User manual



Leader SENTRY Wireless









This manual was designed so you can familiarise yourself with the use of your **Leader SENTRY Wireless** movement monitor.

The instructions for use and safety guidelines must be followed in order to prevent any accident.

Any disassembly or repair must be performed by either **LEADER** or an approved dealer.

This manual presents the simplicity and ease of use of the device.

In order to improve this manual **LEADER** remains open to your suggestions. Do not hesitate to send them to us.

Product references

	Reference	Product
	D11.06.020	Leader SENTRY Wireless SINGLE (1 LASER)
	D11.06.022	Leader SENTRY Wireless DOUBLE (2 LASERS)
D11.06.020F Leader SENTRY Wireless SINGLE (1 LASER) with all accessories availing version) D11.06.022F Leader SENTRY Wireless DOUBLE (2 LASERS) with all accessories availing (Complete version)		Leader SENTRY Wireless SINGLE (1 LASER) with all accessories available (Complete version)
		Leader SENTRY Wireless DOUBLE (2 LASERS) with all accessories available (Complete version)
	D11.06.014	Suction cup mount with ball-joint mount
AL	D11.06.023	External rechargeable battery
NO	D11.06.025	External battery charger
IL	D11.06.021	Wireless remote control
OF	D11.06.026	Remote control pouch
	D11.06.024	Case (only for 2 LASERS version)

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1 INTRODUCTION

- The **Leader SENTRY Wireless** movement monitor was designed to ensure the surveillance of unstable structures. It provides additional security to teams involved in firefighting and emergency and rescue operations.
- An eye-safe laser range finder is aimed at a potentially dangerous structure and continuously monitors the smallest
 movements of it. The device can be used to monitor movements of any object or mass that may put people working
 nearby in danger, such as unstable buildings, mudslides, avalanches, poorly balanced vehicles or any other similar
 danger.
- The laser range finder can be mounted on the supplied tripod or with the suction cup mount for attaching to a smooth surface (vehicle body, window, etc.) and can detect movements up to a distance of 50 m depending on weather conditions. A scope allows the user to aim the laser at the target structure. The distance between the range finder and the target is indicated on the screen, as well as the movement measured in comparison to the selected detection threshold. The device will trigger an alert when the selected threshold has been exceeded by 2 to 100 mm (0.007 to 0.33ft).
- The laser range finder measures movements in the direction of the laser beam. The maximum accepted movement is
 selected in increments. This allows the device to adapt to poor weather conditions or natural movements in the
 structure. The variations are displayed on the screen until the threshold is reached. If the structure moves so as to
 exceed the selected threshold, a powerful alarm (105 dB) is activated.
- Two laser range finders can be used simultaneously, thereby allowing the user to monitor two different structures or monitor the same structure from two axes of movement. The 2 lasers communicate via wireless connection. The Leader SENTRY Wireless movement monitor is available in one or two-laser versions. An optional wireless remote control is also available and can be connected to one or two lasers.



The Leader SENTRY Wireless movement monitor satisfies EC European recommendations: Electromagnetic Fields, RoHS, WEEE.



2 USAGE WARNINGS

Give each alarm the most attention possible. Never assume that the reason for the alarm is accidental until that has been established definitively.

- Ensure that the monitoring area is free of any unnecessary movements, (people, machines, etc.) in order to avoid false movement detections.
- In the case where it is no longer possible to measure the distance when a structure is under surveillance (in case of fog, for example), the alarm will sound to alert the user.
- The device is designed to filter out short-term obstructions to the laser beam (passing people, birds, etc.). Longer lasting obstructions will trigger the alarm.
- Fog, dust or intense light can influence the device's range. The user must take into account the environmental conditions and adapt the distance so as to have accurate measurements.
- When the temperature is very low (0°C (32°F) or lower), the batteries cannot be used. It is strongly recommended to use an external power source.
- Always make sure to use good-quality lithium, alkaline or rechargeable NiMH batteries.

Never use zinc batteries (zinc-carbon or zinc-chloride).

