



easyangle 2001001 Digital Goniometer Instruction Manual

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Instructions for Use
Article Numbers Covered
2001001, 2001006

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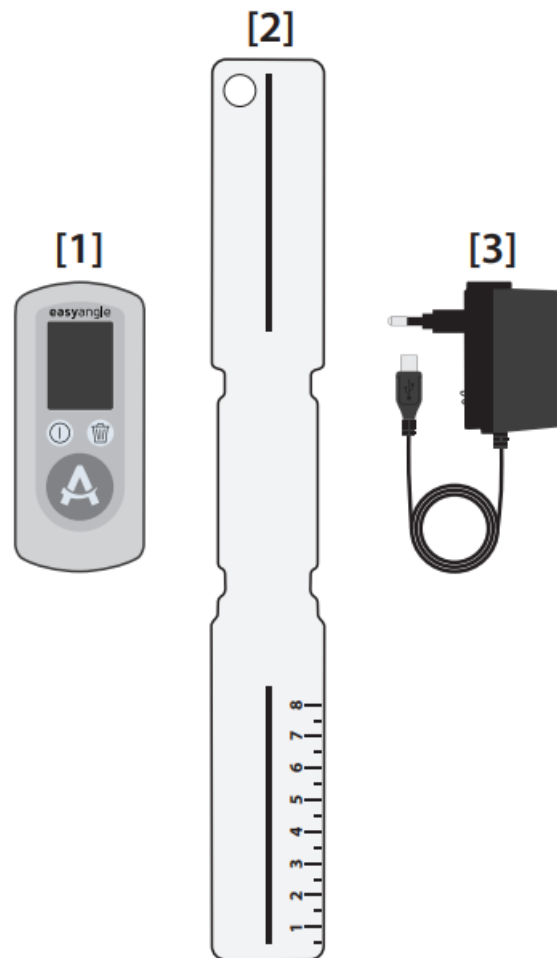
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Instructions for Use

Contents of the Box

- Sensor unit [1]

- Long alignment guide [2]
- USB-Charger [3]



First use

Remove plastic films from the screen and both sides of the alignment guides and charge the device according to instructions below for two hours before first use.

Charging the Device

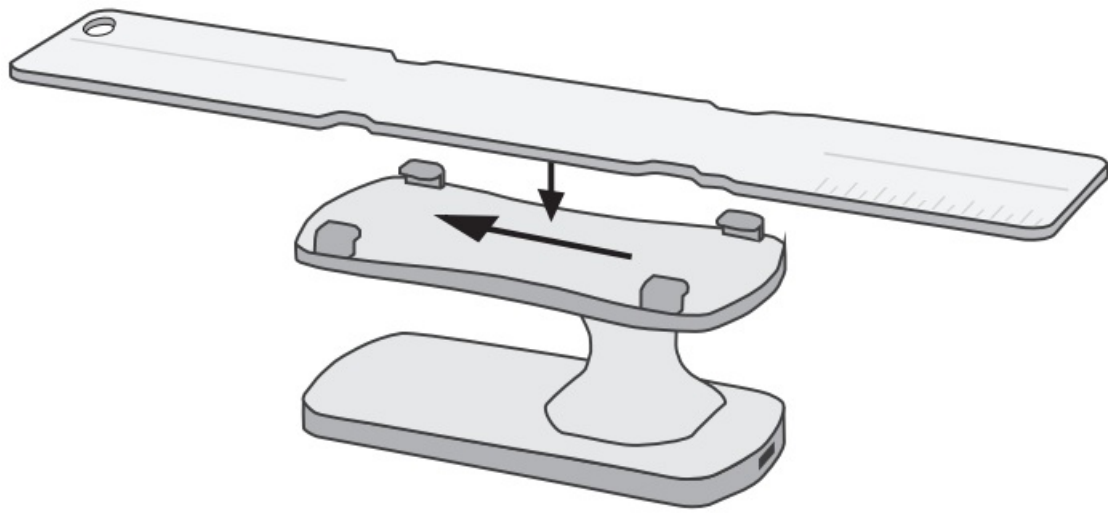
To charge the device connect the charger [3] to a power outlet and connect the USB cable to the sensor unit [1]. Only the supplied charger or a USB charger with markings shown on figure [4] may be used for charging. Charging the device makes you the operator of the device.



