

INTERNATIONAL STANDARD

IEC 62381

First edition
2006-11

Automation systems in the process industry – Factory acceptance test (FAT), site acceptance test (SAT), and site integration test (SIT)

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

W

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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International Standard IEC 62381 has been prepared by IEC technical committee 65: Industrial-process measurement and control.

This standard cancels and replaces IEC/PAS 62381 published in 2004. This first edition constitutes a technical revision.

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

FDIS	Report on voting
65/385/FDIS	65/394/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 maintenance result 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

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, fieldbus systems.

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

This standard should lead to an improvement and acceleration of the negotiation phase and to a mutual understanding about the scope of activities of each party

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

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).

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

1 Scope

This International Standard defines procedures and specifications for the Factory Acceptance Test (FAT), the Site Acceptance Test (SAT), and the Site Integration Test (SIT). These tests are carried out to prove that the automation system is in accordance with the specification.

Engineering and manufacturing activities prior to these tests are not covered by this standard.

The description of activities described in this standard can be taken as a guideline and adapted to the specific requirements of the process/plant/equipment. A typical sequence of activities and events is shown in Figure 1, their relationship in Figures 2 and 3.