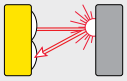
LT7 Series

Time-of-Flight Laser Distance-Gauging Sensors

- Visible red laser spot during programming mode for easy alignment
- Features TEACH-mode programming using integrated push-buttons or a serial interface
- Onboard LCD display for easy troubleshooting
- Long-range retroreflective models up to 250 m and diffuse models up to 10 m

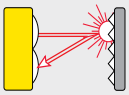
Diffuse L-GAGE® LT7

Infrared Laser

Sensing Mode	Laser Class	Sensing Distance*	Connection	Discrete Output	Analog Output	Serial	Models
 DIFFUSE LASER	Class 1 Infrared Sensing Laser (Class 2 Visible Red Alignment Laser)	0.5 to 10 m	12-pin M16 QD	2 PNP	4-20 mA	RS-422 or SSI	**LT7PIDQ**

Retro L-GAGE® LT7

Infrared Laser

Sensing Mode	Laser Class	Sensing Distance*	Connection	Discrete Output	Analog Output	Serial	Models
 RETRO LASER	Class 1 Infrared Sensing Laser (Class 2 Visible Red Alignment Laser)	0.5 to 250 m	12-pin M16 QD	2 PNP	—	RS-422 or SSI	**LT7PLVQ**

Connection options: A model with a QD requires a mating cordset.

*Diffuse-mode range specified using a 90% reflectance white card.
Retroreflective range is specified using a **BRT-250**, **BRT-540** or **BRT-700** retroreflective target (see page page 790).

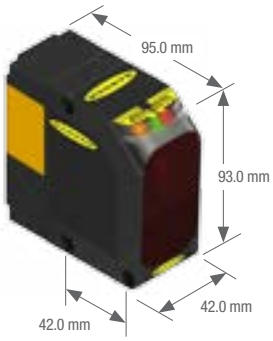
Euro QD (w/ Shield)
Straight connector models listed; for right-angle, replace **ST** with **RA** at the end of the model number (example, **MQDC-1210RA**)

12-Pin
MQDC-1210ST
3 m
MQDC-1213ST
10 m

Additional cordset information is available
See page 758

SMBLT7

Additional bracket information is available
See page 724



Reflectors

Additional information is available
See page 790

L-GAGE® LT7 Specifications

Sensing Range	**LT7PLVQ:** 0.5 to 250 m (using specified reflector) **LT7PIDQ: 6% Black card:** 0.5 to 3 m **18% Gray card:** 0.5 to 7 m **90% White card:** 0.5 to 10 m
Supply Voltage and Current	18 to 30 V dc (10% max. ripple)
Power Consumption	Less than 4.5 W @ 25° C
Measuring Laser	Infrared, 900 nm, Class 1
Laser Control	Measurement laser is ON when sensor is ON. Pilot (visible) laser enabled during Programming mode; alternates with measurement laser.
Spot Size	**LT7PLVQ:** Distance: 10 m, 50 m, 100 m, 250 m; Spot Size: ø 20 mm, ø 100 mm, ø 200 mm, ø 500 mm **LT7PIDQ:** Distance: 4 m, 6 m, 10 m; Spot Size: 3 x 10 mm, 4 x 12 mm, 10 x 20 mm
Pilot Laser (Alignment)	Visible red, 650 nm, Class 2
Discrete & Analog Output Protection	Protected against continuous overload and short circuit
Discrete Outputs	(2) 100 mA, PNP
Discrete Switch Points	Adjustable in 1 mm steps
Discrete Output Hysteresis	Adjustable, 10 mm min.
Alarm Outputs	50 mA, PNP (NO)
Analog Output	**LT7PLVQ:** None **LT7PIDQ:** 4-20 mA
Output Response Time	12 milliseconds
Linearity	±10 mm
Resolution/Repeatability	**LT7PLVQ:** ±2 mm **LT7PIDQ:** ±4 mm
Temperature Effect	Less than ± 5 mm over the total sensing range
Minimum Analog Window Size	**LT7PLVQ:** Not Applicable **LT7PIDQ:** 300 mm
Adjustments	Push-button directed password enable/disable, measurement unit select, offset value select, output limits set, output mode select, analog output slope select (diffuse models only) and output limit manual adjust. See datasheet for information.
Serial Measurement Speed	**SSI:** 1.4 milliseconds (SSI cycle 80 microseconds) **RS-422:** 2.9 milliseconds @ 57.6 kBaud
Construction	ABS shock-resistant housing; PMMA window; polycarbonate displays
Weight	Approximately 230 g
Environmental Rating	IEC IP67
Operating Conditions	**Temperature:** –10 to +50 °C in continuous operation
Storage Temperature	–30 to +75 °C
Vibration/Shock	EN 60947-5-2
Certifications	CE