ISO 9283:1998-04 (E)

Manipulating industrial robots - Performance criteria and related test methods

Contents

Page

1 Scope 1

2 Normative references 2

3 Definitions 2

4 Units 2

5 Abbreviations and symbols 3
5.1 Basic abbreviations 3
5.2 Quantities 3
5.3 Indices 4
5.4 Other symbols 4

6 Performance testing conditions 4
6.1 Robot mounting 4
6.2 Conditions prior to testing 4
6.3 Operating and environmental conditions 5
6.4 Displacement measurement principles 5
6.5 Instrumentation 6
6.6 Load to the mechanical Interface 6
6.7 Test velocities 8
6.8 Definitions of poses to be tested and paths to be followed 9
6.9 Number of cycles 15
6.10 Test procedure 15
6.1 1 Characteristics to be tested - Applications 16

7 Pose characteristics 16
7.1 General description 16
7.2 Pose accuracy and pose repeatability 17
7.3 Distance accuracy and repeatability 24 •
7.4 Position stabilization time 29
7.5 Position overshoot 30
7.6 Drift of pose characteristics 31
7.7 Exchangeability 34

8 Path characteristics 35
8.1 General 35
8.2 Path accuracy 36
8.3 Path repeatability 37
8.4 Path accuracy on reorientation 39
8.5 Cornering deviations 40
8.6 Path velocity characteristics 42

9 Minimum posing time 44

10 Static compliance 46

11 Application specific Performance criteria 46

11.1 Weaving deviations 46

12 Test report 48

Annex

A (normative) Parameters for comparison tests 49

B (informative) Guide for selection of tests for typical applications 54

C (informative) Example of a test report 56