

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

Second edition
2000-10-15

Industrial automation systems — Numerical control of machines — NC processor output — Post processor commands

Systèmes d'automatisation industrielle — Commande numérique des machines — Informations de sortie des processeurs CN — Instructions post-processeur



Reference number
ISO 4343:2000(E)

© ISO 2000

This is a preview of "ISO 4343:2000". 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
Web www.iso.ch

Printed in Switzerland

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

Contents

Foreword	viii
Introduction	ix
1 Scope	1
2 Normative references	1
3 Co-ordinate system	1
3.1 Part program reference	1
3.2 Machine program reference	1
3.3 Units of measure	2
4 General structure of post processor commands	2
4.1 NC processor	2
4.2 CLDATA	2
4.3 Post processor	3
5 General language	6
5.1 General comments	6
5.2 The ADAPTV command	8
5.3 The AIR command	9
5.4 The APPLY command	10
5.5 The AUXFUN command	11
5.6 The BREAK command	12
5.7 The CALSUB command	13
5.8 The CLAMP command	14
5.9 The CLDATA command	15
5.10 The COUPLE command	16
5.11 The CUTCOM command	17
5.12 The DEFSUB command	18
5.13 The DELAY command	19
5.14 The DISPLAY command	20
5.15 The END command	21
5.16 The ENDSUB command	22
5.17 The FEDRAT command	23
5.18 The GOHOME command	26

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

5.21	The INCLUD command	29
5.22	The INSERT command	30
5.23	The LEADER command	31
5.24	The LIMIT command	32
5.25	The LOCATE command	33
5.26	The LPRINT command	34
5.27	The MACHIN command	35
5.28	The MATERL command	36
5.29	The MCHFIN command	37
5.30	The MCHTOL command	38
5.31	The MODE command	39
5.32	The MOVETO command	43
5.33	The OPSKIP command	44
5.34	The OPSTOP command	45
5.35	The ORIGIN command	46
5.36	The PARKPT command	47
5.37	The PARTNO command	48
5.38	The PPFUN command	49
5.39	The PPRINT command	50
5.40	The PPTIME command	51
5.41	The PREFUN command	52
5.42	The RAPID command	53
5.43	The RESET command	54
5.44	The REWIND command	55
5.45	The SAFPOS command	56
5.46	The SEQNO command	57
5.47	The STOP command	58
5.48	The SYNCTR command	59
5.49	The TLLIFE command	61
5.50	The TMARK command	62
5.51	The TRANS command	63
6	Die sinking EDM language	64
6.1	General comments	64
6.2	The APPLY command	65
6.3	The CUTCOM command	66
6.4	The FLUSH command	69
6.5	The GENRTR command	72
6.6	The LOAD command	73
6.7	The OP command	74
6.8	The SELECT command	78
6.9	The SPINDL command	79
6.10	The TOOLNO command	83
6.11	The UNLOAD command	84

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

7.1	General comments	85
7.2	The APPLY command	86
7.3	The ASSIST command	87
7.4	The CLDIST command	88
7.5	The PIERCE command	89
7.6	The TORCH command	90
8	Grinding language	91
8.1	General comments	91
8.2	The APPLY command	92
8.3	The DRESS command	93
9	Laser-beam machining language	94
9.1	General comments	94
9.2	The APPLY command	95
9.3	The ASSIST command	96
9.4	The CLDIST command	97
9.5	The CYCLE command	98
9.6	The PIERCE command	101
10	Milling and drilling language	102
10.1	General comments	102
10.2	The APPLY command	103
10.3	The ARCSLP command	104
10.4	The CLAMP command	105
10.5	The CLEARP command	106
10.6	The COOLNT command	107
10.7	The CUTCOM command	108
10.8	The CYCLE command	111
10.9	The HEAD command	133
10.10	The INDPOS command	134
10.11	The LINTOL command	135
10.12	The LOAD command	136
10.13	The ORIGIN command	137
10.14	The RETRCT command	140
10.15	The ROTATE command	141
10.16	The SELECT command	142
10.17	The SPINL command	143
10.18	The TOOLNO command	147
10.19	The UNLOAD command	148
11	Punching and forming language	149
11.1	General comments	149
11.2	The APPLY command	150
11.3	The CLAMP command	151

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

11.6	The PIERCE command	164
11.7	The SELECT command	165
11.8	The TOOLNO command	166
11.9	The UNLOAD command	168
12	Turning language	169
12.1	General comments	169
12.2	The APPLY command	171
12.3	The BARFED command	172
12.4	The CATCHR command	173
12.5	The CHUCK command	174
12.6	The CLAMP command	176
12.7	The COOLNT command	179
12.8	The COUPLE command	180
12.9	The CUTCOM command	181
12.10	The DEFCON command	182
12.11	The LOAD command	183
12.12	The MODE command	184
12.13	The OP command	185
12.14	The PITCH command	195
12.15	The SAFETY command	196
12.16	The SELECT command	197
12.17	The SPINDL command	198
12.18	The STAN command	202
12.19	The STDYRS command	203
12.20	The TLSTCK command	204
12.21	The TOOLNO command	205
12.22	The TURRET command	206
12.23	The UNLOAD command	207
13	Wire EDM language	208
13.1	General comments	208
13.2	The APPLY command	209
13.3	The CLDIST command	210
13.4	The CUTCOM command	211
13.5	The CYCLE command	212
13.6	The FLUSH command	215
13.7	The GENRTR command	218
13.8	The LOAD command	219
13.9	The ORIGIN command	220
13.10	The SELECT command	221
13.11	The STAN command	222
13.12	The TOOLNO command	223
13.13	The UNLOAD command	224

This is a preview of "ISO 4343:2000". Click here to purchase the full version from the ANSI store.

14.1	General comments	225
14.2	The APPLY command	226
14.3	The LOAD command	227
14.4	The MODE command	228
14.5	The PROBE command	231
14.6	The SELECT command	237
14.7	The TOOLNO command	238
14.8	The UNLOAD command	239
14.9	The VERIFY command	240
15	Drafting and plotting language	250
15.1	General comments	250
15.2	The DRAFT command	251
15.3	The LETTER command	252
15.4	The OVPLOT command	253
15.5	The PENDWN command	254
15.6	The PENUP command	255
15.7	The PPLOT command	256
	Annex A (normative) Rules used in the syntax definitions	258
	Annex B (normative) List of keywords	259

This is a preview of "ISO 4343:2000". 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 4343 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 4343:1978), which has been technically revised.

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

This is a preview of "ISO 4343:2000". 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. The logical and physical structure of CLDATA records are given in ISO 3592.

This International Standard defines a standard post processor vocabulary, in the context of command word and the parameters that can be associated with a command word. This vocabulary is encoded using the 2 000 class ("integer code type post processor command") and 20 000 class ("literal type post processor command") CLDATA records given in ISO 3592.

There is a one-to-one correspondence between the elements of the post processor vocabulary and the elements of the post processor command CLDATA records. The integer code numbers given in annex B of this International Standard are the code numbers that are used to represent keywords in the 2 000 class CLDATA records. The keyword names given in annex B of this International Standard are the names that are used to represent keywords in the 20 000 class CLDATA records.

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.