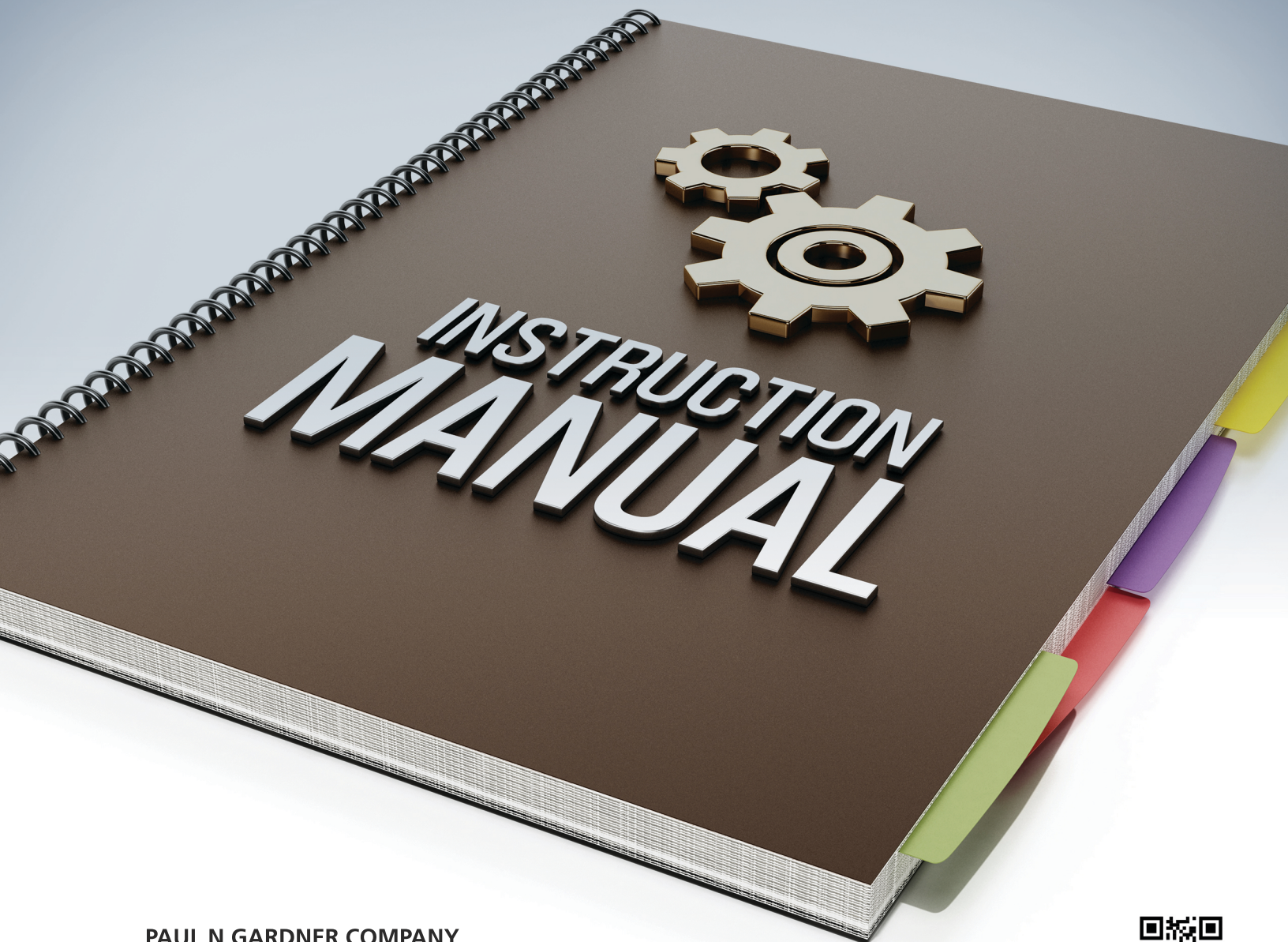




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INSTRUCTIONS

GARDCO DISTRIBUTED PRODUCTS



Owner's Manual JX-20 & JX-30



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1. Introduction

Thank you for purchasing the new JX-20 or JX-30, the latest in Delmhorst's legacy "J-series" pin-type (conductance) moisture meters from the new Navigator™ family of meters. Delmhorst J-series meters are known worldwide for their unmatched reliability and ease of use.

