JOHNSON LEVEL®

JLX® Series High-Accuracy Digital Level

Model No. 5700D

Instruction Manual

Congratulations on your choice of this JLX® Series High-Accuracy Digital Level. Johnson Level's JLX® series products are designed for professional applications and are engineered to help you work faster and more accurately.

We suggest you read this instruction manual thoroughly before using the instrument and save this instruction manual for future use.

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1. Kit Contents

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2. Features and Functions

- Pre-programmed ADA compliance and drainage modes
- Programmable operation mode
- Top-read LCD display and main LCD display
- Backlight feature on both LCD displays
- Both LCD displays automatically invert when the level is in the inverted position
- Sub-display for reference angles
- Removable end caps with a durable rubber finish that is wear-resistant
- Painted top surface to minimize glare
- Machined bottom surface for accuracy
- Ergonomic rubber molded handgrip for comfort
- Non-marring wall grip to ensure the level will not damage your surface
- IP65 construction that provides complete protection against dust and is water resistant

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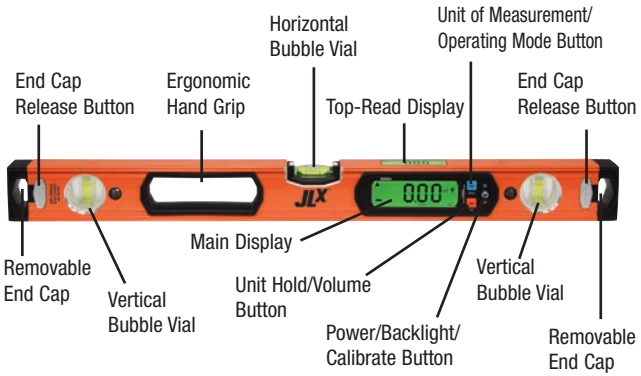
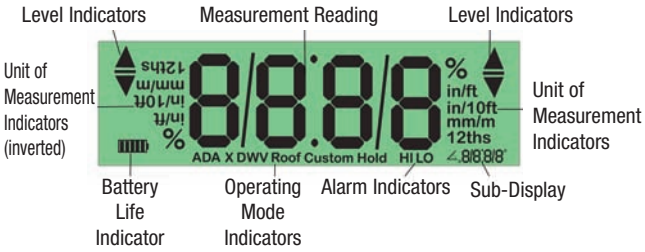
3. Location of Parts/Components

JLX® Series High-Accuracy Digital Level



LCD Display



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4. Battery Installation

1. Unscrew the battery cover screw in a counterclockwise direction and remove the battery cover.
2. Insert two “AA” alkaline batteries into the battery compartment according to the polarity illustrated inside.
3. Replace the battery cover.
4. Screw in the battery cover screw in a clockwise direction to secure the cover.

Note: Remove the batteries when storing the unit for an extended time (more than three months) to avoid damage to the unit should the batteries deteriorate.

The battery life indicator on the main LCD display will show the current battery life:

Battery has 100% power

Battery has approximately 60% power

Battery has about approximately 25% power

Battery has approximately 5% power, and new batteries are needed

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5. Using the Product

Note: It is important to verify the calibration of the instrument. Please refer to the calibration section for further information.

Power On the Level

Tap ⏻ to power on the level. The unit will display a reading on both the main display and top-read display. The level indicator arrows on each side of both LCD displays indicate the direction that side of the level must be moved to reach level.

If you invert the level, both the main display and top-read display will automatically flip.

Note: If the level is tilted 30° or more, the main display and top-read display will read “out,” indicating the sensor is out of its accuracy range.

Automatic Shut Off / Manually Power Off the Level

To conserve battery life, this level features an automatic shut off feature. After 10 minutes of inactivity, the level will beep twice and automatically shut off.

To manually power off the level, press and hold ⏻. It will beep twice and turn off.

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Set Your Desired Unit of Measurement

When powered on, the level will default to the most recently used unit of measurement. Tap Unit to change the unit of measurement.

Continue to tap Unit to scroll through the following options:

1. Degrees
2. Percent
3. Inches/foot (decimal)
4. Inches/foot (fraction)
5. Inches/10 feet (decimal)
6. Inches/10 feet (fraction)
7. Millimeters/meter

Set Your Desired Operating Mode

Note: The pre-programmed modes set for this level may differ from your specific jobsite requirements. You are responsible for adherence to all federal, state and local building codes. Johnson Level & Tool Mfg. Co., Inc. assumes no responsibility for misapplication of this digital level by the user.

The bottom of the main display will show the current operating mode. When powered on, the level will default to the most recently used mode. Press and hold Unit to change your operating mode.

