

Information about Standards

List of Standards for Length Measuring Instruments

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The following table lists various national standards and international standards on length measuring instruments including Japanese Industrial Standards (JIS), ISO International Standards, and other national standards. (The table below is investigated by Mitutoyo as of September, 2023)

Nomenclature*	Japan		International		Germany		U.K.		France		U.S.A.		Brazil		China		India	
	JIS**	JMAS**	ISO**	DIN**	VDI**	BS**	NF**	ANSI/ASME**	Federal**	ABNT/NBR**	GB/T, JB/T**	JJG, JJF**	IS** # 1					
36 Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — #3	-	-	-	-	-	-	-	-	-	-	-	-	-	ASME B89.4.10.360.2 2008	ABNT NBR ISO 10360-1 2010	-	-	-
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 1: Vocabulary	JIS B 7440-1 2003	-	ISO 10360-1 2000	DIN EN ISO 10360-1 2003	-	BS EN ISO 10360-1 2001	NF EN ISO 10360-1 2001	ASME B89.4.10.360.2 2008	-	ABNT NBR ISO 10360-1 2010	GB/T 16857.1 2002	-	IS 15635-1 2006					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 2: CMMs used for measuring linear dimensions	JIS B 7440-2 2013	-	ISO 10360-2 2009	DIN EN ISO 10360-2 2010	-	BS EN ISO 10360-2 2009	NF EN ISO 10360-2 2010	ASME B89.4.10.360.2 2008	-	ABNT NBR ISO 10360-2 2018	GB/T 16857.2 2017	JJF 1064 2010	IS 15635-2 2014					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 3: CMMs with the axis of a rotary table as the fourth axis	JIS B 7440-3 2003	-	ISO 10360-3 2000	DIN EN ISO 10360-3 2000	-	BS EN ISO 10360-3 2001	NF EN ISO 10360-3 2000	-	-	ABNT NBR ISO 10360-3 2010	GB/T 16857.3 2009	JJF 1064 2010	IS 15635-3 2006					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring systems (CMS) — Part 5: Coordinate measuring machines (CMMs) using single and multiple stylus contacting probing systems using discrete point and/or scanning measuring mode	JIS B 7440-5 2022	-	ISO 10360-5 ISO/TS 17865 2020 2016	DIN EN ISO 10360-5 2020	-	BS EN ISO 10360-5 2020	NF EN ISO 10360-5 2020	-	-	-	GB/T 16857.5 2017	-	IS 15635-5 2019					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 6: Estimation of errors in computing Gaussian associated features	JIS B 7440-6 2004	-	ISO 10360-6 2001	DIN EN ISO 10360-6 2009	-	BS EN ISO 10360-6 2001	NF EN ISO 10360-6 2002	ASME B89.4.10 2021	-	-	GB/T 16857.6 2006	-	IS 15635-6 2006					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 7: CMMs equipped with imaging probing systems	JIS B 7440-7 2015	-	ISO 10360-7 2011	DIN EN ISO 10360-7 2011	-	BS EN ISO 10360-7 2011	NF EN ISO 10360-7 2011	-	-	-	GB/T 24762 2009	-	IS 15635-7 2019					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 8: CMMs with optical distance sensors	JIS B 7440-8 2015	-	ISO 10360-8 2013	DIN EN ISO 10360-8 2014	VDI/VDE 2617-6.2 2021	BS EN ISO 10360-8 2013	NF EN ISO 10360-8 2014	-	-	-	-	-	IS 15635-8 2019					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring systems (CMS) — Part 9: CMMs with multiple probing systems	JIS B 7440-9 2017	-	ISO 10360-9 2013	DIN EN ISO 10360-9 2014	-	BS EN ISO 10360-9 2013	NF EN ISO 10360-9 2014	-	-	-	-	-	IS 15635-9 2019					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 10: Laser trackers #2	-	-	ISO 10360-10 2021	DIN EN ISO 10360-10 2017	VDI/VDE 2617-10 2011	BS EN ISO 10360-10 2021	NF EN ISO 10360-10 2021	-	-	-	-	JJF 1242 2010	-					
Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring systems (CMS) — Part 12: Articulated arm coordinate measuring machines (CMM)	JIS B 7440-12 2019	-	ISO 10360-12 2016	DIN EN ISO 10360-12 2018	VDI/VDE 2617-9 2009	BS EN ISO 10360-12 2016	NF EN ISO 10360-12 2016	-	-	-	-	JJF 1408 2013	-					
37 Geometrical product specifications (GPS) — Guidelines for the evaluation of coordinate measuring machines (CMM) test uncertainty #2	-	-	ISO/TS 23165 2006	DIN ISO/TS 23165 2008	-	DD ISO/TS 23165 2006	XP ISO/TS 23165 2006	ASME B89.4.10.360.2 2008	-	-	GB/T 24635.3 2009	-	-					
