PD ISO/TR 11462-5:2023



BSI Standards Publication

Guidelines for implementation of statistical process control (SPC)

Part 5: Quality data exchange format for SPC software

bsi.

National foreword

This Published Document is the UK implementation of ISO/TR 11462-5:2023.

The UK participation in its preparation was entrusted to Technical Committee SS/4, Statistical Process Management.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication is not to be regarded as a British Standard.

© The British Standards Institution 2023
Published by BSI Standards Limited 2023

ISBN 978 0 539 25004 6

ICS 03.120.30

Compliance with a Published Document cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 October 2023.

Amendments/corrigenda issued since publication

Date	Text affected

PD ISO/TR 11462-5:2023

TECHNICAL REPORT

ISO/TR 11462-5

First edition
2023-09-28

Guidelines for implementation of statistical process control (SPC) —

Part 5: Quality data exchange format for SPC software

Lignes directrices pour la mise en oeuvre de la maîtrise statistique des processus (MSP) —

Partie 5: Format d'échange de jeux de données relatives à la qualité pour les logiciels MSP



Reference number
ISO/TR 11462-5:2023(E)

© ISO 2023



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ... **iv**
Introduction ... **v**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions, and symbols and abbreviated terms ... **1**
3.1 Terms and definitions ... 1
3.2 Symbols and abbreviated terms ... 1
3.2.1 Symbols ... 1
3.2.2 Abbreviations ... 2
4 Data model ... **2**
4.1 Basic data model structure ... 2
4.2 Types of data ... 3
4.3 General notation regulations ... 4
5 Description and listing of the key fields ... **5**
5.1 General ... 5
5.2 List of key fields for parts data ... 5
5.3 List of key fields for characteristics data ... 6
5.4 List of key fields for measured values data ... 9
5.5 List of key fields for structural data ... 10
5.6 List of key fields for quality control charts data ... 11
6 Applications ... **11**
6.1 General ... 11
6.2 Process qualification ... 12
6.3 Writing modes ... 12
7 Catalogues ... **12**
7.1 General ... 12
7.2 List of key fields for catalogues ... 13
Annex A (informative) **Application examples and explanations** ... **16**
Bibliography ... **46**

© ISO 2023 – All rights reserved

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 69, *Applications of statistical methods*, Subcommittee SC 4, *Applications of statistical methods in product and process management*.

A list of all parts in the ISO 11462 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2023 – All rights reserved

Introduction

Online data recording is becoming more and more important. A major advantage is the accurate and reliable recording of data within a minimum of time. It creates the foundation for fast and concise evaluations based on data collected online, and enables validated decision taking.

These possibilities help create more transparency and improve the analysis of internal and external procedures and processes. Thus, online data transfer helps to improve process quality and efficiency as well as to increase customer satisfaction. However, along with the growing possibilities, also the number of possibilities and variations for a multitude of solutions and the degree of complexity increases.

For this reason, the measuring values generating device manufacturers have to invest plenty of time and effort for customer specific adaptations, as well as during the specification and control phase at the customers and with regard to investment cost for implementation. To minimize this effort, a generally valid data format was developed for an exchange of quality data in industrial production that is independent of manufacturer and user.

With the objective to find a satisfactory solution for all parties involved, a number of users of the software function “Data Interface” from the automotive production and supplier industry joined forces to create a standardized and coordinated specification. The objective was to include a group of users in this work group as big as possible, in order to get a representative cross-section through the scope and interpretation of the key fields and their application. The result is a standardized catalogue of the data fields important to every user.

© ISO 2023 – All rights reserved

TECHNICAL REPORT **ISO/TR 11462-5:2023**

Guidelines for implementation of statistical process control (SPC) —

Part 5: Quality data exchange format for SPC software

1 Scope

This document describes a data format for the exchange of quality information:

— the data format is distinguished by a transparent structure that is easy to edit;

— it is flexible, space saving and easily be copied and compacted;

All files are language independent because of the allocation of an explicit key to a language independent field, the content of which can be translated into any language required.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 22514-2, *Statistical methods in process management — Capability and performance — Part 2: Process capability and performance of time-dependent process models*

3 Terms and definitions, and symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22514-2 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.2 Symbols and abbreviated terms

3.2.1 Symbols

Symbols used in this document are identical to symbols used in ISO 22514-2 and ISO 7870-2.

C_{p} process capability index

C_{pk} minimum process capability index

$C_{\mathrm{pk}U}$ upper process capability index

$C_{\mathrm{pk}L}$ lower process capability index

© ISO 2023 – All rights reserved