

Principles of Operation

Acuity AR2000 laser distance meters are specialized for distance measurement on hot surfaces, e.g. red hot, glowing steel, and for outdoor use in bright lighting conditions with high constant or stray light levels.

Suitable measurement targets can be almost any natural surface including liquids or reflectors.

Within a range of 550 yards or 500 meters AR2000-Series laser sensors provide an absolute measurement accuracy of 1 mm and a measurement frequency of up to 100 Hz. For convenient data display and parameterization Acuity AR2000 sensors are equipped with an OLED display and touch keys.

Due to their standard interfaces, Acuity sensors are optimized for easy integration into industrial automation and measurement systems.

Benefits

- Broad measuring range & millimeter accuracy
- Outdoor measurement in bright lighting conditions
- Distance measurement on hot surfaces
- Visible measuring beam (red) Class 2
- Industrial standard interfaces
- Digital & analog data output, trigger functionality
- Device control via OLED display and touch keys



AR2000 Series Laser Distance Meters Specifications

Performance

Measuring range	4 in / .1m to 1,640 ft / 500 m
Typical range on target boards	1,640 ft / 500 m
Typical range on natural surfaces ¹	328 ft / 100 m
Measuring accuracy	±0.039 in / 1 mm
Measured value resolution	±0.0039 in / .1 mm
Maximum measuring frequency	100 Hz

I/O

Interface options (depending on device configuration)

RS-232, RS-422, RS-485, SSI (50 Hz to 1 Mhz),
Profibus DP-VO Slave, 9.6 kBaud to 12 MBaud,
IEC 61158, IEC 61784

Switching output	3x "high side," up to 0.2 A
Analog output	4mA to 20mA
Trigger	1x trigger in/out, 3 VDC to 30 VDC

Connectors	Standard: 1x 12-pole M16 Optional: 1x 8-pole M12, 2x 5-pole M12
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Display and Controls

Display	2 status LEDs OLED dot-matrix display
Controls	4 touch keys

Laser Specifications

Classification	Laser Class 2, EN 60825-1:2007
Wavelength	635 nm (red)
Divergence	<0.35 mrad

Power

Power supply	10 VDC to 30 DVC
Power consumption (max)	24 V <5 W or <15 W in heating mode

Safety and Environmental

Operating temperature	-40 °C to +60 °C
Humidity	15% to 90%, not condensing
Protection class	IP 67
EMC	EN 61326-1

¹ Measuring range for natural, diffuse reflecting surfaces, depending on target reflectivity, stray light and environmental conditions.

Applications

- Non-contact distance measurement & tracking
- Steel working industry & rolling mills
- Positioning: transportation, handling & conveying systems
- Measurement of filling levels, object thickness & length
- Industrial automation and process control

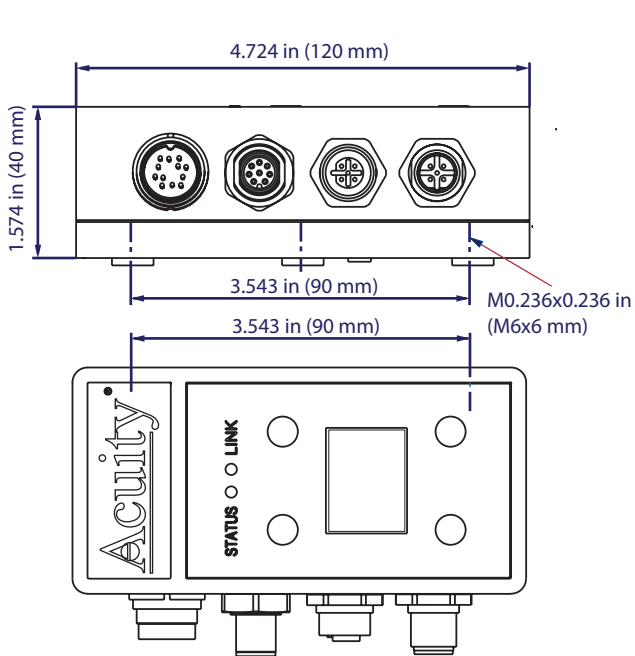
Physical Specifications

Dimensions (LxWxH, including connectors)

4.724 in x 3.011 in x 1.574 in
120 mm x 76.5 mm x 40 mm

Weight

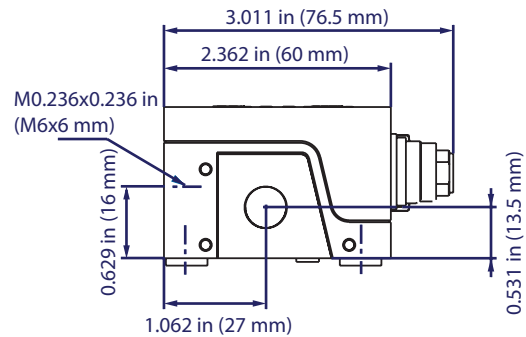
Approx. 1.54 lb/ 700 g (depending on device configuration)



Measure on hot surfaces



Measure in bright light



Because of ongoing design and specification improvements, the details represented herein cannot be regarded as final and binding.

This technical drawing shows all connector and interface options that are available for the Acuity AR2000 product series.

For more information on Acuity Laser Measurement Devices, contact your nearest Acuity Sales Representative or call Schmitt Industries.



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