The JX -20 and JX-30 are ideal tools for woodworkers, furniture and cabinet manufacturers, sawmills, wood flooring contractors and any other wood product related field. These exciting new meters offer the latest in features and functionality. They are packaged in a robust and ergonomically designed ABS case (patent pending) to provide a premium, tactile feel, and intuitive user interface with dashboard-like display.

Together with the new Delmhorst **EDGE**® app (JX-30), users can customize meter settings and share MC data or graphs from any jobsite quickly and accurately.

The JX meters carry a two-year limited warranty. [REGISTER YOUR METER](#) by using the QR code on the back of the meter to receive an additional three month's warranty.

We recommend that you read the following pages in detail to take full advantage of all the JX-20 and JX-30 meters have to offer.

2. Safety



Sharp Measurement Pins: The measurement pins are very sharp as they are intended to penetrate through hard woods, drywall, and building materials. Ensure that the pin cap is always covering the pins when not in use to avoid unintentional injury to the user or others.



Meter Calibration: Meters are factory-calibrated prior to shipment. Calibration should be checked before performing a job (using the internal Cal Check feature or external Delmhorst MCS calibration standard) to ensure the meter is working correctly and electrically accurate.



Proper Use: When used properly, the JX-20 and JX-30 meters can help users make informed decisions on the moisture levels of wood and other hygroscopic building materials. A moisture meter is a secondary method of determining moisture content, and users should be aware of other potential influences on the accuracy of conductance meter readings.

3. Meter Features



Figure 1: Meter components

1. **Display** – Easy to read, backlit LCD display.
2. **Read Button** – When in live reading mode, press this button to hold a reading. When in any other mode, press this button to enter live reading mode.
3. **Navigation Buttons** – Use the up/down/left/right buttons to navigate through the meter's display. Use the center button to confirm a selection.
4. **Easy Grip Handle** – The handle is contoured to provide a comfortable grip for right or left-handed users. This shape also allows for

increased leverage when pushing the meter into hard materials. The battery door is located on the rear of the handle.

5. **LEDs (JX-30)** – The GREEN light indicates a sufficiently dry moisture level, the YELLOW light indicates a borderline condition, and the RED light indicates material that is too wet for most applications. The LED values can be adjusted for specific wood species and building materials through the *EDGE®* app.
6. **Ambient Light Sensor** – When the backlight is set to Auto, the ambient light sensor will trigger the backlight to turn on or off (to the brightness level set by the user) according to ambient lighting conditions.
7. **Contact Pins** – Integral contact pins provide penetration up to 5/16in and are easily removable and replaceable. Be sure to leave the pin cap on the meter when the pins are not in use. Replacement pins are part no 2498/A-100 and should be used to accommodate the proper fit of the pin cover. The 2497/A-100 pins (used on older J-series) may also be used, but the pin cover will not fit.
8. **Electrode Connector** – Connect any external special application Delmhorst electrode. Be sure to leave the electrode cap on when the electrode connector is not in use to keep the connector clean.

4. Menu Features

The Delmhorst JX meters have three operating modes: **Read**, **Set**, and **Stats**. The currently selected menu is marked with an underline. To change the menu, press the up button until the menu underline is blinking. Then use the left and right buttons to switch among menus. Use the down or center button to enter the menu. When a line on the display (Species, Set Point, Material Temp or Pin Correction) is bracketed by the solid black left and right arrows, it is “active”, and that selection can be changed by pressing either the left or right key.