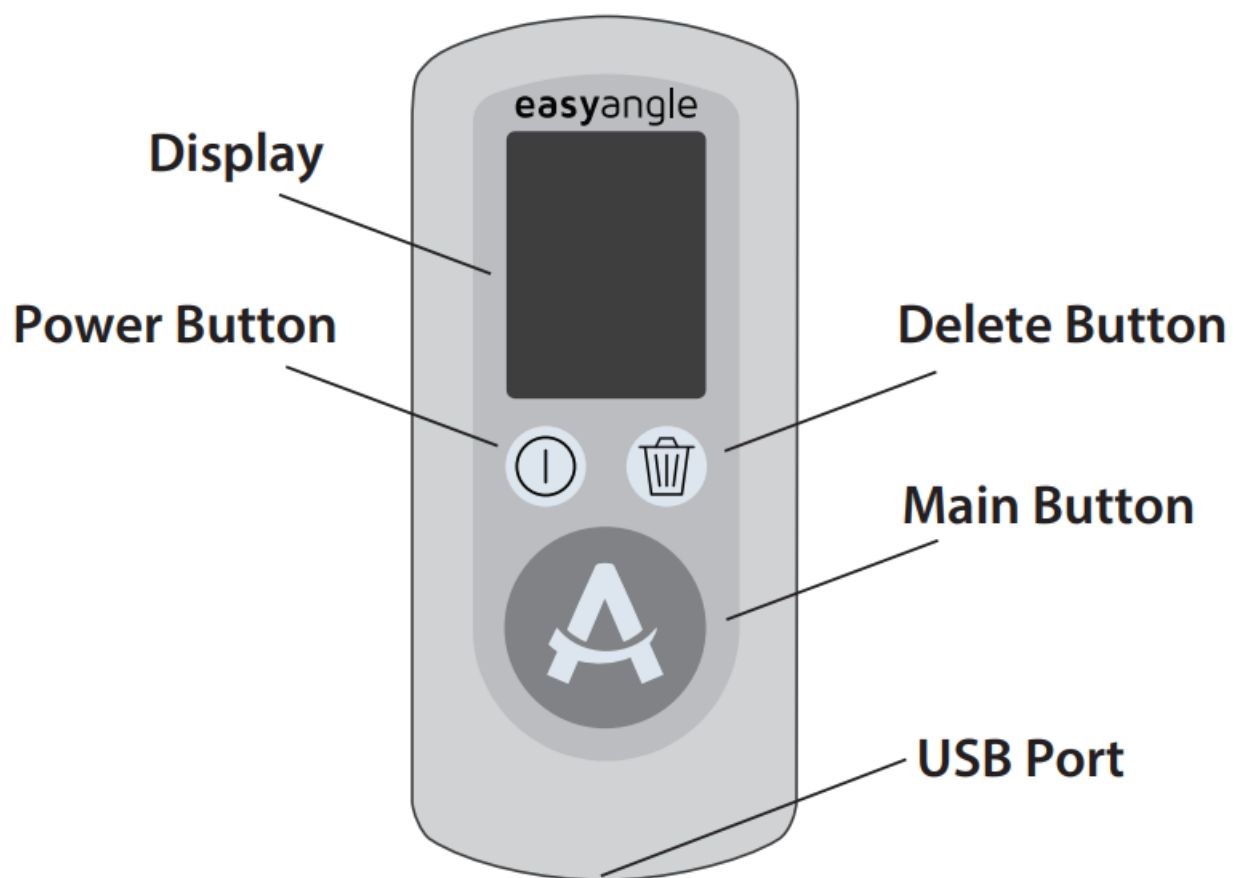
[4]

Attaching the Alignment Guide

Attach the alignment guide [2] by sliding it on the bottom of the sensor unit [1].

