific test plans; and

e) provided additional references to other applicable standards.

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

Draft	Report on voting
65E/1080/FDIS	65E/1092/RVD

Full information on the voting for its approval 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/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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INTRODUCTION

There is an increasing trend in the process industry to shorten the time period for project execution. At the same time, the complexity of automation systems is being increased due to the number of connected systems and the use of new technologies, for example, wired and wireless field sensor networks.

Experience has shown that the owner, the buyer and the vendor have long and extensive discussions to unambiguously establish the scope of activities and responsibilities in order to achieve timely delivery and acceptance of automation systems.

This document provides requirements and guidance on acceptance testing of control system installations, which can lead to a mutual understanding about the scope of activities of each party.

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