38 Accuracy of coordinate measuring Machine #3	-	-	-	-	-	-	-	-	-	-	-	-	-					
Accuracy of coordinate measuring machines — Parameters and their reverification — Code of practice for the application of DIN EN ISO 10360-2 for length measurement #3	-	-	-	-	VDI/VDE 2617-2.1 2014	-	-	-	-	-	-	-	IS 15635-2 2014					
Characteristics and their testing — Form measurement with coordinate measuring machines #3	-	-	-	-	VDI/VDE 2617-2.2 2018	-	-	-	-	-	-	-	-					
Characteristics and checking of characteristics — Acceptance and reverification tests for coordinate measuring machines of large dimensions #3	-	-	-	-	VDI/VDE 2617-2.3 2006	-	-	-	-	-	-	-	-					
Characteristics and their checking — Manual for the use of DIN EN ISO 10360-3 for coordinate measuring machines with additional axes of rotation #3	-	-	-	-	VDI/VDE 2617-4 2006	-	-	-	-	-	-	-	-					
Parameters and their reverification — Interim check with artefacts #3	-	-	-	-	VDI/VDE 2617-5 2010	-	-	-	-	-	-	-	-					
Parameters and their reverification — Interim check with ball plates #3	-	-	-	-	VDI/VDE 2617-5.1 2011	-	-	-	-	-	-	-	-					
Characteristics and their testing — Coordinate measuring machines with optical probing — Code of practice for the application of DIN EN ISO 10360 to coordinate measuring machines with optical sensors for lateral structures #3	-	-	-	-	VDI/VDE 2617-6.1 2021	-	-	-	-	-	-	-	-					
Parameters and their checking — Estimation of measurement uncertainty of coordinate measuring machines by means of simulation #3	-	-	-	-	VDI/VDE 2617-7 2008	-	-	-	-	-	-	-	-					
Characteristics and their testing — Test process suitability of measurements with coordinate measuring machines #3	-	-	-	-	VDI/VDE 2617-8 2019	-	-	-	-	-	-	-	-					
Characteristics and their verification — Acceptance and confirmation testing of laser trackers #3	-	-	-	-	VDI/VDE 2617-10.4 2014	-	-	-	-	-	-	-	-					
Characteristics and their checking — Determination of the uncertainty of measurement for coordinate measuring machines using uncertainty budgets #3	-	-	-	-	VDI/VDE 2617-11 2011	-	-	-	-	-	-	-	-					
Characteristics and their checking — Acceptance and reverification tests for tactile CMM measuring microgeometries #3	-	-	-	-	VDI/VDE 2617-12.1 2011	-	-	-	-	-	-	-	-					
Characteristics and their testing — Acceptance and reverification tests for optical CMM measuring microgeometries according to DIN EN ISO 10360-8 and VDI/VDE 2617-6.2 #3	-	-	-	-	VDI/VDE 2617-12.2 2023	-	-	-	-	-	-	-	-					
39 Instruments for the assessment of departure from roundness — Measurement of variations in radius	JIS B 7451 1997	JMAS 5022 2013	ISO 4291 1985	DIN EN ISO 12181-1 2011	-	BS 6740 1987	NF EN ISO 12181-1 2011	ASME B89.3.1 1972	-	-	GB/T 7235 2004	-	-					
40 Form measurement #4	-	-	-	-	-	-	-	-	-	-	-	-	-					
Definitions and Designations of Geometrical Deviations	JIS B 0621 1984	-	ISO 1101 2017	DIN EN ISO 1101 2017	-	BS EN ISO 1101 2017	NF EN ISO 1101 2017	-	-	-	-	-	-					
Geometrical product specifications (GPS) — Cylindricity — Part 1: Vocabulary and parameters of cylindrical form #2	-	-	ISO 12180-1 2011	DIN EN ISO 12180-1 2011	-	BS EN ISO 12180-1 2011	NF EN ISO 12180-1 2011	-	-	-	GB/T 24633.1 2009	-	IS 16225-1 2014					
Geometrical product specifications (GPS) — Cylindricity — Part 2: Specification operators #2	-	-	ISO 12180-2 2011	DIN EN ISO 12180-2 2011	-	BS EN ISO 12180-2 2011	NF EN ISO 12180-2 2011	-	-	-	GB/T 24633.2 2009	-	IS 16225-2 2014					
Geometrical product specifications (GPS) — Roundness — Part 1: Vocabulary and parameters of roundness	JIS B 0682-1 2017	-	ISO 12181-1 2011	DIN EN ISO 12181-1 2011	-	BS EN ISO 12181-1 2011	NF EN ISO 12181-1 2011	-	-	-	GB/T 24632.1 2009	-	-					