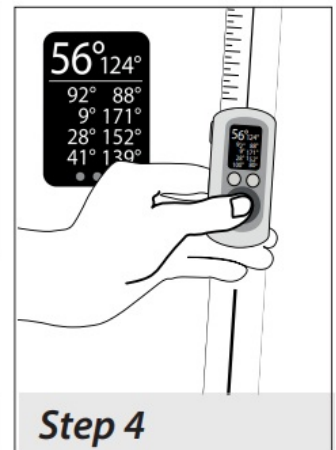
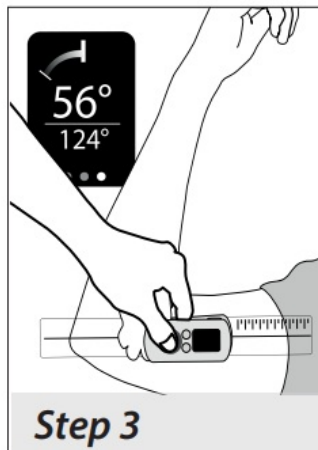
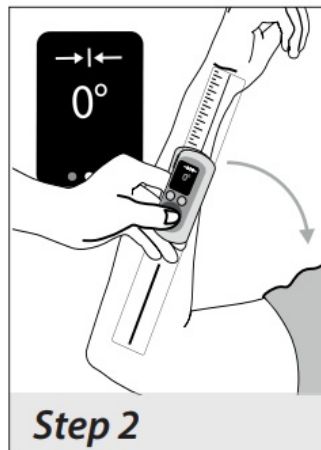
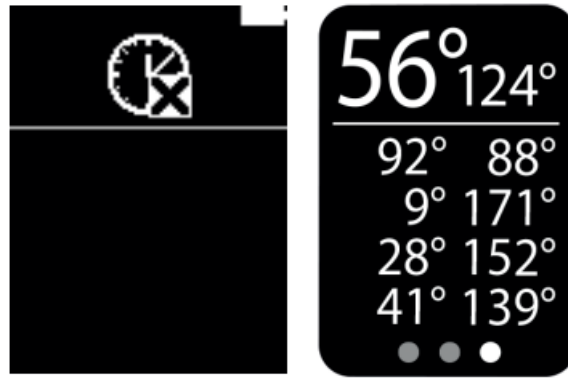


Buttons and Controls



Basic Operation

Power on the device by pressing the power button. The empty history view (left) or the latest measurements (right) are shown in the first view. Perform a measurement using the following steps:



Step 1 – Press the large turquoise button to enter measurement mode.

Step 2 – Align the device with the first limb and then press the button again to start measurement. Ensure that the patient does not move during measurement.

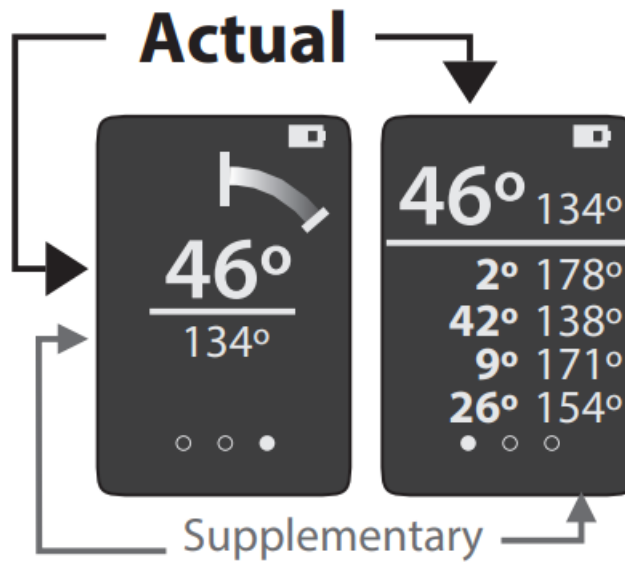
Step 3 – Align with the second limb and press the button to end measurement. The angle is calculated and shown on the display along with an arc that visualises the direction of the angle.

Step 4 – Press the button again to view the measured angle together with the last four measurements.

Press the power button to power off the device. If the device is not used for two minutes it will automatically shut down to save power.

