
INTERNATIONAL STANDARD



1056

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Numerical control of machines — Punched tape block formats — Coding of preparatory functions G and miscellaneous functions M

Commande numérique des machines — Formats de blocs des bandes perforées — Codage des fonctions préparatoires G et des fonctions auxiliaires M

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1056 was drawn up by Technical Committee ISO/TC 97, *Computers and information processing*, and circulated to the Member Bodies in January 1974.

It has been approved by the Member Bodies of the following countries :

Australia	Japan	Thailand
Belgium	Mexico	Turkey
Czechoslovakia	Netherlands	United Kingdom
France	Romania	U.S.A.
Germany	South Africa, Rep. of	U.S.S.R.
Hungary	Spain	Yugoslavia
Ireland	Sweden	
Italy	Switzerland	

No Member Body expressed disapproval of the document.

This International Standard cancels and replaces ISO Recommendation R 1056-1969, of which it constitutes a technical revision.

Numerical control of machines — Punched tape block formats — Coding of preparatory functions G and miscellaneous functions M

0 INTRODUCTION

The International Standards

ISO 1057, *Numerical control of machines — Interchangeable punched tape variable block format for positioning and straight-cut machining*,

ISO 1058, *Numerical control of machines — Punched tape variable block format for positioning and straight-cut machining*,

ISO 1059, *Numerical control of machines — Punched tape fixed block format for positioning and straight-cut machining*, and

ISO 2539, *Numerical control of machines — Punched tape variable block format for contouring and contouring/positioning machining*,

specify the block formats of punched tapes used for the numerical control of machines (addresses, blocks, words, etc.). However, for the “preparatory function” G and “miscellaneous function” M words, it was found better to establish a separate International Standard the content of which may be used for each type of formats.

1 SCOPE AND FIELD OF APPLICATION

This International Standard defines the coding of “preparatory functions” G and “miscellaneous functions” M used for the numerical control of machines, by means of a two-digit code.

2 CODING OF PREPARATORY FUNCTIONS G

2.1 Table

Code	Function retained until cancelled or superseded by subsequent command of the same letter designation	Function affects only the block within which it appears	Function
G00	a		Point-to-Point, Positioning
G01	a		Linear Interpolation
G02	a		Circular Interpolation Arc CW
G03	a		Circular Interpolation Arc CCW
G04		X	Dwell
G05	*	*	Unassigned ¹⁾
G06	a		Parabolic Interpolation
G07	*	•	Unassigned
G08		X	Acceleration
G09		X	Deceleration
G10	*	*	Unassigned ²⁾
G11	*	*	Unassigned ²⁾
G12	*	*	Unassigned ³⁾
G13 to G16	} *	*	Unassigned ⁴⁾
G17	c		XY Plane Selection
G18	c		ZX Plane Selection
G19	c		YZ Plane Selection
G20	*	*	Unassigned ²⁾
G21	*	*	Unassigned ²⁾
G22	*	*	Unassigned ⁵⁾
G23	*	*	Unassigned ⁵⁾
G24	*	*	Unassigned
G25 to G29	} *	*	Permanently Unassigned
G30	*	*	Unassigned ²⁾
G31	*	*	Unassigned ²⁾
G32	*	*	Unassigned
G33	a		Thread Cutting, Constant Lead
G34	a		Thread Cutting, Increasing Lead
G35	a		Thread Cutting, Decreasing Lead
G36 to G39	} *	*	Permanently Unassigned

1) Previously "Hold".

2) Previously "Interpolation — long and short dimensions".

3) Previously "3D-Interpolation".

4) Previously "Axis selection".

5) Previously "Coupled motion — positive and negative".

* The choice of a particular case must be designated in the Format Specification.