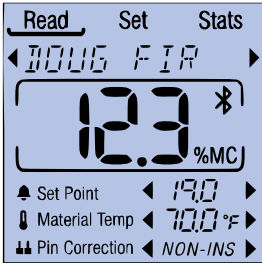
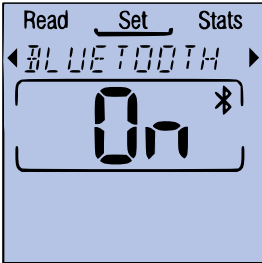
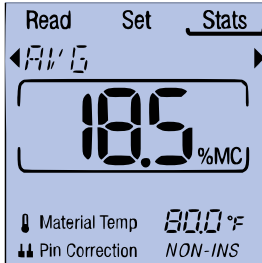
Read	Set	Stats
 • Change species type • Take readings • Change set point • Change material temperature • Change pin type	 • Cal check • Bluetooth® (JX-30) • Temperature unit • Off Timer • Backlight ON/OFF/AUTO • Backlight brightness • Screen contrast	 • Total readings • Average value • Highest value • Lowest value • Standard deviation • View data • Erase all reading data

Table 1: Menu Features

5. Read Menu

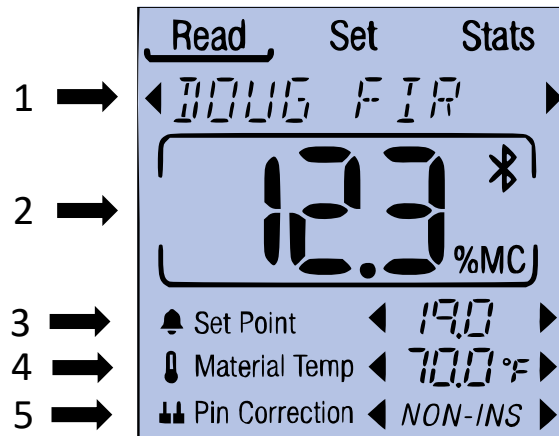


Figure 2: Read screen components

1. Species Selection and Correction

Info: JX series moisture meters are calibrated based on the USDA standard, Douglas Fir. Because the electrical characteristics of different species vary, all species read differently at the same moisture content. The best accuracy can be obtained by applying a correction factor to the meter reading. The correction is programmed in the firmware, making it easy for the user to simply select the species (see below) to obtain the adjusted reading.

The JX-30 holds up to 100 species corrections at once. Through the **EDGE®** app, users can select from a list of 197 species corrections. The JX-20 has 72 corrections available. These are fixed in the meter. Refer to Table 4 in the Appendix for lists of the species available in each model. If working with a species that is not included in the meter, check the species look up.

Use: Select the Read menu. While the underline flashes, press the down button to enter the species selection field. Press the left or right buttons to scroll through available species/materials. Any changes to the species/material selection field will NOT be saved until the center button is pressed to confirm. **When the species is changed, the user will be asked if they want to erase the data in the meter. Selecting NO will return the user to the original species/material and keep all readings. Selecting YES will delete all saved readings within the meter and change the species/material.** If connected to the *EDGE*® app, users will be prompted to export readings before they are deleted from the app. Please see Delmhorst *EDGE*® App User Guide for further instructions regarding exporting readings and changing the available species corrections in the JX-30.

2. Live Reading Area

Info: The live reading area displays the corrected moisture value of the wood. The reading is corrected using the Species (1), Material Temperature (4), and Pin Correction (5) (see Figure 2 above).

Indicated readings with a less than (<) or greater than (>) sign are considered out of range. Out of range readings can be saved to memory and exported but will not be used in statistical calculations.

Use: Use the navigation buttons to move to the live reading area (entry will be confirmed when a live reading appears on screen). **Tip:** If a live reading is not currently being displayed, pressing the Read button will navigate to the live reading area.