If the level's reading exceeds the set limits for the current operating mode (ADA, ADA X, DMV and Custom modes only), the level will begin beeping (if the volume is enabled) and either "HI" or "LO" will flash at the bottom right of the LCD displays to alert you that the unit is outside of its limits.

For those modes that do not establish set limits (Manual, Roof Pitch, 22.5° and 45.0° only), the unit will begin to beep as you approach the desired angle. The level indicator arrows on the LCD displays will direct you to move that side of the level up or down, and the unit will beep faster the closer you are to the desired angle. Once the level is at the desired angle, it will emit a long beep and the level indicator arrows will change to a dash.

Continue to hold Unit to scroll through the operating mode options:

1. Manual mode, for which no limits are set; the unit will alert you when it reaches level.
2. ADA mode, for which the limit is that required for ramp angles by the American with Disabilities Act ("ADA"). The limit is 8.3%, as indicated in the sub-display. For non-standard ramp angles, use Custom mode.
3. ADA X mode, for which the limit is that required for ramp cross-angles (the slope across the width) by the ADA. The limit is 2.0%, as indicated in the sub-display.
4. DWV mode, for which the limits are those required for setting the drain waste venting slope for either piping or gutters.
    a. When you enter DWV mode, the level will default to the Pipe setting, which has a limit of ¼"/ft. to 3.0"/ft.
    b. To switch to the Gutter setting, tap Unit and Hold simultaneously to enter the configuration mode.
    c. Tap Unit . "Gutr" will flash for five seconds on both the main display and top-read display.
    d. After five seconds, the main display reverts back to the preconfigured engineering unit, "Gutr" will be displayed on the sub-display and the limit is ¼"/10 feet.

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e. To return to the Pipe setting, tap Unit and Hold simultaneously to enter the configuration mode.
f. Tap Unit. "Pipe" will flash for five seconds on both the main display and top-read display.
g. After five seconds, the main display reverts back to the preconfigured engineering unit, "Pipe" will be displayed on the sub-display and the limit is set back to ¼"/ft.

5. Roof Pitch mode, for which no limits are set. The unit will display in units of twelfths (i.e., 1/12 = 1 inch per foot) as is customary for roofing applications.
6. Custom mode, where you can customize the high and low limits. See the Set Customized Limits section below for instructions.
7. 22.5° mode, for which no limits are set. The unit will alert you when it reaches 22.5°. A custom angle may also be set within this mode. See the Set Customized Reference Angle section below for instructions.
8. 45.0° mode, for which no limits are set. The unit will alert you when it reaches 45.0°. A custom angle may also be set within this mode. See the Set Customized Reference Angle section below for instructions.

Set Customized Limits

Once the level is in Custom mode, follow these steps to set your customized high limit, low limit or both. If the level is inactive for five seconds during any of these steps, the level will return to the measuring mode.

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1. Tap Unit and Hold simultaneously.
2. Either “HI”, “LO”, “HILO” or “NONE” will flash on the LCD displays, indicating that you can now set your customized alarm mode.
3. Tap Unit to set the desired alarm mode; continuing to tap Unit will scroll through the programmable modes.
4. Tap Hold and the rightmost digit will begin to flash, indicating that it can be configured.
5. Tap Unit to select the digit to set; continuing to tap Unit will scroll (from right to left) through the following digit options, where the bolded digit is the one to be set. The options on the left are applicable if you have set a non-fractional unit of measurement (degrees, percent, inches/foot – decimal, inches/10 feet – decimal, or millimeters/meter). The options on the right are applicable if you have set a unit of measurement of either inches/foot – fraction or inches/10 feet – fraction. **Note:** Once you have scrolled through the leftmost digit, the values will be set and the display will revert back to the preconfigured engineering mode.

Non-Fractional UOM Options	**Fractional UOM Options**
88.8**8**	88.**8**/8
88.**8**8	8**8**.8/8
8**8**.88	**8**8.8/8
88.88	

6. To set the selected digit, press and hold Hold to scroll through the options of 0 through 9.
7. After five second of inactivity, the level will return to the measuring mode. Repeat steps 1 through 6 above to set your customized low (“LO”) limit.

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Set Customized Reference Angle

For some applications, it might be useful to set a reference other than 0°. Once the level is in either 22.5° or 45.0° mode, follow these steps to set your customized reference angle. If the level is inactive for five seconds during any of these steps, the level will return to the measuring mode.

1. Tap Unit and Hold simultaneously. The rightmost digit in the sub-display will begin to flash.
2. Tap Unit to select the digit to set; continuing to tap Unit will scroll through the following digit options, where the bolded digit is the one to be set.
   88.8**8**
   88.**8**8
   8**8**.88
   88.88
3. To set the selected digit, press and hold Hold to scroll through the options of 0 through 9.
4. After five seconds of inactivity, the level will return to the measuring mode.

