

L-GAGE® LE550 Set-Up Card

Demo Kit



Components — P/N 87236



Models	Description
1 LE550	Sensor (PN 86746)
2 —	LE sensor stand assembly
3 —	Target assembly (PN 174742)
4 PS24W	Power supply (PN 77422)
5 MQDEC2-506	5-Pin Euro-style cordset (PN 60810)
6 —	Bag with padded insert
7 —	Quick Start Guide (PN 175093)
8 —	Setup card (PN 176319)

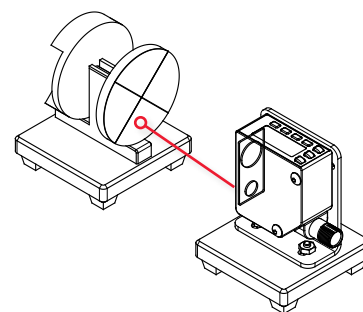
Optional item: (ordered separately)

DBQ5 (PN 39535) can be used as an alternative power supply to the **PS24W**, for those interested in a more portable power supply which doesn't rely on an electrical outlet.

Setup and Demonstration

Basic Demonstration

- Reset sensor to factory default settings
 - Click to enter sensor menu
 - Click then to view and enter the reset sub-menu
 - Click to yes, then to reset settings and return to run screen
- Align the sensor so that the laser emitter is centered on the lower quadrant on the target (as seen in figure to the right)
- The default setting for the near analog limit (4 mA or 0V) is 100 mm while the far limit (20 mA or 10V) is 1000 mm
- Position the target around 200 mm for best performance. Choose either to present the color wheel or the stepped target. Align the target perpendicular to the sensor.



Color Target

Purpose:

Demonstrate reliability across target materials/colors

Steps:

- Rotate the color wheel, taking measurements from the middle of each color segment. Avoid measurements at borders between colors to reduce measurement error.
- The LE's linear imager provides consistent measurements across targets, varying only by a few mm, within the repeatability specified in the data sheet.

Stepped Target

Purpose:

Highlight measurement changes on display

Steps:

- Start by aiming at the thickest segment and rotate the wheel counterclockwise to show the distance and analog output change on the display. The steps increase in 5 mm increments.

NOTE: Depending on exact target placement, sensor repeatability and display rounding, difference between steps may be 4-6 mm

Optional Advanced Demonstration—Set Analog/Discrete Limits

Purpose:

Understand the options available for setting analog and/or discrete limits

Reminder: Reset to factory defaults to ensure all settings are known before starting. See front page for instructions.

Set Analog Using 2-Point Static Teach

1. Rotate the target so the laser is pointing at the thickest segment of the stepped wheel
2. Move the target so the display reads 200 mm
3. Teach 4 mA at 200 mm
 - a. From the run screen, click  to enter the sensor menu
 - b. Click  to enter the analog output submenu (A_OUT)
 - c. Click  to enter the 2-point static teach option (Tch2Pt)
 - d. Click  to teach your near limit (Tch4mA). The display will show “teaching” followed by the taught value.
4. Teach 20 mA on thinnest segment
 - a. Rotate wheel to point laser at thinnest segment
 - b. Click  to Tch20mA
5. Click  to teach your far limit. The display will show “teaching” followed by the taught value.
6. Hold  for 3 seconds to return to Run mode
7. Rotate wheel to see distance and analog output vary on display

Set Discrete Limit Using Manual Adjust

8. Rotate target so laser points at thickest segment of stepped wheel and display shows 200 mm
9. Click  to enter the quick menu for viewing and adjusting your analog and/or discrete limits. The top half of the display shows the current measurement while the bottom half shows the present setting for the 4 mA Pt.
10. Click  two more times to see SPT1, the first discrete limit
11. Click  to start editing this value
12. Hold up  to increase this limit to 203 mm
13. Click  to save this change

NOTE: The second discrete limit is already set at 1000 mm, so the discrete output is ON when the sensor reads a distance between 203 and 1000 mm, and is OFF outside this range

14. Click  to return to Run mode
15. Start rotating the stepped target wheel counter-clockwise. The thinnest steps are more than 203 mm away from the sensor, so the discrete output and LED light will remain ON. The thickest segment is at 200 mm, which is outside the discrete window, so when measuring this step the discrete LED light will be OFF.

NOTE: This adjust functionality is helpful when you know the distance for your desired target condition but it is difficult to present an object in that position

Talking Points—See Manual PN 175094 for complete information

- Laser triangulation sensor provides non-contact measurement solution for accurate measurements of moving targets or soft targets without causing damage to the sensor or object
- Linear array technology provides excellent consistency in measurements across targets
- Large display assists in easy set up and troubleshooting without having sensor expertise
- LE550 comes calibrated with 100–1000 mm range out of the box, providing quick setup with analog output immediately after power-up
- Specified performance on 90% white to 6% black card target
- Includes both analog and discrete outputs, with corresponding LED lights for easy monitoring
- Discrete output is NPN/PNP user configurable
- Metal housing with rugged design rated to IP67
- Input wire can be used for remote teach, trigger, laser ON/OFF or cross-talk avoidance
- 5-pin with shield M12/Euro-style swivel QD, pigtail QD or cable models
- Avoid using on targets which are transparent or have mirror-like surfaces

Resolution: 100 to 600 mm: 0.5 mm
@1000 mm: 1.0 mm

Repeatability: 100 to 600 mm: +/- 0.125 ... 1 mm**
@1000mm: +/- 0.5 ... 4.0 mm**

Linearity: +/-4.5 mm (0.5% Full Scale)*

Accuracy: 100 to 600 mm: +/-2 mm
@1000 mm: +/- 10 mm

* Linearity is lesser of Accuracy or 0.5% of full scale range
(+/-4.5 mm) at any given distance

** Depending on response speed