- Do not use a mix of battery types.
- When using the mains adapter outside, always protect it from rain and moisture.
- Always test to see that the device is working correctly before any real use by verifying that the alarm works and the flashes light up.
- The scope is adjusted in a way to make the laser's red dot coincide with the cross-hair at 35 m (114.8ft). Their alignment differs for distances shorter and longer than 35 m (114.8ft).
- To avoid measurement errors, try as much as possible to position the laser beam perpendicular to the targeted surface. Do not aim at dust-free glass, expanded polystyrene or surfaces that are similarly transparent.
- When aiming at highly reflective surfaces, the laser beam can be diverted and measurement errors can occur.
- The measurement time can increase when the surfaces are dark or non-reflective.
- Wear a protective headset when approaching the laser after the alarm is triggered (105 dB).
- Never look directly into the sun through the scope. That could cause eye injuries.



3 DESCRIPTION

3.1 Contents

DESCRIPTION	1 LASER (LA1)	2 LASERS (LA1 and
	Version	LA2) Version
Class 2 laser range finder	1	2
Tripod	1	2
Ball-joint mount for tripod-range finder connection	1	2
Mains unit with 110/ 220V 50/60 Hz adapters	1	2
12V cable with car adapter	1	2
AAA Alkaline battery	12	24
Transport case	1	/
Backpack	/	1
User guide	1	1
Quick start manual	1	1
Suction cup ball-joint mount	Optional	Optional
External rechargeable battery	Optional	Optional
External battery charger	Optional	Optional
Remote control	Optional	Optional
Transport case	/	Optional

3.2 Product description

Leader SENTRY Wireless equipment:





3.3 Laser description

- > The laser range finder is made up of:
- A range finder used to measure the distance with great accuracy.

The laser range finder power output is less than 1mV. In case of laser exposure, the natural reflex to blink and turn your head is enough to protect yourself from eye injuries.

LASER RADIATION / DO NOT STARE INTO BEAM / CLASS 2 LASER PRODUCT / IEC / EN60825-1:2014 /P<1mW; A=655mm (2.18ft)

Laser range finder

A powerful alarm (105dB at 1m).

3 flashes for a visual alert.

Once the threshold has been selected, the devices are identified as follows:

LASER $1 \rightarrow 1$ flash blinking every 5 sec. LASER $2 \rightarrow 2$ successive flashes blinking every 5 sec.

A target scope with a red laser pointer to correctly adjust the laser range finder beam on its target.

Device features:

- 1 protective lens and camera lens cap provided for storage
- . 1 Mil-Dot cross-hair for better target accuracy.
- 5 light levels for the red/green cross-hair for night vision powered by 1 CR2032 battery (provided).
- Equipped with a red laser pointer with 3 LR1130W batteries (provided). A Autonomy 1h.
- . Equipped with a 2.5x/10x focus field of vision 8.9/32.5 at 100 m (328.1ft).
- Equipped with a \emptyset 40 mm (0.13ft) camera lens.

Battery compartments Target scope Control Fastening

Red laser pointer

Flashes

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Power or battery (optional) connector facade Point (12-24V)

3.4 Tripod description

- The aluminium telescopic tripod linked to a 3D ball-joint mount allowing the user to set up and adjust the laser perfectly.
- The maximum adjustment height of the tripod with the laser is about 2 meters (6.56ft).
- In case of wind or to stabilise the device, the tripod can be weighted with a provided strap.

3.5 Ball-joint mount description

 The 3D ball-joint mount functions as the interface between the tripod and the laser. It includes the plate which is screwed under the laser (to be tightened properly).

3.6 Description of available power supplies

- 1 external 12/24V 110/ 220V 50/60Hz compatible power supply:
- Supplied with 1 car adapter power supply cable (3m (9.9ft)).
- Supplied with international adapters (UK, Europe, USA and Australia). 1.2m (3.3ft) outlet cable.
- Power supply LED indicator.
- Short-circuit and surge protector.
- Battery power supply:
- 4 battery trays (3 x AAA batteries each 12 batteries in total) for use in the field without a mains supply.
- 4 cases supplied to hold the battery trays in the dedicated compartments.
- 12 x AAA alkaline batteries supplied. Lithium batteries or rechargeable NiMH batteries can also be used. Choose good quality batteries.

3.7 Sentry SINGLE 1-laser transport case description

 Transport case with high-density foam for quick storage in a vehicle boot. The tripod can be fastened on top of the bag using a strap with Velcro.

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3.8 Sentry DOUBLE 2-laser transport backpack description

A resistant and ergonomic backpack supplied to transport
 2 lasers and all standard and optional accessories (External batteries, tripods, ball-joints, remote control, user manual, etc.).