Take a Reading: Insert the pins into the wood and parallel to the grain. Be sure to make firm, positive contact. Push non-insulated pins to full depth if possible. Drive insulated pins to the desired depth where the non-insulated tips will come into contact with the wood fibers. The moisture content (%MC) of the wood will appear

in the live reading area. NOTE: The non-insulated contact pins on the top of the meter penetrate max 5/16in and may be used on wood up to 1-1/2 to 2in thick. Push the pins into the wood to their full penetration for best accuracy. For thicker wood and hardwoods over 4/4, use the 26-ES hammer electrode with insulated pins. These pins (no. 496) may be used on wood up to 5-6in thick.

Hold a Reading: Press the Read button to hold the reading on screen. HOLD will appear in the material selection line and the meter will beep. A held reading can be saved, if desired (see below). Saving a reading or pressing the Read button a second time will return the meter to live reading mode.

Save a Reading: Press the Center button to save a live or held reading. This will store the reading, material temperature, and pin correction type to meter memory. A 'Saved' message will appear followed by the memory slot which the reading occupies (ex. Maple 2/100). This message can be bypassed by pressing the Read button.

Memory: There are 100 memory slots available in the meter. As readings are saved, the memory slots will fill in order from lowest (1) to highest (100). After 100 readings are stored, newly saved readings will replace the oldest stored readings. Unlimited number of readings may be saved when connected to the app (JX-30).

3. Set Point

Info: The Set Point is the user-selectable moisture level at which the alarm will sound. This feature allows users to quickly take readings without having to review each one individually, helping to quickly identify high moisture areas.

Use: When active, press the left and right buttons to adjust the Set Point down or up. Holding the left or right buttons will cause the Set Point to change more rapidly.

The Set Point alarm can be turned off by adjusting the set point value to zero (--.).

When changing the active species of the meter, the Set Point will reset to the default values for the new species, with one exception. If the Set Point has been turned off (--.), it will remain off for the new species.

4. Material (Wood) Temperature

Info: The meter is calibrated at 70°F. As the wood temperature increases, its electrical resistance decreases, and the indicated moisture content rises. Lower wood temperatures result in a lower indicated moisture content.

For best accuracy, it is important to use the temperature correction in the meter, especially when working in extreme environments (outside 50-90°F or 10-32°C) and environments subject to temperature variation. Wood or lumber that has been exposed to ambient conditions for between 8 and 24 hours can be assumed to have reached ambient temperature. When checking 'hot' lumber as from a dry kiln, use the dry-bulb temperature as long as the moisture is below fiber saturation point (approx 30%).

Use: When active, press the left and right buttons to adjust the Material Temperature down or up. Holding the left or right buttons will cause the temperature to change more rapidly.

5. Pin Correction

Info: The Pin Correction setting allows users to obtain a more accurate reading by adjusting the measurement according to the type of pin being used: non-insulated or insulated. The basic calibration (and default setting) of the JX meters is non-insulated pins. Insulated pins read lower than non-insulated ones. The difference is small below 10% MC but increases as the moisture content increases above 10%. When using an electrode with insulated pins, such as the 26- ES hammer electrode, you can change the setting to compensate for this difference.

Non-Insulated Pins are conductive across the entire length of the pin. The integral electrode pins mounted on top of the meter are non-insulated. Select NON-INS when using the meter with its integral electrode pins.

Insulated Pins are only conductive at the tips, with the rest of the pin coated in a non-conductive material. Any reading displayed when using these pins will reflect the moisture content of the material at the location of the pin tips. Insulated pins are very useful when measuring the moisture of a material at different depths and identifying wet pockets and moisture gradients. Select INS when using the meter with insulated pins (26-ES hammer electrode).

Use: When active, use the left and right buttons to switch between Insulated and Non-Insulated Pin Correction.

