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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 55290A Angular Position Measurement Kit

HP Agilent Keysight 55290A Angular Position Measurement Kit The 55290A Angular Position Measurement Kit is the angular companion to the 55280A linear kit on the 5530 Laser Calibration System. OEM 5530/5529 laser-calibration literature uses the same 0 to 40 C operating window, E1738A air-sensor plus or minus 0.4 ppm class, and 633 nm HeNe laser head as the linear kit. Angular optics in the HP/Agilent family are the 10770A angular interferometer and 10771A angular retroreflector (5964-6190E). Linear-kit resolutions (1 nm linear, 0.5 nm plane mirror, 0.25 nm high-res plane mirror) describe the related linear path; angular measurements document rotary and pitch/yaw geometry for compensation tables. The 55290A Angular Position Measurement Kit is the angular companion to the 55280A linear kit on the 5530 Laser Calibration System. OEM 5530/5529 laser-calibration literature uses the same 0 to 40 C operating window, E1738A air-sensor plus or minus 0.4 ppm class, and 633 nm HeNe laser head as the linear kit. Angular optics in the HP/Agilent family are the 10770A angular interferometer and 10771A angular retroreflector (5964-6190E). Linear-kit resolutions (1 nm linear, 0.5 nm plane mirror, 0.25 nm high-res plane mirror) describe the related linear path; angular measurements document rotary and pitch/yaw geometry for compensation tables. Machine-tool rotary-axis and pitch/yaw angular comp

**MODEL****Agilent / Keysight
55290A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****55290A****LISTING**<https://aumictechlabs.com/products/55290a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight/Agilent 55290A Angular Position Measurement Kit is a precision calibration instrument for rotational axes in turning and machining centers. It maintains laser beam alignment during indexing table movements up to 15 mm vertical travel and supports full, partial, or multiple rotation calibrations for tools with limited rotational range. The kit performs C-axis calibration on turning centers and integrates with the Keysight 5530 Laser Calibration System.

Technical Specifications

Indexing Mode (Zero-Reference Measurement)

Accuracy: 0.5 arc seconds + 0.2% of displayed reading

Index Step Size (Resolution): 1°

Range: Multiple rotations or partial arcs

Maximum Lift: 15 mm

Required Fixture Travel: 2 mm

Laser Measurement Mode

Accuracy: 0.2% of displayed reading (improvable through laser optics calibration)

Range: $\pm 10^\circ$

Setup Travel: +2 mm, -1 mm, or manual adjustment from zero reference

Key Features

- Accommodates tools unable to achieve full 360° rotation through partial arc measurement capability
- Maintains alignment across significant vertical table travel
- Supports zero-reference indexing with 1° resolution steps
- Documentation and analysis of angular positioning accuracy for machine tool capabilities
- Includes adapter plate and flange for C-axis applications on turning centers

Typical Applications

- Rotational axis calibration in CNC turning and machining centers
- C-axis positioning verification on multi-axis turning equipment
- Angular accuracy documentation for machine tool capability studies
- Three-dimensional flatness measurement (in conjunction with 55281A Angular Optics Kit)
- Way straightness evaluation

Compatibility & Integration

The kit integrates with the Keysight 5530 Laser Calibration System and supports legacy Agilent and Hewlett Packard systems: Agilent 5530, Agilent 5529, Hewlett Packard 5529, and Hewlett Packard 5528. Supplemental fixturing available via the 55290A-744 Supplemental Fixturing Kit.

55290A Characteristics / Specifications

PARAMETER	VALUE
Model	55290A
Instrument Type	Angular position measurement optics kit
Host System	5530 Laser Calibration System
Linear Companion	55280A linear measurement kit
Angular Interferometer	10770A angular interferometer family
Angular Retroreflector	10771A angular retroreflector family
Operating Temperature	0 to 40 C (32 to 104 F) 5530 optics class
Air Sensor Uncertainty	E1738A plus or minus 0.4 ppm class
Vacuum Uncertainty	plus or minus 0.1 ppm class
Linear Range Class	up to 40 m with linear optics on the same laser head
Long Range Class	up to 80 m long-range class
Linear Resolution Class	1 nm with 10766A linear optics
Plane Mirror Resolution Class	0.5 nm with 10706A/B
High Res Class	0.25 nm with 10716A
Wavelength Class	633 nm HeNe
Literature	Keysight 55290A / 5530 laser calibration literature and 5964-6190E
Manufacturer	HP Agilent Keysight
Measurement	angular position / pitch / yaw
Application Class	NC rotary and geometry compensation
Documentation Type	OEM angular measurement kit listing
System Role	angular optics set for 5530
Use Case	angular compensation tables
Form Factor	optics kit with mounts and case class
Related Straightness	other 5528x geometry kits on the same laser head
Laser Head Class	5519A/B family 11 mm aperture class

55290A Specifications

PARAMETER	VALUE
Applications	Machine-tool rotary-axis and pitch/yaw angular compensation with a 5530 laser calibration system.
Key Features	Angular optics kit for 5530
Companion to 55280A linear kit	10770A / 10771A angular optic family
Technical Specifications	Model: 55290A

General Specifications & Supplementary Characteristics

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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.