

Leaf Area Meters

For applications including agronomy, botany, ecology, entomology, horticulture, and plant physiology



LI-3100C Area Meter

The LI-3100C is a rugged bench-top instrument designed to quickly digitize the area, length, and width of leaves. It features two transparent conveyer belts that rotate to move leaves across a scanning bed. The LI-3100C is ideal for rapidly measuring large quantities of harvested leaves.

The LI-3100C records the area of individual leaves and quickly computes cumulative area for a group of leaves, making it easy to compare treatments or experimental groups. You can log and evaluate the data on a computer with the included Windows® Interface software.



Why Choose the LI-3100C?

The LI-3100C can make the most of your time by rapidly measuring hundreds of leaves per minute, depending on size and placement on the belt. This is a much faster rate than flatbed or hand-held scanners. Rugged, durable, and easy to maintain, the LI-3100C is ready to work when you are.

- User-settable resolution of 0.1 mm² or 1 mm²
- Informative data, with measurements of individual and cumulative area, maximum width, average width, and length for individual leaves
- Ideal for uniform leaves, irregularly shaped leaves, and leaves with insect damage
- Measure nearly any leaf with widths from 1 cm to 25 cm
- Adjustable press rollers so you can measure thick leaves, up to 2.5 mm

Simple to Use

Simply place a leaf on the lower transparent belt, and it is automatically conveyed across the scanning bed. A press roller flattens any curled edges and feeds the leaves properly between the transparent belts before they enter the scanner, ensuring the full area is represented in each measurement. Leaves are ejected from the scanning bed after they are measured.

- Low maintenance and easy operation
- USB connection to transfer data files and to record measurements directly to a computer
- PC software enables you to quickly evaluate and summarize measurements

LI-3100C Specifications

Resolution: Settable to 0.1 mm² or 1 mm²

Accuracy:

	Sample Area			
	10 cm ²	3 cm ²	1 cm ²	0.3 cm ²
0.1 mm ² Resolution	±1.0%	±1.5%	±3.0%	±5.0%
1.0 mm ² Resolution	±2.0%	±3.0%	±6.0%	±10.0%

Combined accuracy and precision to 99% confidence with proper calibration using included calibration disks. Suitable for conifer leaves, roots and other narrow objects, however, expect accuracy to be about 5% less than with normal leaves.

Display: 8-character LED

Sample Dimensions:

Width: 25.4 cm maximum, 1.5 to 3.0 mm minimum

Maximum Thickness: Up to 2 cm; User-expandable up to 2.5 cm

Maximum Length: Unlimited

Conveyer belt speed: 8.0 cm/s with 60 Hz power; 6.7 cm/s with 50 Hz power

Power requirements: 108-126/216-252 VAC; 48 to 66 Hz, 100 watts maximum

Operating Temperature Range: 15 to 55 °C

Storage Temperature Range: -20 to 65 °C

Size: 25 cm H × 60 cm W × 73 cm L

Weight: 43 kg

Specifications subject to change without notice.

LI-3000C Portable Area Meter

The LI-3000C is a portable instrument for non-destructive leaf area measurements. It measures the area, length, average width, and maximum width of each leaf. Measurements are displayed on the digital readout as data are taken and recorded in the on-board memory for subsequent analysis. The LI-3000C is ideal for rapid field surveys of attached leaves at a single point in time, or throughout their life cycles.

You can save a record for each leaf, or group records so that they represent the total for each plant or treatment group.



Why Choose the LI-3000C?

The LI-3000C provides precise measurements of irregularly shaped and perforated leaves. It can store up to 125,000 measurements and with USB connectivity, you can easily copy your data files to a PC for further analysis.

- Fine 1 mm² resolution
- Ideal for non-destructive leaf area measurements in the field
- Rugged, dependable construction makes it ideal for demanding field work
- Up to 16 hour battery life on a single charge

Simple, Fast Data Collection

To measure a leaf, open the scanning head and close it over the leaf, near the petiole. Grasp the length encoding cord and then draw the scanning head over the leaf, so the apex of the leaf passes through the scanning head.