6. Set Menu

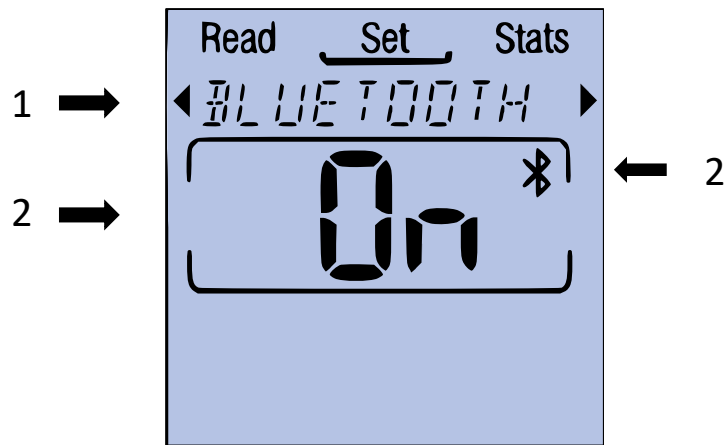


Figure 3: Set screen components

1. Setting Selection

The setting selection area will display all settings in a scrollable list. Each setting is listed and explained in Table 2 below. Press the left and right buttons to view settings. After locating the desired setting, press the down or center button to enter the setting state. Then press the Read button to enter the live reading screen.

2. Bluetooth® Indicator

The JX-30 is equipped with Bluetooth® technology, allowing users to connect their meter(s) to a mobile device (smartphone or tablet). The Bluetooth® icon is visible on all meter screens when turned on. Please refer to the Delmhorst *EDGE*® App User Guide for more information.

Setting	Description
Cal Check	- Allows users to check the electrical calibration of the meter - A value between 11.8 and 12.2 means the meter is in calibration - A value of <11.8 or >12.2 means the meter is out of calibration - change the batteries (2 x AA alkaline)
Bluetooth® (J-X30 only)	- When Bluetooth® is on but not connected, the Bluetooth® symbol will be on screen and flashing - When Bluetooth® is on and connected, the Bluetooth® symbol will be on screen and solid - When Bluetooth® is off, no symbol will be visible on screen <i>Factory default is off</i>
Temperature Unit	- Changes the temperature unit between Fahrenheit and Celsius <i>Factory default is Fahrenheit</i>
Off Timer	- Chose 1, 4, or 10-minute screen off timer <i>Factory default is 1 minute</i> - Manually turn the meter off by depressing the center button until screen goes blank - approx. 3s
Backlight	- Turn backlight ON to enable, and OFF to disable - Turn the backlight ON when in low ambient light, and OFF when in bright ambient light - When set to AUTO, meter will automatically enable and disable backlight according to ambient light <i>Factory default is off</i>
Brightness	- Adjust backlight brightness from 1 (low) to 10 (high) - The selected brightness level will be used whenever backlight is enabled (ON or AUTO) <i>Factory default is brightness level 2</i>
Contrast	- Adjust the contrast level of the screen from 1 (low) to 10 (high) <i>Factory default is contrast level 5</i>

Table 2: Settings options

7. Stats Menu

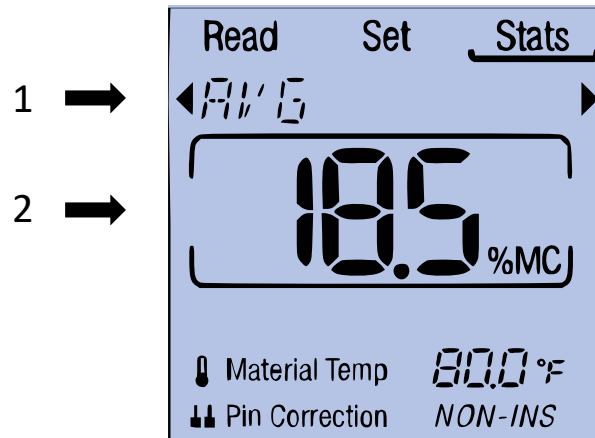


Figure 4: Stats screen components

1. Stats Selection

The stats selection area will display all statistics in a scrollable list (see Table 3 below). Press the left and right buttons to view statistics.

2. Stats Details

Statistics are calculated from the list of saved readings in meter memory, and only readings taken within the valid measurement range of the selected material are used for the calculations. Out of range readings will not be included in statistical calculations for average and standard deviation.

