



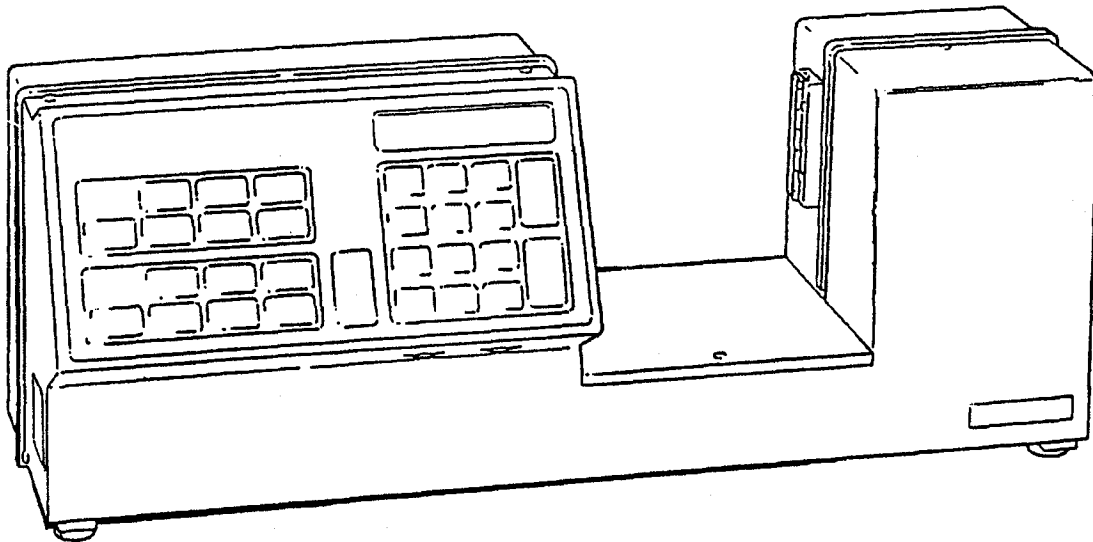
Advanced Test Equipment Corp.

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GENERAL DESCRIPTION

The 1200B Series Laser Bench Gauges* are noncontact gauges that use a scanning laser beam to measure part size or position quickly and easily with excellent repeatability. A liquid crystal display shows either the part's dimension or the measured deviation from a user-selected nominal dimension. The High/Low Limit Alarm feature alerts the gauge operator when either the upper or lower tolerance limit has been exceeded. The Maximum/Minimum Signal Retention feature keeps track of the largest and smallest dimensions measured, and the mathematical difference between the two (TIR). The Statistical Analysis functions keep track of how many parts were measured, the average dimension, and standard deviation of the parts in a batch.

*U.S. Patent 3,907,439 and foreign.



1200B Series Bench Gauge (Model 1201 Shown)

Figure 1

SPECIFICATIONS

PERFORMANCE SPECIFICATIONS - 2 inch (50mm) Laser Micrometers

Model	1201B	1201HP
Measurement Range ¹	0.010 to 2.0 in (0.25 to 50.8 mm)	
Repeatability ²	±0.00002 in (±0.5 μm)	±0.00001 in (±0.3 μm)
Accuracy ³ Remastered Mode	±0.00003 in (±0.8 μm)	±0.00002 in (±0.5 μm)
Absolute Linearity	±0.00006 in (±1.5 μm)	±0.00004 in (±1.0 μm)
Measurement Area Passline	2.625 in (66.7 mm)	
Measurement Area Depth of Field	±0.125 x 2.0 in (±3.18 x 50.8 mm)	
Laser Beam Spot Size	0.008 in (0.2 mm)	
Scanning Beam Thickness at passline	0.020 in (0.5 mm)	

- ¹ Gap measurement accuracy valid for range ≥0.020 inch (≥0.5mm)
- ² Specified repeatability applicable with 256 or more scans averaged, based @ 2σ (95% confidence level). Repeatability is ±0.0015% of measured dimension, whichever is larger for 1201B; ±0.0010% of measured dimension, whichever is larger for 1201HP.
- ³ Based on standard factory calibration @ 68°F (20°C) with 50% relative humidity. Note: May require user field remastering in nonstandard environmental conditions.

GENERAL SPECIFICATIONS

- Mounting Holes:** Two (2) mounting holes at passline location; 1/4 in. x 20 pitch/in. (U.S.) or M6 (all others)
- Temperature Coefficient:** ≤ 0.000004 in./°F ($\leq 0.2\mu\text{m}/^\circ\text{C}$)
- Operating Temperature:** 40 to 92°F (5 to 33°C) at <90% relative humidity
- Storage Temperature:** -4 to 140°F (-20 to 60°C)
- Warm Up Period:** 45 minutes
- Set-up Parameters:** Non-Volatile Memory (NVM)
- Calibration:** Factory standard calibration
User remastering procedures
- Dimensions:** (HWD)
9-1/2 x 24-1/2 x 8-5/8 inches
(241.3 x 622.3 x 219.1 mm)
- Weight:** 26 lbs.(11.7 kgs.)
- Laser Source:** HeNe gas laser; ≤ 1 mw output
- Display:** 7-digit alphanumeric liquid crystal
- Display Resolution (selectable):** 0.001 - 0.00001 inch
(0.01 - 0.0001 mm)
- Scan Rate:** 120 per sec. (at 60Hz)
100 per sec. (at 50Hz)
- Operator Controls:** Soft touch keypad
- Power Requirements (specify):** 100 VAC (-10% to +5%), 50 Hz (± 2 Hz)
100 VAC (-10% to +5%), 60 Hz (± 2 Hz)
115 VAC (-10% to +5%), 60 Hz (± 2 Hz)
220 VAC (-10% to +5%), 50 Hz (± 2 Hz)
240 VAC (-10% to +5%), 50 Hz (± 2 Hz)
100 Watts total power

Options: *Second* RS-232C Interface (Model 1221)

Chart Recorder Output (Model 1222)

Solid State Relay Output (Model 1223)

Transparent Object Measurement
(Model 1224)

I/O Accessories: 80-Column Digital Printer (Model 3020)

24-Column Printer (Model 3022)

Solid State Relays (Model 3230)

Solid State Relay/Visual Alarm Panel
(Model 3233)

Remote Footswitch (Model 3235)

Remote Display (Model 3037)

Standards and Fixtures: 1201B Class XXX Inch Master Pin Gauge
Set (Model 3042)

1201B Class XXX Metric Master Pin
Gauge Set (Model 3043)

1202B Class XXX Inch Master Pin Gauge
Set (Model 3048)

1202B Class XXX Metric Master Pin
Gauge Set (Model 3049)

Universal Slide Fixture (Model 3250)

Universal V-Block (Model 3251)

Adjustable V-Block (Model 3252A)

Adjustable Centers Fixture (Model 3253)

Modular V-Block (Model 3257)

Standards and Fixtures (continued): Flat Test Fixture (Model 3258)

Insulated Base Support (Model 3259)

Adjustable Live Center Fixture (Model 3260)

Concentricity Fixture (Model 3261)

Reference Edge (Model 3262)

Leadscrew Positioner with DRO (Model 3263)

Supplies: Foreign Language Legends (Model 3283)

Operator Maintenance Kit (Model 3290)

Carrying Case (Model 3292)

Anti-Static Dust Cover (Model 3293)

Metric Datum Plate (Model 3294)

Extended Warranty Program (Model 3296)

Certificate of Compliance (Model 3299)