

eSynic ESY296

eSynic ESY296 Portable Digital Angle Gauge with Dual-Axis Laser Instruction Manual

Model: ESY296 | Brand: eSynic

1. INTRODUCTION

Thank you for choosing the eSynic ESY296 Portable Digital Angle Gauge. This precision instrument is designed for accurate angle measurement in various applications, including construction, woodworking, and home decoration. Featuring dual-axis measurement, integrated laser alignment, and a durable IP54-rated aluminum alloy body, this device offers reliability and ease of use. Please read this manual thoroughly before operation to ensure proper usage and to maximize the product's lifespan.

2. SAFETY INFORMATION

- **Laser Safety:** This device uses a Class II laser. Do not stare directly into the laser beam. Avoid direct eye exposure.
- **Children:** Keep the device out of reach of children.
- **Environment:** Do not operate the device in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
- **Water and Dust:** While rated IP54 for dust and splash resistance, avoid submerging the device in water or exposing it to heavy rain.
- **Maintenance:** Only qualified personnel should perform repairs. Unauthorized modifications may result in injury or damage to the device.

3. PRODUCT OVERVIEW

Key Features:

- **Dual-Axis Precision Measurement:** Equipped with dual MEMS sensors for X and Y-axis measurements with $\pm 0.2^\circ$ accuracy and 0.1° resolution.
- **Integrated Class II Laser:** Provides a 650nm red laser line for precise alignment, visible up to 10m. Features self-leveling $\pm 4^\circ$.
- **Durable Construction:** Robust aluminum alloy body with IP54 dust and splash resistance, suitable for harsh working environments (-20°C to 50°C).
- **Dual LCD Screens:** Double-sided LCD color screens provide intuitive, real-time data display for faster operations.

- **Type-C Rechargeable:** Built-in 400mAh lithium battery offers up to 72 hours of runtime, rechargeable via USB-C.
- **Magnetic Base:** Strong magnetic base allows for secure attachment to metallic surfaces for hands-free operation.
- **Multiple Measurement Units:** Switch between degrees (°), percent (%), and mm/m.

Package Contents:

- 1 x eSync ESY296 Digital Angle Gauge
- 1 x USB-C Charging Cable
- 1 x Storage Pouch
- 1 x User Manual



Image: The eSync ESY296 Digital Angle Gauge, USB-C charging cable, storage pouch, and user manual are displayed as included in the package.

4. SETUP

4.1 Charging the Device

The eSync ESY296 has a built-in rechargeable lithium battery. Before first use, fully charge the device.

1. Locate the USB-C charging port on the side of the device.
2. Connect the provided USB-C cable to the device and to a standard USB power adapter (not included).
3. The battery indicator on the LCD screen will show charging status. A full charge typically takes approximately 2.5 hours and provides up to 72 hours of operating time.



Image: The eSync ESY296 Digital Angle Gauge is shown connected to a USB-C charging cable, illustrating the charging process.

4.2 Powering On/Off

- Press the **ON/OFF** button to turn the device on.
- Press and hold the **ON/OFF** button to turn the device off.
- The device will automatically power off after 3 minutes of inactivity to conserve battery.

4.3 Calibration (Zeroing)

For accurate measurements, it is recommended to calibrate the device before each use or when moving to a new surface.

1. Place the angle gauge on a flat, stable surface.
2. Press the **ZERO** button. The display will show 0.00°, indicating it is calibrated to that surface.
3. For relative measurement, you can zero the device at any desired angle to measure the difference from that reference point.

5. OPERATING INSTRUCTIONS

5.1 Basic Angle Measurement

Place the device on the surface you wish to measure. The dual LCD screens will instantly display the angle in degrees relative to the calibrated zero point. The display automatically rotates for easy reading in any orientation.

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Dual Axis Measuring & Dual LCD Display

