
**Condition monitoring and diagnostics
of machines — Data processing,
communication and presentation —**

Part 3:
Communication

*Surveillance et diagnostic d'état des machines — Traitement, échange
et présentation des données —*

Partie 3: Échange



This document is a preview generated by EVS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Open CM&D information architecture communication requirements	1
4.1 Overview	1
4.2 Reference data library communication requirements	2
4.3 Communications initiation requirements	2
4.4 Message content requirements	2
5 Open CM&D processing architecture communication requirements	2
5.1 Overview	2
5.2 Diverse technologies and UML representation	3
5.3 Interface types and general interaction	4
5.4 Specific ISO 13374-2 interface method requirements	7
5.5 Data provider specification support considerations	8
Annex A (informative) Open CM&D information architecture based on IEC 62264-5^[1]	10
Bibliography	21

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13374-3 was prepared by Technical Committee ISO/TC 108, *Mechanical vibration, shock and condition monitoring*, Subcommittee SC 5, *Condition monitoring and diagnostics of machines*.

ISO 13374 consists of the following parts, under the general title *Condition monitoring and diagnostics of machines — Data processing, communication and presentation*:

- *Part 1: General guidelines*
- *Part 2: Data processing*
- *Part 3: Communication*

The following part is planned:

- *Part 4: Presentation*

Introduction

The various computer software systems written for condition monitoring and diagnostics (CM&D) of machines that are currently in use cannot easily exchange data or operate in a plug-and-play fashion without an extensive communication infrastructure. The lack of an all-purpose communication system makes it difficult to integrate various CM&D sub-systems and provide a unified view of the condition of machinery to users. The intent of ISO 13374 is to provide the basic requirements for open CM&D software architecture in order to allow CM&D information to be processed, communicated and displayed by various software packages independent of platform-specific or hardware-specific protocols.

ISO 13374-1 gives a general overview of data processing, communication and presentation. ISO 13374-2 provides greater details of the data-processing methodology and requirements present in today's software-enhanced systems. This part of ISO 13374 provides the requirements of the data communication architecture for open CM&D systems.

Condition monitoring and diagnostics of machines — Data processing, communication and presentation —

Part 3: Communication

1 Scope

This part of ISO 13374 specifies requirements for data communication for an open condition monitoring and diagnostics (CM&D) reference information architecture and for a reference processing architecture. Software design professionals require communications to be defined for exchange of CM&D information between software systems. This part of ISO 13374 facilitates the interoperability of CM&D systems.

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.

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO 13372, *Condition monitoring and diagnostics of machines — Vocabulary*

ISO 13374-1:2003, *Condition monitoring and diagnostics of machines — Data processing, communication and presentation — Part 1: General guidelines*

ISO 13374-2:2007, *Condition monitoring and diagnostics of machines — Data processing, communication and presentation — Part 2: Data processing*

ISO/IEC 19501, *Information technology — Open Distributed Processing — Unified Modeling Language (UML) Version 1.4.2*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13372 apply.

4 Open CM&D information architecture communication requirements

4.1 Overview

An information architecture describes all the data objects and their properties (or attributes), property data types, data object relationships, reference data, and data documents for a given system or application. As specified in ISO 13374-2, an open CM&D information architecture describes the content for each of the five layers shown in Figure 1.