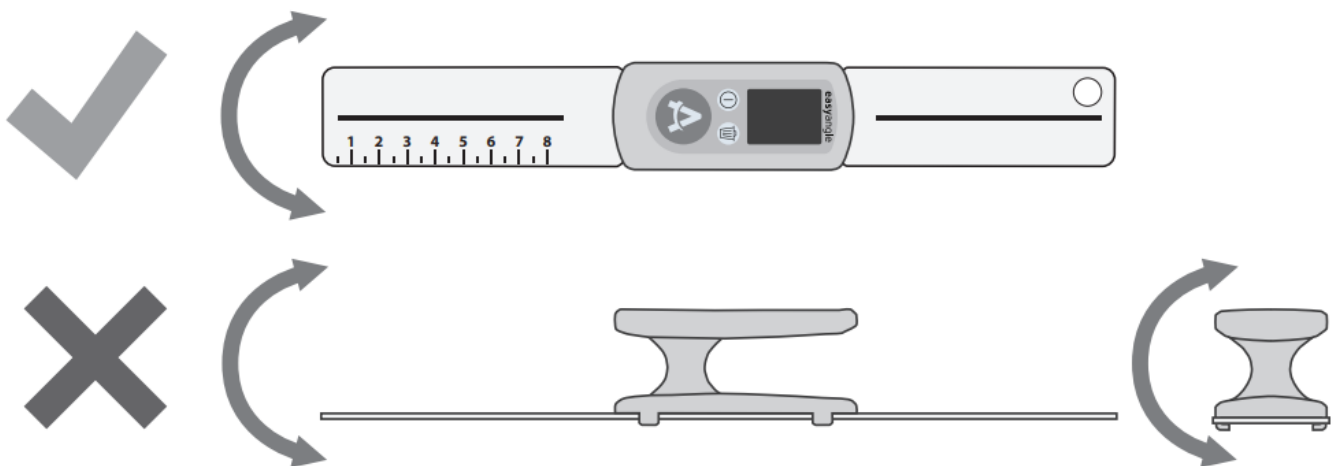
Angle Presentation

Two angles are displayed for each measurement, the actual angle the device has been moved and the supplementary angle, which is 180° minus the actual angle. The actual angle is shown with larger numbers both in the history view and in the measurement view.



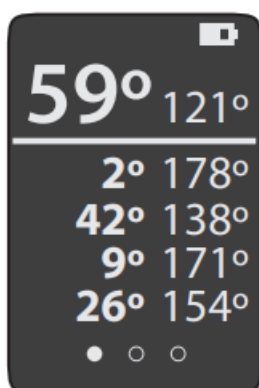
Measurement Guidelines

The EasyAngle measures rotations around the grip, as shown below. Only perform measurement where the device is rotated accordingly. Do not perform more than one full rotation of the device during measurement.

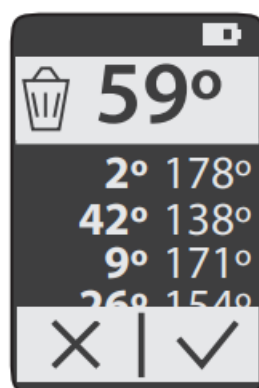


Delete measurement

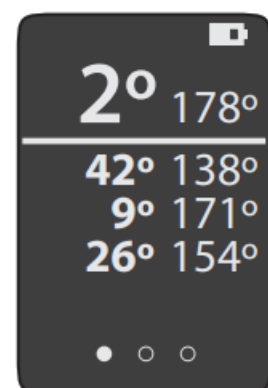
Previous measurements can be deleted in the history view. Pressing the delete button highlights the latest measurement, pressing the delete button again confirms deletion. Pressing any other button cancels the deletion.



History View



Delete Pressed



Delete Confirmed

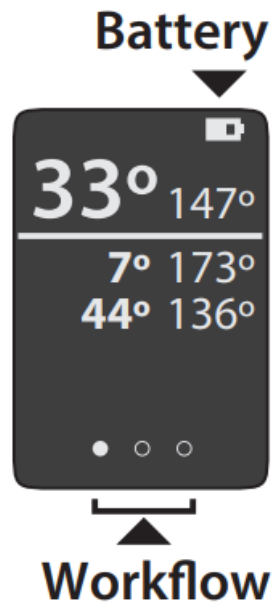
Error Modes

Invalid Rotation – During a measurement, it is possible for the device to be oriented in an invalid direction (see Measurement Guidelines). When this happens, the display shows a spirit level where the bubble indicates how the device should be redirected to get back to a valid direction. The measurement is resumed when the bubble gets close enough to the center circle.