3.9 Optional case

 Anti-shock transport case with IP67 seal certification for storing and protection of the Sentry DOUBLE backpack. (2-laser version) during transport and storage.

3.10 Optional suction cup

• Offers optimum fastening. It can be attached to all smooth surfaces such as glass or metal. It has a ball-joint mount.

3.11 Optional external rechargeable battery

- NiMH 12Vdc/4.5 Ah battery.
- Charging time 5h30 between 0 $^{\circ}$ and 40 $^{\circ}$ (32°F and 104°F).
- IP55.
- Allows the laser to be used for 45 hours.

3.12 Optional charger

 Charger for the external NiMH rechargeable battery (see above): 110/240Vac/12Vdc/0.35A max.

3.13 Optional wireless remote control

- It displays laser data and allows functionalities to be controlled remotely. It has a speaker to relay the alert if the threshold is exceeded (80 dB).
- Anti-shock **ABS** box.
- **IP 67** seal.
- **LR06 AA** 6-battery power supply.
- A carry pouch (optional) is also available.

3.14 Console description

NB: You only need to press any of the buttons on the keyboard to stop (and therefore deactivate) the alarm.

3.15 DESCRIPTION OF THE SCREENS

Home screen:

• Start screen displayed when turned on for **2** seconds.

3.15.1 Control screen

Laser name: Upper and lowercase letters are used to distinguish the device being used:

NB: - The optional remote control displays the lasers only in uppercase letters.

- In order to conserve battery power, the laser range finder turns off after 5 minutes if no threshold is selected.
- 2 Signal connection level based on 4 levels. This icon is displayed only if the laser range finder is connected with a 2nd laser range finder or the optional remote control. It is possible to disconnect a laser from the network (see § 4.6.2).

B Laser range finder number being used; here "LA1" stands for LASER 1.

4 Battery level indicator for the laser range finder in question; here "LA1". 4-level indication: (100%), (70%), (30%) and (30%) and (5%). The laser battery life is around 8 hours during normal operation (threshold met - no alarm) with good-quality alkaline batteries. In addition, the "low battery" alarm (see § 5.3) is automatically triggered 5 minutes prior to the device switching off for 5 sec. When the laser is connected to 12-24V or the 100-240V mains power, the battery symbol replaces the battery symbol. Indicates the distance between the laser range finder and the target. **6** Measurement quality of the laser range finder based on 5 levels. In some cases (weather, light, target surface, etc.), the measurement cannot be taken: An error code Exxx is displayed (see §7). If a threshold is met and the measurement suddenly can no longer be taken, an alarm is triggered. 100mm Display of selected threshold v () is movement of a cursor representing the movement of the target. **Example:** Visualisation of **LASER 1** screen 100mm LASER 1 screen with 100 mm (0.33ft) LASER 1 LASER 1 screen without threshold threshold **Example:** Visualization of the **laser 2** screen and selection of a threshold from **LASER 1**. 100mm L A1 100mm

NB: Remote laser range finder identification once the threshold has been selected:

- Laser $1 \rightarrow 1$ flash blinking every 5 sec.
- Laser 2 → 2 successive flashes blinking every 5 sec.
- **Example:** Visualisation of the cursor representing target movement.

LASER 1 screen with 100 mm (0.33ft) threshold 40 mm (0.13ft) cursor

Bell indicating that the alarm is ready to operate if the selected threshold is exceeded.

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4 INSTALLATION

4.2 Connecting the power supply

Mains power supply remains as the recommended power source. In case no external power supply is available, use batteries or the external rechargeable battery (optional).

• The Leader SENTRY Wireless comes with its power supply (see §3.6).

4.3 Installing batteries

Note: It is recommended that you use LR03 AAA Alkaline batteries. The device can work independently with LR03 AAA Alkaline batteries (**see §5.6**), but they should be used more as a **back-up power supply** in case no external power source is available. Lithium batteries can also be used. The battery life can be extended (**see §5.6**). The battery life varies according to the battery brand and quality.

• The device has 4 trays that each require x3 LR03 AAA batteries, for a total of 12 batteries.

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4.4 Filtering for unintentional passages

• The device is designed to filter out short-term obstructions to the laser beam (passing people, birds, etc.). Longer lasting obstructions will trigger the alarm. This function is only operational if a threshold has been selected. The filtering zone is located between the laser and the target at two times less (-2 x) than the selected threshold.