The stats details section can only be selected for the 'View Data' and 'Erase Data' options. For these two cases, press the down or center buttons to enter the stats details box from the stats selection. Use the left and right buttons to scroll the list of latest readings or select the desired option for clearing readings. For all other statistics, stats details will simply reflect the details of the above statistic and cannot be selected.

Table 3: Available Stats

Statistic	Description
Readings	Displays the total number of readings stored in the meter
Average	Displays the average value of the saved readings.
High	Displays the highest value of the saved readings.
Low	Displays the lowest value of the saved readings.
Standard Deviation	Displays the standard deviation of the saved readings.
View Data	Displays a list of all saved readings. The %MC, temperature, and pin type of each reading are displayed.
Erase Data	Clears all saved readings and statistics from the meter.

8. Delmhorst *EDGE*® App Features

The Delmhorst *EDGE*® app expands upon many features found within the JX-30. These features include:

1. Timestamp and geotag for each reading.
2. Export full data sets or selected readings from meter to app to be viewed on a single page and further analyzed.
3. Exclude extraneous readings from Statistics calculations.
4. View a customizable plot of all readings.
5. Export readings from app to spreadsheet for long term storage and analysis.
6. Change the species/materials available in the JX-30 meter.
7. Adjust the moisture values at which the LEDs change colors.
8. Upgrade meter firmware.

Please refer to the Delmhorst *EDGE*® App User Guide for more details on how to connect the meter to the app and a detailed explanation of the features mentioned above.

9. Specifications and Operating Conditions

Temperature Compensation Range (not operating temperature)

0-255 °F / -18-124 °C

Reading Range

Douglas Fir: 6% MC - 60% MC (nominal range based on 70°F)

Power

2x AA Alkaline Batteries

Battery life while using the meter in reading mode and active LED's is estimated at 125-150 hours. A combination of alarm, backlight and Bluetooth will reduce expected life to a minimum of 35 hours. A "LOW BATT" warning will appear on screen when the meter is woken up if battery voltage is below 1.75V. At this level the meter has 1-2 hours of life depending on the functions being used. The same alert is sounded and displayed every 5 minutes. Continued use with a low battery may cause your meter to go out of calibration. **TIP:** Extend battery life by turning Bluetooth® off in the meter when not in use, setting the backlight brightness low, and using shorter timeout settings.

Size

8.65 in x 2.85 in x 1.60 in (21.57 cm x 7.24 cm x 4.06 cm)

Weight (Meter Only)

8.6 oz (244 gm)

Regulations/Compliance

CE, RoHS, REACH, WEEE

Disposal of your Meter



Figure 5: WEEE symbol – crossed out wheeled bin

For private households: Information on Disposal for Users of WEEE

This symbol (figure 5) on the product(s) and / or accompanying documents means that used electrical and electronic equipment (WEEE) should not be mixed with general household waste. For proper treatment, recovery, and recycling, please take this product(s) to designated collection points where it will be accepted free of charge. Alternatively, in some countries, you may be able to return your products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

For disposal in countries outside of the European Union

This symbol is only valid in the European Union (EU). If you wish to discard this product, please contact your local authorities or dealer, and ask for the correct method of disposal.

10. Meter Care, Service and Warranty

Care for your Meter

To keep your meter in good working order:

- Store your meter in a clean, dry place. The protective carrying case provided is an ideal storage place when the meter is not in use.
- Change the AA batteries as needed. Continued use with a low battery may cause the meter to go out of calibration. Remove the batteries if the meter will not be used for one month or longer.
- Change contact pins as needed. Keep pins retainers' hand tightened.
- Clean the meter and contact pins with any biodegradable cleaner. Use the cleaner sparingly and on external parts only. Keep cleaner out of the external connector.
- Ensure the pin cap is always covering the pins when not in use to avoid unintentional injury. Keep the connector cap in place when not using an external electrode to keep the connector clean. Each meter includes two short pieces of nylon cord to tie into tethers for the pins covers, if desired.

Service Your Meter

If your meter is not working properly, replace the batteries and check the calibration.