Bump Warning – If the device is bumped or moved too fast during the measurement the acceleration error screen is shown and the measurement is aborted. Press the main button to restart the measurement.

Measurement Timeout – If a measurement takes more than one minute it is aborted and the timeout screen is shown. Press the main button to restart the measurement.



Indicators

There are two indicators on the display, the battery indicator and the workflow indicator. The battery indicator has four levels, please charge the battery when the last level is displayed. The workflow indicator shows which step in the workflow is currently active, see the figures in Basic Operation.

Audio Signals

Two Beeps – Invalid rotation during measurement.

Two Long Beeps – Measurement timeout or bump warning.

Single Beep – Powering on or returning from an invalid rotation.

Single Low Pitch Beep – Button press.

Single Long Beep – Powering off.

Hard Reset

Press and hold the power button for 30 seconds.

Care and Maintenance

If disinfection is required wipe the device with a cloth damped in 70% ethanol/isopropyl alcohol solution.

Additional Material

Examples of how to use the device are shown at: www.easyangle.com



Warnings

- Disconnect the USB cable before cleaning.
- DO NOT immerse in liquid, sterilize, or apply solvent, acids or oil to the device.
- DO NOT subject the device to extreme heat or cold.
- DO NOT use a broken unit.
- No modification of the equipment is allowed.

Intended Use and Purpose

The EasyAngle is intended to facilitate assessment of anatomical joint angles. The purpose of the EasyAngle is to facilitate assessments of the range of motion (ROM) and actual angle, for example maximum extension, flexion, adduction, abduction and rotation of any anatomical joints. This assessment can be used for e.g. tracking of progress in a rehabilitation program or investigation of severity of an injury.

Contraindications

The EasyAngle must NOT be used:

- Directly on injured skin.
- In oxygen-rich environments.
- Where increased levels of electromagnetic, ionizing or particle radiation are present.

Specifications

Product Name	EasyAngle
Operating Environment	Not for home use
Operating Temperature	10°C/50°F to 45°C/113°F
Enclosure	IP4X
Operating Time	2 weeks (12 min / day)
Stand-by Time / Charging Time	11 weeks / 2 hours
Sensor Accuracy (0° – 180°)	± 1°
Charger Specifications	5VDC, > 0.2A, USB Micro
Manual Revision	2001-5MA003-07

Explanation of symbols

Please see page 53.

Service and Warranty

The EasyAngle has a twelve (12) month warranty from the date of purchase. The warranty is void if the device has been tampered with or used outside specifications.

Please contact your vendor for service and maintenance issues.

Explanation of Symbols



Consult instructions for use



Serial Number



Article Number



Type B applied part according to EN60601-1



Product must be collected separately.

Technical Description

The EasyAngle device calculates the angle between two positions using inertial sensing technology.



Manufacturer



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Documents / Resources

 <p>GB - Instructions for Use DE - Hinweise zum Gebrauch DK - Brugsanvisning ES - Instrucciones de uso FI - Käyttöohje FR - Manuel IT - Istruzioni per l'uso NL - Gebruiksaanwijzing PT - Instruções de Utilização SE - Manual PL - Instrukcja użytkowania CN - 使用说明书 TR - Kullanım Kılavuzu</p> <p><small>Article Number / Numéro / Artikelnummer / Código de referencia / Référence de la fiche technique / Käytösäätö / Artikelnummer / Configuration / Numéro di serie del prodotto / Numéro de série / Artikelnummer / Numéro de série / Artikelnummer / Série / Artikelnummer / Nummer Artikelnummer / Artikelnummer / Artikelnummer 2001001, 2001006</small></p>	<p>easyangle 2001001 Digital Goniometer [pdf] Instruction Manual 2001001, 2001006, 2001001 Digital Goniometer, 2001001, Digital Goniometer, Goniometer</p>
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