Example with a 100 mm (0.33ft) threshold:

• A movement in the filtered zone, such as a knock against the tripod, will trigger the alarm with a longer response time from 1 to 2 sec., due to the filter. Conversely, a movement in the threshold zone will trigger the alarm immediately.

4.5 Adjustment and maintenance of the scope, laser pointer compared to the laser range finder

The scope is used to view the target at a distance. From a certain distance and depending on the light levels at the time, the red dots of the laser range finder and the laser pointer are no longer seen on the target. The target cross-hair (cross) is then the only means for targeting.

Please note that the scope is adjusted in a way to make the laser range finder's red dot which appears on the target coincide with the cross-hair at 35 m (114.8ft). Their alignment differs for distances above and below 35 m (114.8ft). This is due to the distance between the laser and the scope mounted a few centimetres above the box.

- The target scope is pre-adjusted in the factory to ensure the target cross-hair (cross) corresponds with the laser pointer red dot fixed on it. In the event of improper adjustment or low batteries for the laser pointer and the cross-hair, follow the following procedure:
- Scope adjustment.

2

Remove the covers of the Vertical and Lateral adjustment buttons.

Adjust the laser to bring the dot back towards the centre. Adjust the Vertical and Lateral adjustment.

3 Laser pointer adjustment to bring the dot back towards the centre. Adjust the two Allen screws with the 6-sided wrench provided for this purpose, follow the following procedure:

4.6 Device usage

2

- Identify the target to be monitored.
- Ensure that the tripod is properly balanced and set up on solid ground. A ballast can be suspended from the tripod to stabilise it. Adjust the height of the tripod if needed.
- Aim the laser beam on the selected surface by using the scope.

The laser only functions on a non-transparent surface. It's best to select a flat surface with a light grey colour.

- Check the distance indicated on the display. To obtain the best performance, it is recommended to place the laser less than 50 m (164ft) away from the structure. Try as much as possible to position the laser beam perpendicular to the targeted surface.
- When selecting the unit of measurement, it is possible to change from the metric to imperial system and vice versa (see §5.1).
- Select the detection threshold using the buttons ranging from 2 to 100 mm (0.1" to 4").

Using the selected threshold, monitoring is activated after 2 seconds to avoid button pressing causing a movement detected by the laser range finder. Check that the flashes are blinking:

Range finder	Use of a Sentry SINGLE	Use of a Sentry DOUBLE
Laser 1	1 flash every 5 sec.	1 flash every 5 sec.
Laser 2	/	2 successive flashes every 5 sec.

• It is recommended to test that the device works correctly before any real use. To test this, you only need to place your hand in front of the laser beam to trigger the alarm. You only need to press any of the buttons on the keyboard to stop the alarm.

Once the alarm has been stopped, monitoring must be restarted by selecting a threshold again.

The Leader SENTRY Wireless has 3 alarm rates: 1 to identify when a threshold has been exceeded. 1 to identify an error message Exxx (see § 7). 1 to signal low battery level.

NB: See Meaning of Visual & Audible Alarms (see § 5.2.1).

• The **Leader SENTRY Wireless** is designed to detect movement in the axis of the laser range finder beam. To monitor the two axes simultaneously, two devices can be used together and operated from the same control screen.

4.6.1 VIEW ALL function

Function accessible by pressing the button.

• The VIEW ALL screen is only available if at least two devices are all connected.

LASER 1 name (Capital letters) "LA1".

- **LASER 2 name** (Lower case letters) "la2".
- **3** Selected threshold value.
- **4** Battery indicator for **LASER 1**.
- **5** Icon which indicates that the sound alarm is deactivated (here for **LASER 1**).
- 6 Icon that indicates that the sound alarm has been activated (by default when the laser range finder is turned on).

E.g. LASER 1 and laser 2 connected.

If **LASER 1** detects a movement exceeding the threshold, it triggers the visual alarm (flashes) - silent mode.

If **laser 2** detects a movement exceeding the threshold, it triggers the sound alarm (siren) and visual alarm (flashes).

LASER 1 screen with 100 mm (0.33ft) threshold and **laser 2** with 5 mm (0.02ft) threshold

VIEW ALL

4.6.2 Operation of networked devices

If acquiring a Sentry DOUBLE (2 lasers) or a SENTRY SINGLE (1 laser) with optional remote control, the laser range finders and the remote control are paired together in the factory.

