INTERNATIONAL STANDARD

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Transmitters for use in industrial-process control systems –

Part 2: Methods for inspection and routine testing

Transmetteurs utilisés dans les systèmes de conduite des processus industriels –

Partie 2:
Méthodes pour l'inspection et les essais individuels de série

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 60770-2 has been prepared by subcommittee 65B: Devices, of IEC technical committee 65: Industrial-process measurement and control.

This second edition cancels and replaces the first edition published in 1989 and constitutes a technical revision.

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

FDIS	Report on voting
65B/468/FDIS	65B/477/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.

A bilingual edition may be issued at a later date.

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

The methods of inspection and routine testing specified in this standard are intended for use in acceptance tests or after repair to verify the fulfilment of the performance specifications as established by the user. The methods given in this standard are primarily intended for the testing of conventional analogue transmitters. For setting up test procedures for microprocessor-based instruments IEC 62098 should be consulted.

TRANSMITTERS FOR USE IN INDUSTRIAL-PROCESS CONTROL SYSTEMS –

Part 2: Methods for inspection and routine testing

1 Scope and object

This part of IEC 60770 is applicable to transmitters, which have either a standard analogue electric current output signal or a standard pneumatic output signal in accordance with IEC 60381-1 or IEC 60382. The tests detailed herein may be applied to transmitters which have other output signals, provided that due allowance is made for such differences.

For certain types of transmitters, where the sensor is an integral part, other specific IEC or ISO standards may need to be consulted (e.g. for chemical analyzers, flow-meters, etc.)

This standard is intended to provide technical methods for inspection and routine testing of transmitters, for instance, for acceptance tests or after repair. For a full evaluation, IEC 60770-1 shall be used.

Quantitative criteria for acceptable performance should be established by agreement between manufacturer and user.

By agreement the tests need not be carried out by an accredited laboratory.

2 Normative references

At the time of the publication the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on these normative documents are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050-351:1998, *International Electrotechnical Vocabulary – Part 351: Automatic Control*

IEC 60381-1:1982, *Analogue signals for process control systems – Part 1: Direct current signals*

IEC 60382:1991, *Analogue pneumatic signal for process control systems*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 60770-1:1999, *Transmitters for use in industrial-process control systems – Part 1: Methods for performance evaluation*

IEC 61298-1:1995, *Process measurement and control devices. – General methods and procedures for evaluating performance – Part 1: General considerations*

IEC 61298-2:1995, *Process measurement and control devices – General methods and procedures for evaluation performance – Part 2: Test under reference conditions*

IEC 61298-3:1998, *Process measurement and control devices – General methods and procedures for evaluating performance – Part 3: Tests for the effects of influence quantities*

IEC 61298-4:1995, *Process measurement and control devices – General methods and procedures for evaluating performance – Part 4: Evaluation report content*

IEC 62098:2000, *Evaluation methods for microprocessor-based instruments*