AM350
Portable leaf area meter

Key Features

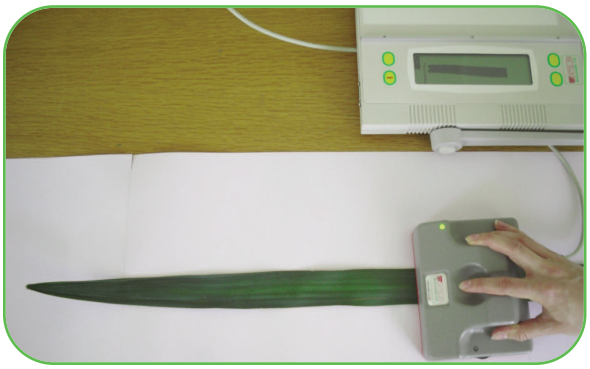
- Real time image display
- Image and data storage
  USB or serial download
- High resolution measurement
- Adapt to long and wide leaves
- 2 year warranty
- Adjustable handle/stand

ADC Bioscientific introduce the AM350, our fourth generation of portable, user friendly and field robust leaf area meters.

The only portable area meter to display, store and download the leaf image, together with all measured parameters.

Enhanced features include a multiposition carrying handle for increased portability and versatility. Over 3000 measurements can be made before recharging the batteries. Using a high speed port, the stored image can be downloaded, in bmp or tif formats, into commercially available image analysis software.

Operation is by menu driven software and measurements may be displayed in mm, cm or inches. An adjustable contrast control makes the AM350 suitable for calculating damaged, discoloured or diseased leaf area.



Adaptable to long and/or wide leaves:
Long or wide leaves are easily measured, non-destructively, on an independent scan surface.

For long, intact leaves up to 2m in length, the image screen will scroll to display and save entire leaf area, length and width (without perimeter and shape factor).

For wide leaves, scanning in ‘strips’ along the length will enable you to save each strip and add each to a running total (options on screen). Total leaf area will be automatically calculated.

Selected publications

1. Li, X., Zhao, S., Lin, A., Yang, Y., Zhang, G., Xu, P., Wu, Y., & Yang, Z. (2023). **Effect of Different Ratios of Red and Blue Light on Maximum Stomatal Conductance and Response Rate of Cucumber Seedling Leaves.** *Agronomy 2023, Vol. 13, Page 1941*, *13*(7), 1941. https://doi.org/10.3390/AGRONOMY13071941
2. Yang, Y., Shi, Y., Wei, X., Han, J., Wang, J., Mu, C., & Zhang, J. (2023). **Changes in mass allocation play a more prominent role than morphology in resource acquisition of the rhizomatous Leymus chinensis under drought stress**. *Annals of Botany*, *132*(1), 121–132. https://doi.org/10.1093/AOB/MCAD073
3. Župunski, M., Arsenov, D., Borišev, M., Nikolić, N., & Pajević, S. (2022). **Should I GROW or should I SLOW: A meta-analysis of fast-growing tree-species grown in cadmium perturbed environment**. *Physiologia Plantarum*, *174*(1), e13594. https://doi.org/10.1111/PPL.13594
4. Bhat, U. H., Sami, F., Siddiqui, H., Faizan, M., Faraz, A., & Hayat, S. (2021). **Nitric Oxide Alleviates Zinc Oxide Nanoparticles-Induced Phytotoxicity in Brassica juncea.** *Russian Journal of Plant Physiology*, *68*(3), 559–568. https://doi.org/10.1134/S102144372103002X/FIGURES/5
5. Huang, R., Tian, Q., Zhang, Y. , Wu, Y., Li, Z., Tang, Z., Zhou, A., Dahle, G. A., Fini, A., Huang, R., Tian, Q., Zhang, Y., Wu, Y., Li, Z., Tang, Z., & Zhou, A. (2022). **Response of Leaf Functional Traits of Landscape Plants to Urban Green Space Environment in Lanzhou, China**. *Forests 2022, Vol. 13, Page 682*, *13*(5), 682. https://doi.org/10.3390/F13050682
6. Jin, L., Gu, Y., Yang, T., Wu, Q., Yuan, D., Xie, M., Chang, S., & Pan, Y. (2021). **Relationships between allometric patterns of the submerged macrophyte Vallisneria natans, its stoichiometric characteristics, and the water exchange rate**. *Ecological Indicators*, *131*, 108120. https://doi.org/10.1016/J.ECOLIND.2021.108120
7. Zhu, J., Zhang, Y., Yang, X., Chen, N., & Jiang, L. (2020). **Synergistic effects of nitrogen and CO2 enrichment on alpine grassland biomass and community structure**. *New Phytologist*, *228*(4), 1283–1294. https://doi.org/10.1111/NPH.16767
8. Nakanwagi, M. J., Sseremba, G., Kabod, N. P., Masanza, M., Kizito, E. B., Nahamya, P., Kabod, M., Masanza, E., & Balyejusa, K. (2018). **Accuracy of using leaf blade length and leaf blade width measurements to calculate the leaf area of Solanum aethiopicum Shum group**. *Heliyon*, *4*, e01093. https://doi.org/10.1016/j.heliyon.2018
9. Saunier, A., Ormeño, E., Havaux, M., Wortham, H., Ksas, B., Temime-Roussel, B., Blande, J. D., Lecareux, C., Mévy, J. P., Bousquet-Mélou, A., Gauquelin, T., & Fernandez, C. (2018). **Resistance of native oak to recurrent drought conditions simulating predicted climatic changes in the Mediterranean region**. *Plant, Cell & Environment*, *41*(10), 2299–2312. https://doi.org/10.1111/PCE.13331

Online resources

For product enquiries, device manuals, brochures and our official agents in your country: www.adc.co.uk

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ADC BioScientific Ltd.

Application notes available:

#AN001:
Measuring Large, Wide Leaves with AM350

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#AN010:
Measurement of Diseased Areas of Leaves with AM350

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#AN070:
Measuring Long Leaves with AM350

Please request from
sales@adc.co.uk
or your local ADC representative

AM350 Technical Specification

Measured parameters:	Leaf area, maximum length, maximum width, perimeter, mean area, accumulated area, ratio and shape factor
Units of measurement:	User selectable: mm, cm or inches
Scanner:	Contact image sensor array with integral LED lamp
Scanning speed:	Up to 20mm/sec
Max. measurement width:	103mm
Max. measuring length:	2m
Precision / repeatability:	+/-1% Linear, +/- 2% Area, +/- 5% Perimeter
Resolution:	0.065mm^2
Memory:	256K bytes RAM. (Approx. 2,000 data sets + 560 image scans max.)
Display:	64 x 240 pixel graphic LCD
Battery:	Nickel metal hydride 1.6Ah, 14.4V Internal battery back up
Computer interface:	Mini-B USB connection and RS232
Battery charger:	Built in fast charger; can use supplied mains adapter or 12V car battery. Indicators for charge status. Time taken to reach full charge <3hrs.
Scans between charges:	Typically 500 from fully charged battery
Operating temperature range:	0^{o}C - 50^{o}C
Dimensions:	275mm x 250mm x 30mm
Cable Length:	90cm
Weight:	1.8kg (excluding charger)

Right: Tomato seedling leaf area being measured at the Faculty of agriculture and veterinary medicine, An Najah National University. Nablus, Palestine.
Credit to: Dr. Tawfiq Qubbaj, Hisham Saeed, Husni Qteet, Ansam Melhem, Ramez Shtayeh and Saif Mansor.

Tel: +44 (0) 1992 464527

www.adc.co.uk

Email: sales@adc.co.uk