Readings To Be More Convenient

X-Axis
Measurement Range
 $40^{\circ} \sim 90^{\circ} (\pm 0.2^{\circ})$

Y-Axis
Measurement Range
 $0^{\circ} \sim 40^{\circ} (\pm 0.3^{\circ})$

Resolution: 0.1°

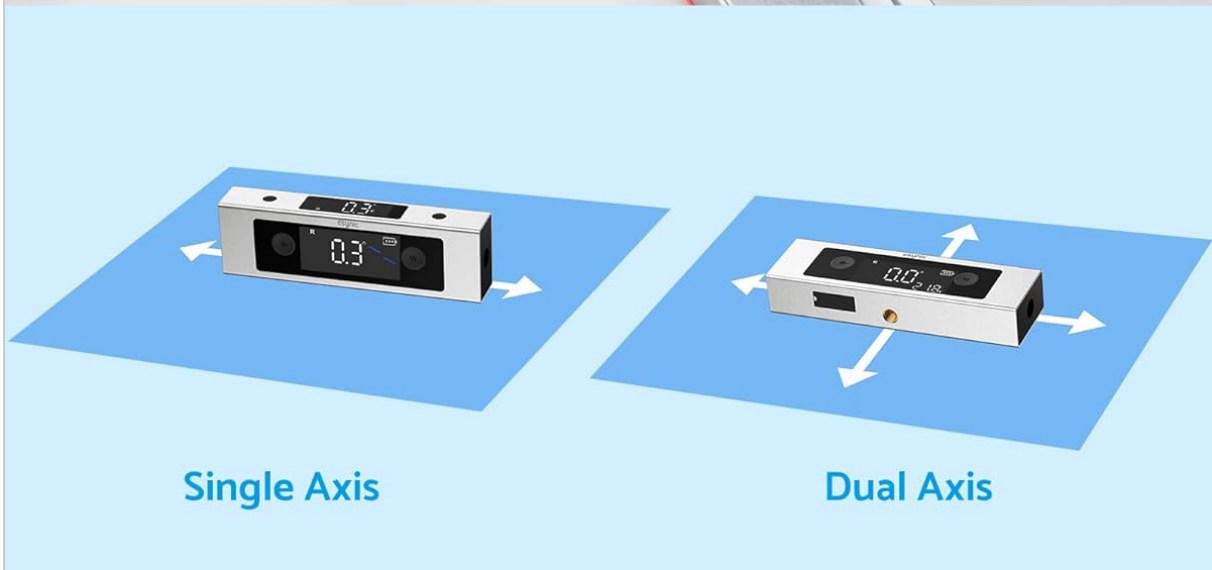


Image: The eSynic ESY296 is shown measuring angles on a metal beam, highlighting its dual-axis measurement capability and dual LCD displays for convenient reading.

5.2 Using the Laser

The integrated laser can project a straight line or a cross-line for alignment tasks.

- Press the **Laser** button once to activate the horizontal laser line.
- Press the **Laser** button a second time to activate the vertical laser line.
- Press the **Laser** button a third time to activate both horizontal and vertical laser lines (cross-line mode).
- Press the **Laser** button a fourth time to turn off the laser.



Image: The eSync ES296 projects both horizontal and cross laser lines on a wall, demonstrating its dual laser precision for various alignment tasks.

5.3 Unit Conversion

The device supports multiple units of measurement:

- Press the **UNIT** button to cycle through the available units: degrees ($^{\circ}$), percent (%), and mm/m.

5.4 Data Hold Function

To hold the current measurement on the display:

- Press the **HOLD** button once to freeze the current reading.
- Press the **HOLD** button again to release the reading and resume live measurement.

5.5 Auto-Reversible Display

The display automatically inverts the numbers when the device is turned upside down, ensuring readability in all orientations.

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Powerful Magnet Base
Strong Magnetic Suction at the Bottom,
Allow Various Angle Measuring



Image: The eSynic ESY296 is shown attached to a window frame using its magnetic base, with the display automatically flipping to remain readable when inverted.

6. MAINTENANCE

6.1 Cleaning

- Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the laser apertures and LCD screens are clean for optimal performance.

6.2 Storage

- Store the device in the provided storage pouch when not in use to protect it from dust and damage.
- Store in a cool, dry place, away from direct sunlight and extreme temperatures.

6.3 Battery Care

- Charge the device regularly, even if not in frequent use, to maintain battery health.
- Avoid completely draining the battery for extended periods.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on	Low battery	Charge the device using the provided USB-C cable.
Inaccurate readings	Not properly calibrated	Perform a zero calibration on a flat, stable surface.
Laser not visible	Bright ambient light; Laser off	Use in lower light conditions; Press the Laser button to activate.
Display shows "Err"	Angle exceeds measurement range	Ensure the angle is within the device's specified measurement range.

8. SPECIFICATIONS

Feature	Detail
Model Number	ESY296 (WT504)
Measurement Range	X&Y-Axis, $\pm 40^\circ$ Range (0.1° Resolution)
Accuracy	$\pm 0.2^\circ$
Laser Type	Class II, 650nm Red Laser
Laser Accuracy	1mm at 10m
Self-leveling Range	$\pm 4^\circ$
Power Source	400mAh Lithium Ion Battery (rechargeable via USB-C)
Operating Time	Approx. 72 hours
Charging Time	Approx. 2.5 hours
Material	Aluminum Alloy
IP Rating	IP54 (Dust and Splash Resistant)
Operating Temperature	-20°C to 50°C
Product Dimensions	11.8 x 3.5 x 2 cm
Item Weight	115 g

9. PRODUCT VIDEOS

Video: Demonstrates how to use a digital angle finder, including basic operation and features. (Source: Huepar-CA)

Video: Overview of a Proster Angle Finder with Laser, showcasing its magnetic base and laser functionality. (Source: PROSTER CA)

Video: Features of a Mecurate Digital Torpedo Level, demonstrating its digital display and leveling capabilities. (Source: Mecurate Instrument)

Video: Demonstrates the Neoteck Aluminum 225 Degree Digital Angle Level, showing its angle measurement and display. (Source: Neoteck CA)

Video: Highlights the PREXISO 2-in-1 Spirit Laser Level, showing its laser line projection and leveling functions. (Source: Greatstar CA)

Video: Shows the features and usage of a Digital Level Angle Finder. (Source: eOUTIL-CA)

Video: Demonstrates a Portable Digital Angle Finder for precision measurement. (Source: XinYiJia Store)

10. WARRANTY AND SUPPORT

eSynic products are manufactured to high-quality standards. For warranty information or technical support, please refer to the contact details provided on the product packaging or visit the official eSynic website. Please retain your proof of purchase for any warranty claims.