- The laser range finder numbers (LA1 and LA2) are factory assigned and do not change.
- In the event of separate acquisition, they can be paired or unpaired if needed based on the procedure (see § 5.5).

The lasers must be switched on one after the other so wireless connection takes place correctly.

NB: For a successful process, wait for the control screen to switch on the 2nd laser or remote control.

Once they are turned on, the devices indicate the wireless connection level.
 If the wireless connection level does
 not appear, turn off the devices and restart.

Pressing for 5 seconds on O deactivates the laser's radio communication so it exits the network and
 makes it independent. The other devices no longer "see" it. Pressing on O for 5 seconds resets the communication.

From any device connected to the network making the symbol appear 🛒 it is possible to:

SELECT

• View a summary of all the connected devices (access to the "VIEW ALL" screen) by pressing on the button.

View the detailed control screen for laser 2 on the screen of laser 1 and vice-versa by pressing on the button.

 (\mathbf{O})

• View the screen of laser 1 on the LASER 2 screen

• View the LASER 1 and LASER 2 screens on the remote control screen

Note that LASER 1 and LASER 2 are in capital letters. From the remote control it is not necessary to distinguish between them. Physical remote identification takes place via flash blinking. Once the threshold is reached, laser 1 flashes once/5 sec. and laser 2 flashes twice/5 sec.

• Stop an alarm by pressing on any button on the keyboard.

5 OPERATING PRINCIPLE

5.1 Choice of metric or imperial system

- To change the display from millimetres to inches and vice-versa, you must push and hold the button.
 and the button is simultaneously for at least 5 seconds when turned on.
- In the event where several devices are connected to the network, the selected unit of measurement is the one programmed on the 1st device that has been turned on.
- The unit of measurement is saved for each restart until it is changed by the user.
- \circ Metric \rightarrow Imperial

5.2 Alarm operating principle

• A detected movement triggers the sound alarm (siren) and visual alarm (3 flashes) for the laser range finder in question (when exceeding the selected threshold).

For example, when using a Sentry DOUBLE, the lasers trigger the alarm independently. If the laser range finders trigger their alarm, it is because the 2 laser range finders detect a movement in each of the targets.

- If there is a measurement error with the threshold met, the laser in question displays a code **Exxx** and triggers an alarm. This has a different rate than the alarm detecting a movement (see § **5.2.1**).
- If the alarm is triggered, a remote control connected to 1 or 2 laser range finders relays the sound alarm. It includes a speaker generating an **80dB** alarm (no light flash).
- The name of the device that detected the movement is displayed by default on the screens of all of the connected devices.
- LASER 1 simulation which triggers the alarm

• Simulation: LASER 1 and LASER 2 both trigger their alarm.

 The user can stop the alarm by pressing on any button of any device. It will therefore be necessary to select a threshold to restart monitoring of the laser which sounded. If the laser range finder which sounded is part of a Sentry DOUBLE (2 connected lasers), the 2nd laser range finder which did not detect any movement keeps its programming.

• Simulation: the LASER 1 alarm has just stopped and LASER 2 keeps its programming.

• The user can choose to change the alarm to silent mode: Only the visual alarm (light flashes) remains active. The latter cannot be deactivated.

To deactivate the sound alarm, press on the buttons

and other.

• This action can only activate/deactivate the laser being used. In fact, the choice to set the audible alarm on silent mode can impact the team's safety. To avoid any error, this function cannot be activated or deactivated remotely from another connected device (laser range finder or optional remote control).

By default, the sound alarm is reactivated when passing from another threshold or after restarting the laser in question.

• The **VIEW ALL** function is used to view which laser is set in silent mode:

5.2.1 Meaning of visual and audible alarms

The rate of the alarms differs depending on the situation:

Device status	Sound alarm	Flashes		
Device status	Sound alarm	LASER 1	LASER 2	
Non-triggered threshold device	No alarm	No flash on	No flash on	
Triggered threshold device	No alarm	1 flash every 5 sec	2 flashes every 5 sec	
Movement detection	Continuous alarm until stopped by the user	1 flash every 1 sec until stopped by the user	2 flashes every 1 sec until stopped by the user	
Movement detection in silent mode	detection in silent No alarm		2 flashes every 1 sec until stopped by the user	
Error code	Different alarm from movement detection	1 flash every 1 sec	2 flashes every 1 sec	
Error code in silent mode Different alarm from movement detection		1 flash every 1 sec	2 flashes every 1 sec	
Low batteries	Alarm with short and brief interruptions for 5 sec.		No flash activated	

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5.3 In case of low batteries

- The low battery symbol is displayed by flashing 1 hour before switching off the connected devices.
 Change the LR03 AAA batteries (x12) or connect the power cord or connect the external battery (optional).
- You can view the battery status on the screen of the remote control (optional) by pressing on the button.
- 5 minutes before switching off, the device automatically triggers a low battery alarm for 5 seconds.

