

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

Second edition  
2000-09-15

---

---

## **Industrial automation systems — Numerical control of machines — NC processor output — File structure and language format**

*Systèmes d'automatisation industrielle — Commande numérique des machines — Informations de sortie des processeurs CN — Structure de fichier et format de langage*



Reference number  
ISO 3592:2000(E)

© ISO 2000

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2000

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.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

## Contents

<b>Foreword</b> .....	v
<b>Introduction</b> .....	vi
<b>1 Scope</b> .....	1
<b>2 Normative references</b> .....	1
<b>3 Co-ordinate system</b> .....	1
<b>4 General structure of CLDATA</b> .....	1
<b>5 CLDATA file structure</b> .....	3
<b>5.1 General comments</b> .....	3
<b>5.2 Letters</b> .....	4
<b>5.3 Digits</b> .....	5
<b>5.4 Special characters</b> .....	6
<b>5.5 Characters</b> .....	7
<b>5.6 Symbol for literal delimiter</b> .....	8
<b>5.7 Literal character strings</b> .....	9
<b>5.8 Symbol for unary operator</b> .....	10
<b>5.9 Integer numbers</b> .....	11
<b>5.10 Real numbers</b> .....	12
<b>5.11 Keywords</b> .....	13
<b>5.12 Symbol for element separator</b> .....	14
<b>5.13 Elements</b> .....	15
<b>5.14 Symbol for record separator</b> .....	16
<b>5.15 Records</b> .....	17
<b>5.16 Symbol for file separator</b> .....	18
<b>5.17 File</b> .....	19
<b>6 Record structure</b> .....	20
<b>6.1 General comments</b> .....	20
<b>6.2 Original program sequence identification</b> .....	21
<b>6.3 Integer code type post processor command</b> .....	22
<b>6.4 Surface data</b> .....	24
<b>6.5 Relative tool position</b> .....	26
<b>6.6 Tool position</b> .....	27

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

<b>6.7</b>	<b>Post processor information .....</b>	<b>29</b>
<b>6.8</b>	<b>Starting information record.....</b>	<b>34</b>
<b>6.9</b>	<b>Relative tool direction .....</b>	<b>35</b>
<b>6.10</b>	<b>Post processor parameters.....</b>	<b>36</b>
<b>6.11</b>	<b>Part program termination .....</b>	<b>39</b>
<b>6.12</b>	<b>Unsegmented tool path .....</b>	<b>40</b>
<b>6.13</b>	<b>Part contour description .....</b>	<b>43</b>
<b>6.14</b>	<b>Literal type post processor command.....</b>	<b>50</b>
<b>6.15</b>	<b>Deferred processing record .....</b>	<b>53</b>
<b>6.16</b>	<b>Proprietary records .....</b>	<b>54</b>
<b>Annex A</b> (normative)		
	<b>Rules for representing the RL on record oriented media.....</b>	<b>55</b>
<b>Annex B</b> (normative)	<b>Rules used in the syntax definitions .....</b>	<b>56</b>

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

## 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3592 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 1, *Physical device control*.

This second edition cancels and replaces the first edition (ISO 3592:1978), which has been technically revised.

Annexes A and B form a normative part of this International Standard.

This is a preview of "ISO 3592:2000". Click here to purchase the full version from the ANSI store.

## **Introduction**

The output of a general purpose numerical control processor is information used as input to a post processor. This information is called CLDATA, which was originally derived from "cutter location data."

CLDATA provides a general language to pass manufacturing information from a numerical control processor to a post processor, where the general language is converted to the specific format required by the particular numerical control equipment.

Numerical control is applied to many types of machines, but the language defined in this International Standard has been developed primarily for numerically controlled machine tools – hence the words "tool" and "part" are used in the description of the language to indicate the working element and processed element respectively. Many of the vocabulary words are also derived from metal working terminology.

The CLDATA reference language (RL) is stream oriented, containing special characters to delimit the elements of the RL. Annex A describes the rules for representing the RL on record oriented media, and it is this representation that is used for the purpose of describing the RL in this International Standard.