Dual-axis autocollimator, accuracy 0.1″, range 30 m

Model: MC030-MAT300/48/0.1

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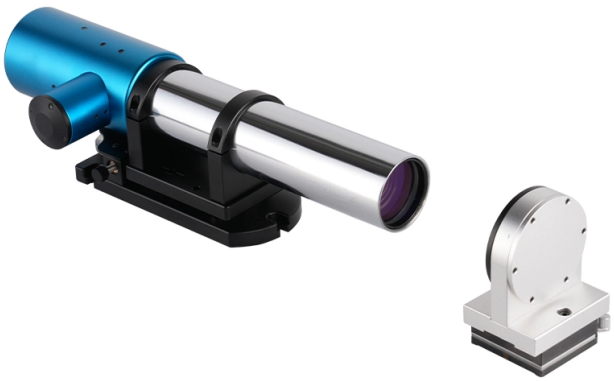

Product image

Original product title: 双轴光电自准直仪 精度0.1″ 最大测量距离30m

Product overview

This series is intended for cost-effective precision measurement. Applications include inspection and alignment of machine-tool guideways (straightness, parallelism and perpendicularity), surface-plate flatness, optical alignment and precision mechanical manufacturing. The source also describes long-distance series variants for 40, 50 and 80 metres; the specifications of each individual model govern its measuring distance.

Applications

Machine tools: guideway straightness, parallelism and perpendicularity, and flatness of large surface plates. Optics: assembly, alignment and prism-angle measurement. Metrology and research: verification and calibration of measuring instruments and tools, precision angle measurement, dynamic monitoring of angular position, and angular or straightness-error measurement of moving products. Marble inspection: straightness, parallelism, perpendicularity and flatness. Encoders: angular-encoder positioning accuracy and repeatability.

Technical specifications

Parameter	Source data
Objective focal length	300 mm

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Clear aperture	48 mm
Maximum measuring distance	30 m
Field of view (X, Y)	2200″ × 1800″
Selectable resolution	0.1″、0.01″、0.001″、0.0001″ selectable
Indication accuracy	±60″ range ≤ ±0.1″；±600″ range ≤ ±0.5″
Repeatability	≤ 0.06″
Centre wavelength	625 nm
Measurement frequency response	≤ 30 Hz (as stated by source)
Communication	USB 2.0
Dimensions	385 × 125 × 115 mm
Weight	4.28 kg
Light source type	Semiconductor LED light source
Signal acquisition	High-precision photoelectric sensor
Display method	Software display on a standard PC
Power supply	Integrated power supply
Measurement and control software	Yanrun autocollimator measurement and control software
Computer system requirements	WIN7, WIN10, WIN11, 64 bit system

Use and verification notes

• 分辨率不等同于准确度。

• 参数中的精度适用量程条件必须保留。

Compiled from the saved official source. Resolution is not accuracy. Preserve the stated range, environment and configuration conditions. Selection and acceptance are subject to the technical specification agreed by both parties.

Related standards for reference

References below distinguish product standards from application methods. They do not constitute product certification or evidence of conformity. Adoption, applicable editions, test conditions and acceptance requirements are subject to the technical agreement confirmed by both parties.

• JB/T 8232-2024 Autocollimators — Product standard reference

Application relationship: Product-standard candidate; confirm model applicability and inspection records. No conformity claim.

Official reference: https://std.samr.gov.cn/hb/search/stdHBDetailed?id=2A77AF2B5400A92BE06397BE0A0AEC68

• GB/T 17421.1-2023 Machine tool testing — No-load or quasi-static geometry — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://openstd.samr.gov.cn/bzgk/std/newGbInfo?hcno=78933E2E34BF89D2AA942DF59B0DEB4C

• GB/T 1958-2017 GPS — Geometrical tolerance inspection and verification — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://openstd.samr.gov.cn/bzgk/std/newGbInfo?hcno=7E583F4C34EDA084FBEADF506B26ECDD

• GB/T 18779.1-2022 GPS inspection — Conformity decision rules — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://openstd.samr.gov.cn/bzgk/std/newGbInfo?hcno=31282F9BD33688E01A8DFF87DF802900

• ISO 230-1:2012 Machine tools — Geometric accuracy under no-load or quasi-static conditions — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://www.iso.org/standard/46449.html

• ISO/TR 230-11:2018 Measuring instruments for machine tool geometry tests — Application method reference

Application relationship: Instrument-selection technical report, not a manufacturing or product-certification standard.

Official reference: https://www.iso.org/standard/71882.html

• ISO 12780-1:2011 Straightness — Vocabulary and parameters — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://www.iso.org/standard/53622.html

• ISO 12781-1:2011 Flatness — Vocabulary and parameters — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://www.iso.org/standard/53624.html

• ISO 14253-1:2017 GPS — Conformity decision rules — Application method reference

Application relationship: Application, geometrical specification or evaluation reference; not a claim of instrument conformity.

Official reference: https://www.iso.org/standard/70137.html

Source: https://www.cnbai.net/product.php?productId=67

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