Turn On/Off the Backlight

Both the main display and the top-read display are equipped with a backlight feature. The backlight feature has three options: off, 50% and 100%.

1. With the level powered on, tap ⏻ to activate the backlight feature. The backlight will be set to 50%.

2. Tap ⏻ a second time to set the backlight to 100%.
3. Tap ⏻ a third time to set the backlight to off.

Adjust the "On" Time of the Backlight

The on time of the backlight refers to the time that the light remains on during inactive use. Any movement within this time period resets the internal backlight on timer. The on time of the backlight can be configured for one minute, five minutes or ten minutes, with the default setting being one minute. Although it is set for one minute, the backlight will not turn off while the level is being moved.

1. With the level powered on, tap ⏻ and Hold simultaneously to configure the backlight on time.
2. The LCD displays will either display "1on", "5on" or "10on" depending on how the unit was previously configured.
3. Tap ⏻ to advance the on time to the next setting.
4. Continue to tap ⏻ until you've reached your desired setting.
5. **Note:** Once you have entered this configuration mode, three seconds of inactivity will revert the display back to normal measuring mode.

Adjust the Volume

The level's volume can be changed by pressing and holding Hold . The level will continue to scroll through the volume options of hi, low and off until you release the button.

Set the Hold Feature to Freeze the LCD Displays or to Set Reference Values

The main display and top-read display, including the current measurement reading, can be frozen while you move the level. This

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feature works well if you are in an awkward position or cannot see the LCD screen. It is also convenient to hold on an important measurement until you are ready to write it down or cut your material. It can also be used to set temporary reference values, where the reference value plus the relative value equals the absolute value.

1. To enable the hold feature, tap Hold . The held value will be frozen on the main display. The sub-display will now show the relative value with respect to the held value indicated in the sub-display.
2. To switch the held value currently in the main-display to the sub-display, tap Hold . The relative value will be transferred to the main-display with the held value showing in the sub-display.
3. Tap Hold to return to normal measuring mode.

Reset Factory Defaults

If you wish to restore the factory default settings for the level, press and hold all three buttons – Unit , Hold and ⏻ – for 10 seconds while power is on. All customized settings will be reset to the factory default settings.

Remove and Reinsert End Caps

The rubber end caps can be removed from the level, making it ideal for cabinetry uses. To remove each end cap, press PRESS TO LOCK while pulling the end cap back, away from the level. To reinsert the end cap, press PRESS TO LOCK while pushing the end cap back into the level. Press PRESS TO LOCK to make sure the end cap is fully inserted.

6. Calibrating the Product

IMPORTANT: Although this product is factory calibrated, there a few environmental factors that can affects its accuracy. It is a recommended practice, as with any high precision measuring instrument, to check your level for accuracy.

Verifying the Product Accuracy

1. Position the tool on a fairly level surface, such as a countertop, floor or table, with the top read LCD display facing up and the main display facing you.

2. Record the displayed value as well as direction of level indicators.
3. Rotate the level 180°, with the top read display still facing up and the main display facing away from you.

4. If the displayed valued is less than or equal to ±0.05° of the value recorded in step 2, this product meets the stated accuracy and calibration is not required.
5. If the displayed valued is greater than ±0.05° of the value recorded in step 2, this product DOES NOT meet the stated accuracy and calibration is required. Proceed to "Calibrating the Product".
6. After "Calibrating the Product", steps 1 through 5 should be repeated. If the product fails to meet stated accuracy after calibration has been completed, please reference section 11 of this instruction manual.

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Calibrating the Product

It is recommended that the user calibrate the unit at the start of each critical job or when the level is subjected to drastic changes in temperature or has taken a fall. Do not move or shake the instrument during calibration, as this might result in measuring errors.

There are two methods of calibrating the level. The first is a two-point calibration method, and the second is a one-point bubble calibration method.

Two-Point Calibration Method

7. With the level powered off, position the tool on a fairly level surface, such as a countertop, floor or table, with the top read LCD display facing up and the main display facing you.

8. Press and hold ⏻. "CAL 1" will appear on the LCD displays.
9. Tap ⏻. The level will beep, and "CAL 2" will appear on the LCD displays.
10. Rotate the level 180°, with the top read display still facing up and the main display facing away from you.

11. Tap ⏻. The level will beep and "rdy" will appear on the LCD displays, indicating the level is calibrated and ready for use.

