ENGLISH

INSTRUCTION MANUAL

93LCL Self-Leveling Cross Line Laser Level

93LCLS Self-Leveling Cross Line Laser Level with Plumb Spot

- HORIZONTAL AND VERTICAL CROSS LINES
- PLUMB SPOT (MODEL 93LCLS)
Klein Tools 93LCL and 93LCLS are self-leveling laser alignment instruments that can be used to deliver horizontal and/or vertical cross lines for alignment and layout applications. Furthermore, model 93LCLS can also deliver a plumb spot directly above the instrument.

- **Operating Altitude:** 6562 ft. (2000 m)
- **Relative Humidity:** <80% non-condensing
- **Operating Temp:** 20°F to 115°F (-10°C to 45°C)
- **Storage Temp:** -5°F to 140°F (-20°C to 60°C)
- **Laser:** 630-680nm, ≤1mW each beam, Class II Laser Product
- **Accuracy:** ±3/32” per 33’ (±2mm per 10 m) (Vertical & Horizontal Beams)
- **Battery Type:** 3 x 1.5V AA Alkaline
- **Dimensions:** 5.3” x 5.0” x 2.8” (134 x 127 x 65 mm)
- **Weight:** 26 oz. (820 g) without batteries (model 93LCLS)
- **Calibration:** Accurate for one year
- **Standards:** Conforms to: EN61326-1:2013, EN60825-1:2014.
  Complies with: 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice No. 50, dated June 24, 2007.
- **Pollution degree:** 2
- **Ingress Protection:** IP54 Dust & Water Resistant
- **Drop Protection:** 3.3 ft. (1m)
- **Electromagnetic Environment:** IEC EN61326-1:2013. This equipment meets requirements for use in basic and controlled electromagnetic environments like residential properties, business premises, and light-industrial locations.

Specifications subject to change.
WARNINGS

To ensure safe operation and service of the instrument, follow these instructions. Failure to observe these warnings can result in serious personal injury, fire, or electrical shock. Retain these instructions for future reference.

WARNING: LASER RADIATION. DO NOT STARE INTO BEAM. Class II Laser.

- Exposing eyes to laser radiation can result in severe and permanent eye injuries. NEVER look directly into the laser beam emitted by this instrument.
- Do not use the instrument if it appears to be damaged.
- Do not modify the instrument in any way, as to do so could result in emission of hazardous laser radiation than could result in severe eye injuries.
- Do not use optical equipment such as lenses, prisms, optical scopes, etc. to transmit, retransmit, or view the laser beam as this could result in severe eye injuries.
- This product should not be used by untrained operators or operators who have not read and fully understood the instructions.
- This product should not be used in any location that could result in somebody looking at or having their eyes inadvertently irradiated by the laser beam as this could result in severe eye injuries.
- The instrument should be powered off following use to minimize the risks of inadvertently exposure to hazardous laser radiation that could result in severe eye injuries.
- Do not remove warning labels from this instrument as this could result in serious personal injury and increases the risk of exposure to hazardous laser irradiation.
- The instrument should be securely located in a tidy work environment prior to operation as unexpected drops or movement of the instrument may result in damage to the instrument and increases the risk of inadvertent exposure to laser radiation that could result in severe eye injuries.
- This instrument is IP54 dust & water resistant. Following any contact with water, thoroughly dry the instrument with a dry, lint-free cloth.
- There are no user serviceable parts in this instrument.
NOTE: There are no user-serviceable parts inside this instrument.

<table>
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<th>Feature Details</th>
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<td>Horizontal Line On/Off Button</td>
<td><img src="symbol" alt="Vertical Laser Line" /></td>
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<tr>
<td>Vertical Line On/Off Button</td>
<td><img src="symbol" alt="Horizontal Laser Line" /></td>
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<tr>
<td>Plum Spot On/Off Button (93LCLS)</td>
<td><img src="symbol" alt="Plumb Spot Laser" /></td>
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<tr>
<td>Low Battery Indicator</td>
<td><img src="symbol" alt="Low Battery Indicator" /></td>
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<tr>
<td>Excessive Tilt Indicator</td>
<td><img src="symbol" alt="Excessive Tilt Indicator" /></td>
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<tr>
<td>Power/Pendulum Lock/Unlock Switch</td>
<td><img src="symbol" alt="Excessive Tilt Indicator" /></td>
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<tr>
<td>Pendulum with Lasers</td>
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<tr>
<td>Horizontal Line Aperture</td>
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<td>Vertical Line Aperture</td>
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<td>Plum Spot Aperture (93LCLS)</td>
<td><img src="symbol" alt="Plum Spot Aperture" /></td>
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<tr>
<td>Battery Compartment Door</td>
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<tr>
<td>1/4-20 Tripod Mount</td>
<td><img src="symbol" alt="1/4-20 Tripod Mount" /></td>
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<td>5/8-11 Survey Tripod Mount</td>
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<tr>
<td>Magnetic Mount Bracket</td>
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<tr>
<td>Magnets</td>
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<tr>
<td>Clamp-On Wall Adapter</td>
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**SYMBOLS ON INSTRUMENT**

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<tr>
<td><img src="symbol" alt="Battery Polarity" /></td>
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<tr>
<td><img src="symbol" alt="Ingress Protection IP54 Rating – Dust &amp; Water Resistant" /></td>
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<tr>
<td><img src="symbol" alt="Hazardous laser radiation, DO NOT stare into beam or view directly with optical instruments" /></td>
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<td><img src="symbol" alt="Warning or Caution" /></td>
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TURNING LASER BEAMS ON/OFF

Push the ON/OFF buttons for the horizontal line 1, vertical line 2, and plumb spot 3 (93LCLS model only) to turn ON and OFF their respective laser lines. These buttons are only active once the Pendulum Lock/Unlock Slider Switch 6 has been set to the Unlocked position. If the Pendulum Slider Switch is moved from the Unlocked to the Locked position while the laser beams are active, they will be turned OFF. The different laser lines can be operated independently or simultaneously.