Status of **LASER 2** without threshold on remote control screen

5.4 Remote control (optional)

• The remote control is an option that can control the laser range finders remotely. Carried in the field, it is used to relay information from the laser range finders, to be alerted of an alarm, to stop an alarm or to reactivate a new threshold remotely. It has all the functions of the laser range finders.

It cannot start or stop the laser range finders.

• It works in the same way as the laser range finders. However it has an audible alarm that is not as loud (80 dB) and does not have a flash.

• Start and stop on the remote control by pressing on the button.

- The wireless connection between the remote control and the laser range finders can take up to 30 seconds.
 For a good connection; switch on the devices one by one, waiting to see the control screen before switching on the next device. The lighting order does not matter. If the connection is not successful: switch off and restart.
- To secure the keyboard, it locks after.

2s

• To activate the keyboard, press on any button for. (2s)

To stop a laser alarm remotely from a remote control, it is necessary to unlock the keyboard by pressing on any button.

• In the event of low battery, the symbol is displayed by flashing 1 hour before switching off the remote control.

Unlike the lasers, no sound alarm is triggered 5 min. before switching off the device.

As a result, change the LR06 AA (x6) as soon as possible.

VIEWALL

5.5 Pairing

LASER 1 paired with LASER 2

Device pairing can be accessed by pressing simultaneously on the button 0 and the button 0 until it turns off. Then turn on the devices one by one. Respect the phases below.

LASER 2

AN

LASER 1

PHASE 1 LASER 1 screen T1 T2 RC blinking Home screen Screen shuts off Home screen LASER 1 LASER 1 LASER 1 5s PHASE 2 Screen shuts off Home screen Home screen 4 10. LASER 2 LASER 2 LASER 2 LASER 1 screen LASER 1 screen T1 T2 solid RC blinking T1 T2 RC solid AIRING IN PROG .A1 LA1 LA2 AND LASER 2 LASER 1 _____ PHASE 3 LASER 2 screen without LASER 1 screen without Screen shuts ₹L A1: LA2 🗖 15.328m .328m

LASER 2

LASER 1

25

LASER 1 paired with the remote control

(Same with LASER 1 paired with LASER 2 paired with remote control)

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5.6 Technical features

DESIGNATION	Sentry SINGLE (1 Laser)	Sentry DOUBLE 2 (Lasers)	Remote control (optional)	
Wireless communication network	2.4GHz Zigbee te	2.4GHz Zigbee technology (Use permitted		
Wireless communication range	100 m (328.1ft) be	100 m (328.1ft) between 11aser and the remote control		
Laser accuracy	+/-1 mm (0	/		
Laser beam range	50 m (164ft) depending of	on weather conditions	/	
Light intensity of alarm flashes	3x100	lm	/	
Alarm sound intensity	Alarm 10	05 dB	Buzzer 80 dB	
Protection rating	IP5:	5	IP67	
Shock resistance	2-me	tre (6.57ft) drop test ont	o concrete	
Power supply type	Mains power 110/220V Car adapter 12/24V 12 AAA batteries External rechargeable battery (optional)		6 AA batteries	
Battery life with Alkaline batteries (supplied) Battery life with Lithium batteries (Not supplied)* Rechargeable battery autonomy (Not supplied)*	>6H >9H >7H	6H 9H 7H	55h	
Battery life with rechargeable NiMH battery (optional)	>45H	45H	-	
Transport bag	Padded cloth transport bag	Reinforced backpack	Specific compartments in the bags	
Transport case (optional)	/ Anti-shock IP67 certified seal		/	
Storage temperature		$-20^{\circ}\text{c}+50^{\circ}\text{c}$		
Operating temperature	-10°c +50°c	$-10^{\circ}c + 50^{\circ}c$	-20°c +50°c	

* Powered device - excluding flash and alarm operation.