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One-Point Bubble Calibration Method

1. With the instrument powered on, hold the level against a flat surface such as a wall. Adjust the level until the bubble is centered in the horizontal vial.
2. Making sure that the position of the bubble in the horizontal vial does not change, press hold Unit and ⏻ simultaneously. The level will display “Cal”
3. Press ⏻ to enter the value.
4. The Cal will flash for 3 seconds, emit a short beep and “rdy” will appear on the LCD displays, indicating that the level is calibrated and ready for use.

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7. Application Demonstrations

ADA Compliant Ramps – Set ramp angles and cross angles.

Drainage Slope – Set drainage angles for proper slope to ensure adequate effluent removal from your piping systems.

Relative Angles – Calculate relative angles using the hold feature. Join conduit, piping and more at any desired angle.

Roof Pitch – Measure the slope of any surface, including roof pitches, directly in 12ths.

General Carpentry – While this level is generally used in slope applications, its level vials make it suitable for use anywhere a standard level is used.

8. Troubleshooting

Symptom	Possible Cause	Solution
Unit will not power on	Batteries depleted	Replace batteries
	Battery case not secure	Secure battery case with set screw
	Polarity reversed	Install batteries with proper polarity
Unit powers on briefly	Batteries depleted	Replace batteries
Unit will not turn off	Incorrect power button operation	Press and hold power button for 3 seconds to power off the level
Battery indicator flashing	Batteries are low	Replace batteries
Display reads “OUT”	Unit tilted forward / backwards in excess of allowable range	Do not tilt the level beyond its allowable range
Backlight not on	Backlight is off	Turn on backlight
	Backlight timed out	Turn on backlight or move level to reactivate the backlight

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Symptom	Possible Cause	Solution
Backlight turns off too quickly	Backlight timer too short	Adjust backlight timer
Backlight doesn't turn off	Backlight timer too long	Adjust backlight timer
Display inconsistent	Unit out of calibration	Calibrate unit
Display not changing with movement	Hold feature is engaged	Press hold button to return to normal operation
Numbers inverted	Hold feature active	Press hold button to return to normal operation
Incorrect unit displayed	Wrong unit selected	Press unit button to change displayed unit

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9. Technical Specifications

Operating Temperature Range	14°F – 122°F
Temperature Range	-4°F – 149°F
Operating Humidity	≤85%
Electromagnetic Compatibility (EMC)	Class II
Dust and Water Protection	IP65, or better
Spirit Vial Accuracy	0.0005"/in, all positions / 0.5mm/m, all positions
Vial Sensitivity	36arcSec
Drop Resistance	1M
Accuracy at 70°F/21°C	.05° at 0° and 90°, 0.10° at all other angles
Accuracy over Full Temperature Range	0.15°
Resolution	0.05°, 0.125", 1/8", 1.25mm, 0.1%
Power Supply	2 x AA alkaline batteries (not included)
Battery Life	150 hours
Display Range	4x90°
Dimensions	16", 24", 48" or 72" L, 1.1" D, 2.3" W
Weight	1.3 lbs (16" level) 1.7 lbs (24" level) 3.2 lbs (48" level) 4.9 lbs (72" level)

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10. Care and Handling

- This level is a precision tool that must be handled with care.
- Avoid exposing unit to shock vibrations and extreme temperatures.
- Make sure that the unit is turned off before moving or transporting it.
- Remove the batteries when storing the unit for an extended time (more than three months) to avoid damage to the unit should the batteries deteriorate.
- Always store the unit in its case when not in use.
- Avoid getting the unit wet.
- Keep the unit dry and clean. Remove any moisture or dirt with a soft, dry cloth.
- Do not use harsh chemicals, strong detergents or cleaning solvents to clean the unit.

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11. Product Warranty

Johnson Level & Tool offers a limited warranty on each of its products. You can obtain a copy of the limited warranty by contacting Johnson Level & Tool's Customer Service Department as provided below or by visiting us online at www.johnsonlevel.com. The limited warranty for each product contains various limitations and exclusions.

NOTE: The user is responsible for the proper use and care of the product. It is the user's responsibility to verify the calibration of the unit before each use.

For further assistance, or if you experience problems with this product that are not addressed in this instruction manual, please contact our Customer Service Department.

In the United States, contact Johnson Level & Tool's Customer Service Department at 888-9-LEVELS (888-953-8357).

In Canada, contact Johnson Level & Tool's Customer Service Department at 800-346-6682.

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12. Accessories

Johnson® accessories are available for purchase through authorized Johnson® dealers. Use of non-Johnson® accessories will void any applicable limited warranty and there will be NO WARRANTY. If you need any assistance in locating any accessories, please contact our Customer Service Department.

In the U.S., contact Johnson Level & Tool's Customer Service Department at 888-9-LEVELS (888-953-8357).

In Canada, contact Johnson Level & Tool's Customer Service Department at 800-346-6682.

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