NOTE: The plumb spot application projects laser beams both in upward and downward directions. The downward beam may be used to locate a specific point on a floor layout while the upward beam projects that same point to a ceiling.

PENDULUM SLIDER SWITCH & SELF-LEVELING

The laser assemblies are mounted on a pendulum so that the instrument can self-level. The Pendulum Slider Switch 6 must be in the unlocked position for the instrument to self-level. If the instrument is tilted by >4° from the horizontal plane, the pendulum will not be capable of self-leveling; the active laser beams will flash and the Excessive Tilt Indicator 5 will blink to indicate that the instrument is not level and cannot self-level. The instrument must be repositioned on a more level geometry for the self-Leveling pendulum to function appropriately.

NOTE: If the instrument indicates that it is not level (via flashing beams and/or a blinking Excessive Tilt indicator 5), then it should not be used for laying out level or plumb lines.

NOTE: Following use, the active laser beams must be turned OFF and the Pendulum Slider Switch must be placed in the Locked position prior to storage.
OPERATING INSTRUCTIONS

MAGNETIC MOUNTING BRACKET  14
The instrument is attached to a magnetic mounting bracket. The bracket may be magnetically attached to any magnetic structure such as steel studs, ducts, structural beams, and steel doors. The bracket also features a key-hole for mounting the instrument using a screw or nail to non-magnetic structures. Once mounted to a structure via the mounting bracket the instrument can be rotated on the bracket through 360° to direct the laser beams.

CLAMP-ON WALL ADAPTER  16
The clamp-on wall adapter may be clamped to a structural beam, or wall bracket for suspended ceiling installations, to present a steel surface onto which the instrument's magnetic mounting bracket may be attached. Once magnetically attached the instrument may be positioned to deliver the laser line at the required location. The clamp-on adapter also features a key-hole for mounting the instrument using a screw or nail.
Horizontal Beam Left/Right Tilt (FIG. 1)
Secure instrument via its mounting bracket at a distance $x$ from a vertical wall structure as shown. Rotate the instrument on the bracket to the left so that the right side of the beam is projected on the wall directly across from the instrument, mark the vertical location on the wall. Rotate the instrument to the right and repeat marking the vertical location of the left side of the beam. At ~33' (10 m) the vertical distance $d$ between the left-side and right-side markings should be $\leq 5/32''$ (4 mm). For example, if $x$ is set to 15' (4.6 m), the vertical distance $d$ should be $\leq 3/32''$ (2 mm).

Horizontal Beam Out-of-Plane Tilt (FIG. 2)
Position the instrument parallel to a wall and project a beam along the wall, from left to right as shown. Mark two locations ($a$, $b$) along the beam separated by distance $x$. Position the laser at the other side of the wall and project the beam back through mark $b$, from right to left as shown, and mark position $c$. If $x$ is 30' (9.1 m), then the vertical distance $d$ should be $\leq 5/32''$ (4 mm). For example, if $x$ is set to 15' (4.6 m), then the vertical distance $d$ should be $\leq 3/32''$ (2 mm).
CHECKING LASER BEAMS FOR LEVEL ACCURACY

Vertical Beam Tilt (FIG. 3)
Position the instrument on the floor and project a vertical beam along a line $x$ of about 6' (1.9 m). Mark point $a$ on the ceiling. Position the instrument on the other side of the line and repeat marking point $b$ on the ceiling. The distance $d$ should be $\leq 5/32"$ (4 mm) for a 33' (10 m) ceiling or $\leq 3/32"$ (2 mm) for a 15' (4.6 m) ceiling.

Plumb Spot (Model 93LCLS Only, FIG. 4)
Position instrument on the floor and project a spot with the plumb spot laser to the ceiling. Rotate the laser by 180° and project the exact same spot to the ceiling. The distance $d$ should be $\leq 1/4"$ (6 mm) for a 33' (10 m) ceiling or $\leq 1/8"$ (3 mm) for a 15' (4.6 m) ceiling.
MAINTENANCE

BATTERY REPLACEMENT
When the Low Battery indicator is displayed, the batteries must be replaced.

1. Open the battery compartment door.
2. Remove and recycle three spent AA batteries.
3. Install new batteries (note proper polarity).
4. Close battery compartment, ensuring that it is securely shut.

CLEANING
Be sure meter is turned off and wipe with a clean, dry lint-free cloth. Do not use abrasive cleaners or solvents.

STORAGE
Remove the batteries when the instrument is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the General Specifications section, allow the meter to return to normal operating conditions before using.

WARRANTY
www.kleintools.com/warranty

DISPOSAL/RECYCLE
Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. Please see www.epa.gov or www.erecycle.org for additional information.

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