DESIGNATION		WEIGHT	DIMENSIONS (+/-5mm (0.02ft))
		(+/-0.1Kg)	
Laser (batteries included)		2.00 kg	L: 241 (0.8ft) / D: 165 (0.55ft) / H: 182 (0.6ft) mm
Tripod		4.00 kg	H unfolded: 1785 (5.86ft) / H folded: 190 (0.62ft)
			mm
Ball-joint mount		0.330 kg	H: 90 (0.30ft) mm
1 losor transport bag	Empty	1.300 kg	$1 \cdot 360 (1.18ft) / D \cdot 200 (0.66ft) / H \cdot 170 (0.56ft) mm$
1 laser transport bag	Full	6.00 kg	L. 300 (1.1811) / D. 200 (0.0011) / 11. 170 (0.3011) IIIII
2 leser transport has	Empty	3.200 kg	$1 \cdot 575 (1.80ft) / D \cdot 440 (1.44ft) / H \cdot 225 (0.74ft) mm$
2-laser transport bag	Full	12.500 kg	L. 375 (1.8911)7 D. 440 (1.4411)7 H. 225 (0.7411) IIIII
Optional remote control (batteries included)		0.550 kg	L: 192 (0.63ft) / D: 128 (0.42ft) / H: 33 (0.11ft) mm
Optional suction cup		0.300 kg	H: 120 (0.4ft) / Ø suction cup: 98 (0.32ft) mm
Optional external rechargeable battery		0.850 kg	L: 175 (0.57ft) / D: 95 (0.31ft) / H: 70 (0.23ft) mm
Ontional case	Empty	7.200 kg	$I \cdot 655 (2.15ft) / D \cdot 525 (1.72ft) / H \cdot 245 (0.8ft) mn$
Optional case	Full	19.700 kg	L. $0.05 (2.1511) / D. 525 (1.7211) / H. 245 (0.811) II$

6 WARNING

LEADER, and its subsidiaries, accepts no responsibility for any direct, indirect or accidental damage related to the supply, performance or use of the **Leader SENTRY Wireless** movement monitor.

7 TROUBLESHOOTING

		- Check that the batteries are new and fully charged
		- Check that the battery insertion direction is correct
		- Check that the batteries are the correct type
		- Check that all batteries are identical
		- Check that the electrical power supply cable is not damaged
The device	does not turn on	- Check that the battery tray tips are not damaged
		- Check that the power supply connector is correctly attached.
		- Check that the energy source is the correct voltage (12V), direct or
		through the external 110-220V adapter
		- Check that the external battery (optional) is charged
		- Check that the battery pack (optional) is connected
		- Reduce the distance between the laser and the target
No distanc	e is displayed	- Clean the laser range finder protective window
		- The laser range finder dot as well as the laser pointer dot are not always
		visible in high light levels
The laser dot is not visible		Aim at a target in shadow if possible
		Place the palm of your hand in front of the laser range finder's long a rad
		- Flace the paint of your hand in front of the faser range finder's fens, a fed
		Male and the distance hair is aligned with the target and the distance is
		- Make sure that the cross-hair is angled with the target and the distance is
	1	
@E203		Contact LEADER
@E211		Contact LEADER
@E220		Contact LEADER
@E234	Distance outside the scope of	- Bring the target next to the laser
	measurement	- Clean the laser protective window
	Temperature too high	- Ideally place the device in shadow. Ditto with the external
@E252	$(> 50^{\circ}C \text{ in the laser hox})$	optional battery if used. For a successful measurement, the range finder
		only works between -10 and 50°C
	Temperature too low $(< 10^{\circ}$ C in the loser box)	- Place the device near to a source of heat or in the sun
@E253		For a successful measurement, the range finder only works between
		-10 and 50°C
	Wook signal or distance	- Use a more reflective target, shorten the distance between the laser and
@E255	outside the limits	the target
	outside the mints	- Clean the laser protective window
@E256	High signal	- Use a less reflective target
	Signal (SNR) too weak	- Use a more reflective target, shorten the distance between the laser and
@E257	-	
	(background light too	the target
	(background light too intense)	the target -Too much light in environment
	(background light too intense) Power supply too	the target -Too much light in environment - Check that the batteries are the correct type
@E259	(background light too intense) Power supply too low for	the target -Too much light in environment - Check that the batteries are the correct type - Change the batteries
@E259	(background light too intense) Power supply too low for measurement	 the target -Too much light in environment Check that the batteries are the correct type Change the batteries Check that the external battery (optional) is charged
@E259	(background light too intense)Power supply too low for measurementSignal too unstable for	 the target -Too much light in environment - Check that the batteries are the correct type - Change the batteries - Check that the external battery (optional) is charged - Use a more reflective target, shorten the distance between the laser and
@E259 @E260	(background light too intense) Power supply too low for measurement Signal too unstable for measurement	 the target -Too much light in environment - Check that the batteries are the correct type - Change the batteries - Check that the external battery (optional) is charged - Use a more reflective target, shorten the distance between the laser and the target
@E259 @E260	(background light too intense)Power supply too low for measurementSignal too unstable for measurementLaser response time above	 the target -Too much light in environment - Check that the batteries are the correct type - Change the batteries - Check that the external battery (optional) is charged - Use a more reflective target, shorten the distance between the laser and the target - Use a more reflective target, shorten the distance between the laser and
@E259 @E260 @E555	(background light too intense)Power supply too low for measurementSignal too unstable for measurementLaser response time above 2s when a threshold is	 the target -Too much light in environment - Check that the batteries are the correct type - Change the batteries - Check that the external battery (optional) is charged - Use a more reflective target, shorten the distance between the laser and the target - Use a more reflective target, shorten the distance between the laser and the target.