Limited Warranty

Delmhorst Instrument Co. 51 Indian Lane East, Towaco, NJ 07082, referred to hereafter as Delmhorst, guarantees its JX series moisture meters against defects in material or workmanship for two years from date of purchase. Optional electrodes are guaranteed for 90 days. See the owner's manual for warranty period on your specific product. If, within the warranty period of the product, you find any defect in material or workmanship, return the meter to an authorized reseller, using the return form

<https://www.delmhorst.com/returns-service-warranty>. Include proof of purchase. Shipping charges to return the product are the customer's responsibility.

This warranty does not cover abuse, misuse, damage during shipment, improper service, unauthorized or unreasonable use of the meter or electrodes. This warranty does not cover normal wear and tear, batteries, or pins. If the meter or electrode have been altered or tampered with, the warranty shall be void. **DELMHORST RESERVES THE RIGHT TO REPAIR OR REPLACE THE PRODUCT AT ITS SOLE DISCRETION.**

Delmhorst shall not be liable for incidental or consequential damages for the breach of any express or implied warranty with respect to this product or its calibration. The meter should stay in calibration indefinitely with proper care and maintenance. Follow the manufacture's guidelines in the owner's manual.

UNDER NO CIRCUMSTANCES SHALL DELMHORST BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY TYPE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS OR DOWNTIME ARISING OUT OF OR RELATED IN ANY RESPECT TO ITS METERS OR ELECTRODES AND NO OTHER WARRANTY, WRITTEN, ORAL OR IMPLIED APPLIES. DELMHORST SHALL IN NO EVENT BE LIABLE FOR ANY BREACH OF WARRANTY OR DEFECT IN THIS PRODUCT THAT EXCEEDS THE AMOUNT OF PURCHASE OF THIS PRODUCT.

The express warranty set forth above constitutes the entire warranty with respect to Delmhorst meters and electrodes and no other warranty, written, oral, or implied applies. This warranty is personal to the customer purchasing the product either from Delmhorst directly or through an authorized reseller. Purchases through unauthorized resellers, including but not limited to unauthorized e-commerce resellers, are not covered by this warranty, to the extent permitted by law.

This warranty extends to the original owner only and is not transferable.

11. Appendix

Meter Species Table

Table 4: Meter species available in meter and via *EDGE*™app

KEY	
x	Available on meter from factory
z	Selectable species from App
*	Cannot be removed from meter

	JX-20	JX-30	JX-20 SC
African Ebony	x	x	
African Mahogany	x	x	
Alder	x	x	
American Elm	x	x	
Apitong	x	x	
Aspen	x	x	
Bamboo	x	x	
Basswood	x	x	
Birch	x	x	
Black Gum	x	x	
Black Walnut	x	x	
Brazilian Cherry	x	x	
Brazilian Rosewood	x	x	
Brazilian Walnut	x	x	
Bubinga	x	x	
Cedrella	x	x	
Cherry	x	x	
Cocobolo	x	x	
Cottonwood	x	x	
Cumarú	x	x	
Cypress	x	x	
Dark Red Meranti	x	x	
Douglas Fir	x	x	x
Eastern Red Cedar	x	x	
Englemann Spruce	x	x	
European Beech	x	x	
Hackberry	x	x	
Hickory	x	x	
Honduras Mahogany	x	x	
Incense Cedar	x	x	
Ipe	x	x	
Jatoba	x	x	
Keruing	x	x	
Koa	x	x	
Larch	x	x	
Longleaf Pine	x	x	
Magnolia	x	x	
Maple	x	x	
Massaranduba	x	x	

