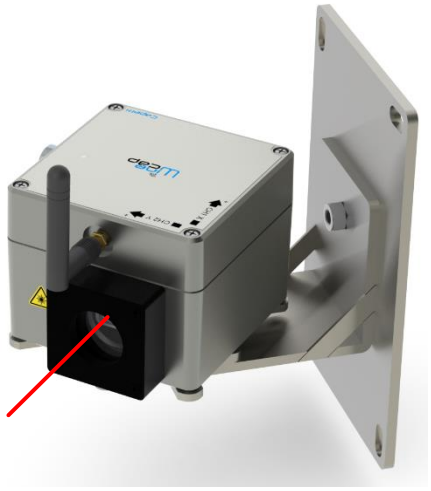
WSD15IIDIST



# Clinometer – Distance meter - Wireless

Wireless datalogger for biaxial inclination, temperature and distance measurement with high stability and accuracy. Free installation in any position with X and Y initial position zeroing, via command given with WineCapKey or remotely. High radio range and autonomy.

**Suitable to monitor:**

- Building structural movements
- Tunnel deformations
- Bridges and dams' stability
- Railroads deformations
- Slopes, land subsidence and landslides
- Embankment stability

**Main features**

- Three-axis MEMS at high accuracy and low noise.
- 655nm class 2 laser
- Free installation in any position
- Sturdy case and impact resistant
- IP67
- Up to 5 years of battery life

# WSD15IIDIST

## Technical Information.

| | |
|---|---|
| **Power supply** | 19 Ah - 3,6 V type "D" lithium internal battery (*BAT3*) |
| **Battery life (*)** | Up to 5 years<br>*(samples every 60 minutes and radio signal quality at least sufficient)* |
| **Measures acquired *(4 input channels)*** | • X and Y biaxial inclination<br>• Absolute distance (*or outdoor temperature*)<br>• Relative distance |
| **Sampling interval *(*)*** | Selectable from one minute to 24 hours *(60 minutes default)* |
| **Datalogger capacity** | 64,000 samples (*for each channel*) |
| **Working temperature** | • Operative: -30 °C ÷ +60 °C<br>• Distance meter functionality (****): -10°C ÷ +50°C<br>• Warehousing: -40 °C ÷ +70 °C |
| **Radio frequency** | ISM 868 MHz |
| **Radio coverage** | Up to 6 km in line of sight<br>*(can be extended using WR12 battery powered repeaters)* |
| **Sealing** | IP67 |
| **Dimensions** | 100x100x80 mm |
| **Weight** | 1,6000 g |
| **Case material** | Aluminium |
| **Mounting** | Using basic clamp or optional *FIX-DIST* clamp<br>(*free adjustment on 2 axis*) |
| **Connections** | Wireless, USB |

## Inclination

| | |
|---|---|
| **Transducer type** | Three axis accelerometer |
| **Measure range** | -6.5000° ÷ +6.5000° |
| **Measure accuracy** | ± 0.5% of measure |
| **Measure resolution** | 0.0002° |

## Temperature

| | |
|---|---|
| **Transducer type** | NTC10KΩ |
| **Measure range** | -30 °C ÷ +60 °C |
| **Measure accuracy** | • ± 0.5 °C Range -30 °C ÷ 0 °C<br>• ± 0.2 °C Range 0 °C ÷ +60 °C |
| **Measure resolution** | 0.01 °C |

## Relative distance

| | |
|---|---|
| **Transducer type** | LASER distance meter |
| **Measure range** | • ±3,200 mm<br>• 0.05÷15 m (*target: natural surface*)<br>• 15÷40 m (*target: white matte surface*)<br>• 40÷150 m (*target: orange reflective****) |
| **Measure resolution** | 0.1 mm |
| **Measure accuracy @2σ (*@1σ*)** | ±1 mm (*±0,5 mm*) |
| **Repeatability @2σ (*@1σ*)** | ±0.3 mm (*±0,15 mm*) |

## Absolute distance

| | |
|---|---|
| **Transducer type** | LASER distance meter |
| **Measure range** | • 50÷65,000 mm<br>• 0.05÷15 m (*target: natural surface*)<br>• 15÷40 m (*target: white matte surface*)<br>• 40÷65 m (*target: orange reflective****) |
| **Measure resolution** | 1 mm |
| **Measure accuracy** | ±1 mm |
| **Repeatability** | ±0.3 mm |
| **Type** | Class 2 – 655 nm (*visible red*) |
| **Typical elliptical laser point on target** | 17 mm / 9 mm @ 30 m |

** battery life may be influenced by fieldwork conditions, sampling interval and system configuration.*
*** radio coverage can be extended using up to 32 WR12 repeaters (maximum 16 for each path) between the device and the gateway.*
**** to avoid possible damage to the laser, the reflective target supplied must NOT be used in the range 0.05 ÷ 40mt*
***** laser samples are available only in this temperature interval. Laser will not be active outside of this interval.*

# WSD15IIDIST

The **WSD15IIDIST** is a wireless datalogger provided with 4 input channels to acquire biaxial inclination, temperature, or absolute distance (*selectable during installation*) and relative distance, with storage functionality of samples acquired.

The radio module High Reliability (*unique 868MHz radio technology. implementing frequency hopping on 11 channels*) based on **WINECAP™ LuPo** protocol (*Long Range*) provides an excellent radio range, low battery consumption and the certainty of data recovery in any situation (*black out/ signal obstacles*).

With a backup memory onboard may store the last 64,000 samples per channel even if the wireless link is down. Samples can be downloaded using a USB connection.

Using the configuration software, the sampling interval may be set and two thresholds per channel can be activated.

May be interfaced with:

- all the **gateways** of **MWDG** product line
- all the **gateways** of **MWLI** product line

If necessary, radio coverage may be extended up to 16 times using **WR12 repeaters** (*battery powered repeaters with battery life up to 7 years*) between the datalogger and the **gateway**.



*The features shown may be subject to change without notice.*