WARRANTY

LEADER grants the original buyer of the **Leader SENTRY Wireless** monitor that the aforementioned equipment is free from material and operating defects for a period of two (2) years from the purchase date. This limited warranty only applies to the original buyer and not to any third parties to whom the equipment may be resold.

LEADER's obligation under this warranty is specifically limited to replacement or repair of the device (or its parts), and only after **LEADER** has inspected device and deems it to be defective due to the fault of **LEADER**. To qualify for this limited warranty, the buyer must the return the equipment to **LEADER** in a timely manner after discovering said defect. **LEADER** will examine the device.

In the event **LEADER** determines that the defect is its fault, the company will resolve the problem within a reasonable time period. If the device is covered by this limited warranty, **LEADER** will bear the repair costs.

If any defect attributable to **LEADER** under this limited warranty cannot be reasonably resolved by a repair or replacement, **LEADER** could choose to refund the device purchase price, minus a reasonable depreciation cost, to fulfil its obligations of this limited warranty. If **LEADER** so chooses, the buyer must send the device to **LEADER** for free and without claim or constraint.

This warranty is limited. The original buyer, any person to whom it was later sold, or anyone who may be the intended recipient of the device, may not require the payment of damages from **LEADER** in case of injury and/or property damage due to faulty equipment produced or assembled by **LEADER**. Some countries do not allow damages to be disallowed or limited: the above paragraph may not therefore be applied in certain countries. **LEADER** will not be held liable under this limited warranty in the event the equipment has been used inappropriately, negligently (including lack of reasonable care), sustained accidents or has been repaired or modified by a third party.

THIS WARRANTY IS EXPLICITLY A LIMITED WARRANTY ONLY. IN RESPECT TO THE EQUIPMENT, LEADER REFUSES ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND SUITABILITY FOR ANOTHER SPECIFIC USE. NO WARRANTY OF ANY KIND OTHER THAN THAT OFFERED BY LEADER IN THIS DOCUMENT WILL BE ADMISSIBLE.

8 ADJUSTMENT GAUGE

SIEGE SOCIAL LEADER S.A.S ZI des Hautes-Vallées-2 Chemin n°34-CS20014-76930 Octeville sur Mer-France

FILIALE

www.leader-group.company

LEADER GmbH

Zur FabriK 10-66271 Kleinblittersdorf

Allemagne

Tel:+49 (0) 6805/60067 -0

Fax : +49 (0) 6805/60067 -10

info@leader-gmbh.de

Tempest Technology Corp. 4708 N. Blythe Ave. Fresno. CA 93722

USA

Tel : +1 559.277.7577

Fax : +1 559.277.7579

response@tempest.us.com

AGENCE

ESPAGNE/PORTUGAL/AMERIQUE LATINE

spain.portugal.latinamerica@leader-group.eu

CHINE / HONG KONG / MACAO china@leader-group.eu

LEADER GROUP

Our policy is to constantly seek to improve our products. We therefore reserve the right to change their technical specifications at any time and without prior manual. No contractual images.

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