Monkey Pot	x	x	
Myrtle	x	x	
Osborne	x	x	
Osborne - Advantech Pine	x	x	
Osborne - Advantech Aspen	x	x	
Pecan	x	x	
Philippine Mahogany	x	x	
Plywood	x	x	
Ponderosa Pine	x	x	
Purpleheart	x	x	
Radiata Pine	x	x	
Ramin	x	x	
Red Fir	x	x	
Red Gum	x	x	
Red Oak	x	x	
Redwood	x	x	
Rubberwood	x	x	
Shortleaf Pine	x	x	
Sitka Spruce	x	x	
Southern Yellow Pine	x	x	
Spf	x	x	
Spf - Cof	x	x	
Sugar Pine	x	x	
Taurai	x	x	
Teak	x	x	
Virola	x	x	
Western Hemlock - Cof	x	x	
Western Hemlock	x	x	
White Ash	x	x	
White Fir	x	x	
White Oak	x	x	
White Pine	x	x	
Yellow Poplar	x	x	
Skand. Furu		z	x
Skand. Gran		z	x
Skand. Bjork		z	x
Ash, Alpine		z	
Ash, Mountain		z	
Ash, Silver, Queensland		z	
Baltic, White		z	
Beech, White		z	
Blackbutt		z	
Blackwood		z	
Box, Brush (Nsw)		z	
Cedar, Red		z	
Cedar, White		z	
Coachwood		z	

Fir, Douglas (Dic)		z	
Fir, Douglas (Vic)		z	
Gum, Blue, Southern		z	
Gum, Manna		z	
Gum, Red, Forest		z	
Gum, Red, River		z	
Gum, Rose		z	
Gum, Shining		z	
Gum, Spotted		z	
Ironbark, Grey		z	
Ironbark, Red		z	
Jarra		z	
Karri		z	
Kauri, New Zealand		z	
Mahogany, African		z	
Marri		z	
Oak, Silky, Northern		z	
Oak, White		z	
Pine, Cypress, White		z	
Pine, Hoop		z	
Pine, Huon		z	
Pine, Radiata (Nz)		z	
Pine, Radiata (Vic)		z	
Pine, Slash		z	
Stringybark, Messmate		z	
Tallowwood		z	
Teak		z	
Turpentine		z	
Woolybutt		z	
White Birch		z	
Yellow Birch		z	
Hickory		z	
E. White Cedar		z	
W. Red Cedar Fc		z	
Black Cherry		z	
Red Oak		z	
E. White Spruce		z	
Black Spruce		z	
Red Spruce		z	
Hard Maple		z	
Soft Maple		z	
White Ash		z	
Black Ash		z	
Beech		z	
Black Walnut		z	
White Elm		z	
E. White Pine		z	

Jack Pine		z	
Red Pine		z	
Eastern Hemlock		z	
Western Hemlock		z	
Balsam Fir		z	
Douglas Fir		z	
Spf (Cofi)		z	
Spf (Forintek)		z	
Basswood		z	
Aspen		z	
Balau		z	
Balau, Red		z	
Bintangor		z	
Bitis		z	
Chengal		z	
Damar Minyak		z	
Durian		z	
Gerutu		z	
Ketapang		z	
Jelutong		z	
Kapur		z	
Kasai		z	
Kekatang		z	
Keledang		z	
Kembang		z	
Kempas		z	
KerANJI		z	
Keruing(1)		z	
Keruing(2)		z	
Mahogany		z	
Mata Ulat		z	
Medang		z	
Melantai		z	
Melunak		z	
Mempisang		z	
Mengkulang		z	
Meranti Bakau		z	
Meranti Dark Red(1)		z	
Meranti Dark Red(2)		z	
Meranti Dark Red(3)		z	
Meranti Dark Red(4)		z	
Meranti, Light Red		z	
Meranti, White		z	
Meranti, Yellow		z	
Merawan		z	
Merbau		z	
Merpauh(1)		z	

Merpauh(2)		z	
Mersawa		z	
Nyatoh		z	
Penarahan		z	
Perupok		z	
Ramin		z	
Rengas		z	
Resak		z	
Rubberwood(Hickory)		z	
Sepetir		z	
Sesendok		z	
Terap		z	
Terentang		z	
Tualang		z	
Pine, Sugar		z	
Cedar, W. Red		z	
Hemlock, Western		z	