

ISO 10218-1:2006-06 (E)

Robots for industrial environments - Safety requirements - Part 1: Robot

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Hazard identification and risk assessment	6
5	Design requirements and protective measures	7
5.1	General	7
5.2	General requirements	7
5.3	Actuating controls	8
5.4	Safety-related control system performance (hardware/software)	9
5.5	Robot stopping functions	10
5.6	Reduced speed control	11
5.7	Operational modes	11
5.8	Pendant controls	12
5.9	Control of simultaneous motion	14
5.10	Collaborative operation requirements	14
5.11	Singularity protection	15
5.12	Axis limiting	15
5.13	Movement without drive power	17
5.14	Provisions for lifting	17
5.15	Electrical connectors	17
6	Information for use	17
6.1	General	17
6.2	Instruction handbook	18
6.3	Marking	19
Annex A (normative) List of significant hazards		20
Annex B (normative) Stopping time and distance metric		22
Annex C (informative) Functional characteristics of 3-position enabling device		24
Annex D (informative) Optional features		25
Annex E (informative) Methods for mode labelling		26
Bibliography		27