Geometrical product specifications (GPS) — Roundness — Part 2: Specification operators	JIS B 0682-2 2017	-	ISO 12181-2 2011	DIN EN ISO 12181-2 2011	-	BS EN ISO 12181-2 2011	NF EN ISO 12181-2 2011	-	-	-	GB/T 24632.2 2009	-	-					
Geometrical product specifications (GPS) — Straightness — Part 1: Vocabulary and parameters of straightness	JIS B 0683-1 2017	-	ISO 12780-1 2011	DIN EN ISO 12780-1 2014	-	BS EN ISO 12780-1 2011	NF EN ISO 12780-1 2011	-	-	-	GB/T 24631.1 2009	-	-					
Geometrical product specifications (GPS) — Straightness — Part 2: Specification operators	JIS B 0683-2 2017	-	ISO 12780-2 2011	DIN EN ISO 12780-2 2011	-	BS EN ISO 12780-2 2011	NF EN ISO 12780-2 2011	-	-	-	GB/T 24631.2 2009	-	-					
Geometrical product specifications (GPS) — Flatness — Part 1: Vocabulary and parameters of flatness	JIS B 0684-1 2019	-	ISO 12781-1 2011	DIN EN ISO 12781-1 2011	-	BS EN ISO 12781-1 2011	NF EN ISO 12781-1 2011	-	-	-	GB/T 24630.1 2009	-	-					
Geometrical product specifications (GPS) — Flatness — Part 2: Specification operators	JIS B 0684-2 2019	-	ISO 12781-2 2011	DIN EN ISO 12781-2 2011	-	BS EN ISO 12781-2 2011	NF EN ISO 12781-2 2011	-	-	-	GB/T 24630.2 2009	-	-					
Form measurement — Principles #3	-	-	-	-	VDI/VDE 2631-1 2016	-	-	-	-	-	-	-	-					
Form measurement — Determination of the deviation by sensor technology and signal transmission #3	-	-	-	-	VDI/VDE 2631-2 2021	-	-	-	-	-	-	-	-					
Measurement of form — Properties and selection of filters #3	-	-	-	-	VDI/VDE 2631-3 2018	-	-	-	-	-	-	-	-					
Measurement of form — Determination of the radial spindle deviation #3	-	-	-	-	VDI/VDE 2631-4 2014	-	-	-	-	-	-	-	-					
Measurement of form — Determination of the axial spindle deviation #3	-	-	-	-	VDI/VDE 2631-5 2015	-	-	-	-	-	-	-	-					
Measurement of form — Determination of the straightness deviation of the linear guide #3	-	-	-	-	VDI/VDE 2631-6 2016	-	-	-	-	-	-	-	-					
Form measurement — Stability monitoring of form measuring systems #3	-	-	-	-	VDI/VDE 2631-8 2013	-	-	-	-	-	-	-	-					
Form measurement — Examples for measurement and analysis conditions #3	-	-	-	-	VDI/VDE 2631-9 2020	-	-	-	-	-	-	-	-					
41 Characteristics and checking of characteristics — Acceptance testing and reverification testing of contour-measuring systems according to the tactile stylus method #3	-	-	-	-	VDI/VDE 2629-1 2008	-	-	-	-	-	-	-	-					
Characteristics and their testing — Determination of the uncertainty of specific contour measurements using standards/calibrated workpieces #3	-	-	-	-	VDI/VDE 2629-2 2019	-	-	-	-	-	-	-	-					
42 How to determine surface texture parameter based on JIS related to surface texture #4	-	JMAS 5021 2013	-	-	-	-	-	-	-	-	-	-	-					

* This information is based on our survey, as of September 2023.

** The names of these standards are based on JIS standards. Refer to # 2, # 3, and # 4 for the names of standards other than JIS standards.

*** JIS: Japan Industrial Standard, JMAS: Japan Precision Measuring Instruments Manufacturers Association, ISO: International Organization for Standardization, DIN: Deutsche Normen, VDI: Verein Deutscher Ingenieure, BS: British Standards, NF: Norme Francaise, ANSI/ASME: American National Standards Institute/American Society of Mechanical Engineers, Federal: Federal Specifications and Standards.

NBR: Brazilian National Standards, GB/T, JJG, JJF: Chinese National Standard, JB/T: Chinese Industrial Standard, IS: Indian Standard

1: For IS (Indian Standard), we noted the year of establishment.

2: The names of these standards are based on ISO standards.

3: The names of these standards are translated into English by Mitutoyo Corporation.

4: The names of these standards are based on JMA standards. (JMA: Japan Precision Measuring Instruments Manufacturers Association)