The LI-3000C measures leaf area using narrow-band light emitting diodes (LEDs) and paired detectors in the scanning head. LEDs and detectors encode the width, while the encoding cord encodes the length. The instrument computes length, width, and area from these data.

LI-3000C Specifications

Resolution: 1 mm²

Accuracy: Within $\pm 2\%$ for samples > 50 cm²

Display: Two line; 16 character LCD

Data Storage: 2.1 MB; up to 125,000 measurements

Communication: USB; RS-232

Sample Dimensions:

Width: 1 mm to 127 mm

Maximum Thickness: 8 mm

Maximum Length: 1 meter

Scanning Speed: Up to 1 meter per second

Battery: Rechargeable lead-acid battery; 6 VDC

Operating Time:

Up to 16 hours continuous operation

Charging Time: Typically 5 to 8 hours

Power Requirements: 115 or 230 VAC; 50 or 60 Hz, 20 watts maximum

Weight:

Scanning Head: 0.68 kg

Console: 2.0 kg

Size:

Scanning Head: 30.5 cm

Console:

19.8 cm L x 15.5 cm W x 10.1 cm D

Operating Temperature Range:

0 to 55 °C; <95% RH

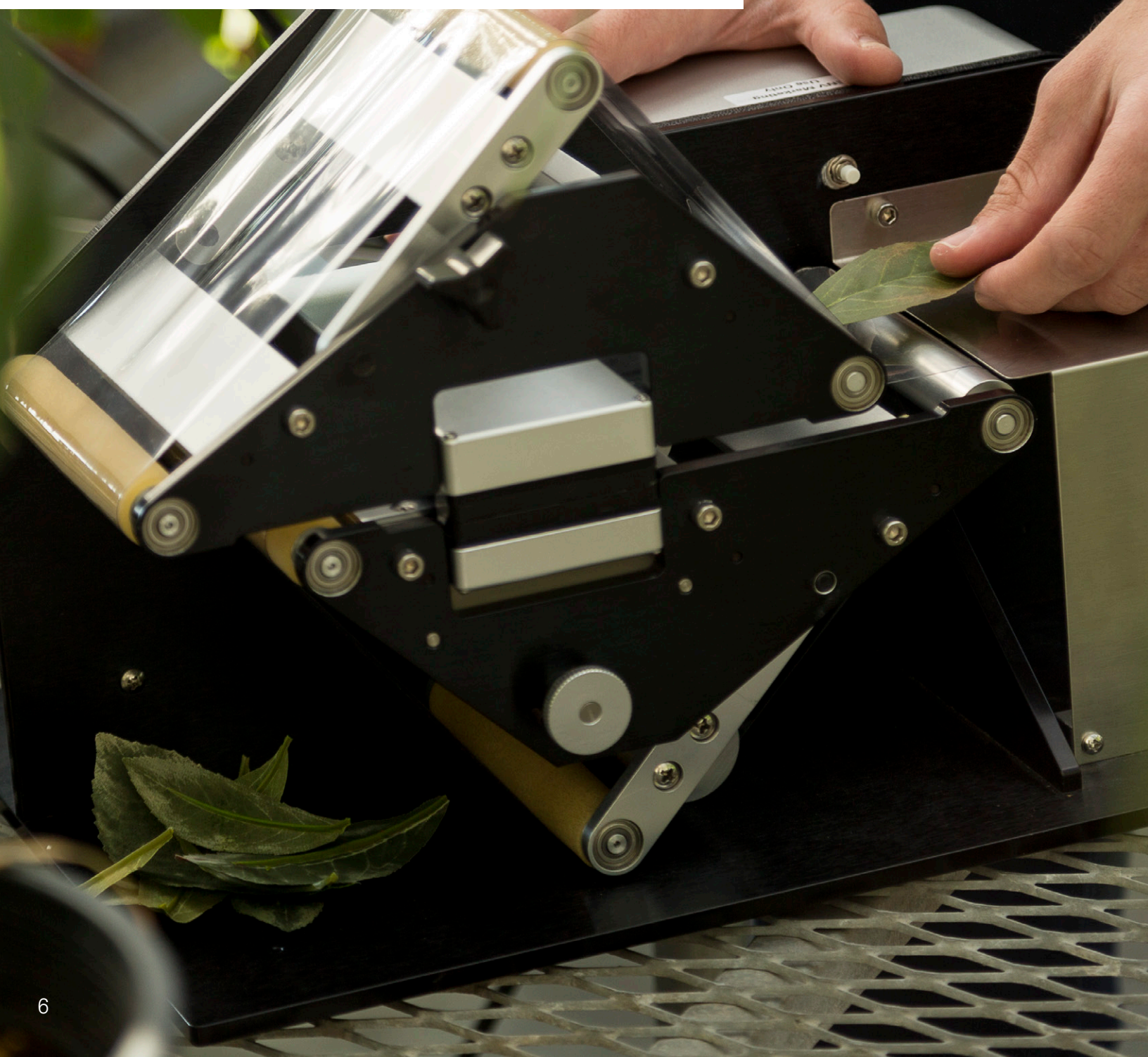
Storage Temperature Range:

-20 to 55 °C; <95% RH

Specifications subject to change without notice.

LI-3050C Transparent Belt Conveyor Accessory

The LI-3050C Transparent Belt Conveyor Accessory converts the LI-3000C into a bench-top area meter capable of quickly scanning detached leaves. In this configuration, the LI-3050C provides a motor-driven conveyor that rapidly moves leaves through the scanning head of the LI-3000C. The LI-3000C measures the area and records data to its internal memory or directly to an attached computer.



Advantages of the LI-3050C and LI-3000C Combination

- Provides versatility as a portable field instrument or a laboratory instrument
- Rapidly scan a large number of sequential samples
- Accuracy within $\pm 1\%$
- Easy to clean and maintain

LI-3050C Specifications

Resolution: 1 mm²

Accuracy: Within $\pm 1\%$ for samples >10 cm²

Sample Dimensions:

Width: 1 mm to 127 mm

Maximum Thickness: 7.5 mm

Maximum Length: Unlimited

Conveyer Speed: 6.3 cm/s with 60 Hz power; 5.4 cm/s with 50 Hz power

Power Requirements: 115 or 230 VAC; 50 or 60 Hz, 20 watts maximum

Weight: 7.7 kg

Size: 27.9 cm H x 27.9 cm W x 38.1 cm L

Specifications subject to change without notice.

Ordering Information

LI-3100C Area Meter

Includes the LI-3100C Area Meter, spare belts, one 3100LAMP fluorescent lamp, software, data and power cables, dust cover, and instruction manual.

LI-3000C Portable Area Meter

Includes the LI-3000C Portable Area Meter, carrying case, rechargeable battery, data and power cables, software, and instruction manual.

LI-3050C Conveyer Accessory

Converts the LI-3000C to a bench-top leaf area meter. Includes one set of spare belts.

LI-3000CAP Package

Includes one LI-3000C Portable Area Meter and one LI-3050C Transparent Belt Conveyer Accessory. Package includes carrying case, battery, data and power cables, instruction manual, and one set of spare belts.



LI-COR Environmental

4647 Superior Street
Lincoln, Nebraska 68504

Phone: +1-402-467-3576
Toll free: 800-447-3576

envsales@licor.com
envsupport@licor.com
www.licor.com/env

LI-COR GmbH, Germany

Siemensstraße 25A
61352 Bad Homburg
Germany

Phone: +49 (0) 6172 17 17 771

envsales-gmbh@licor.com
envsupport-eu@licor.com

LI-COR Ltd., United Kingdom

St. John's Innovation Centre
Cowley Road
Cambridge
CB4 0WS
United Kingdom

Phone: +44 (0) 1223 422102

envsales-UK@licor.com
envsupport-eu@licor.com

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