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Chapter 1. Features and Capabilities
1.1 Introduction ................................................................. 1
1.2 Electronics................................................................. 1
1.3 Probes ........................................................................... 2

Chapter 2. Installation
2.1 Introduction ................................................................. 3
2.2 Selecting the Analog Recorder Output. ................................. 4
2.3 Mounting the Electronics .................................................. 8
  2.3.1 Panel Mount ........................................................... 8
  2.3.2 Rack Mount ............................................................ 12
  2.3.3 Bench Mount .......................................................... 13
  2.3.4 Wall Mount ............................................................ 14
2.4 Mounting the Sample System ............................................. 15
2.5 Installing the Probe ......................................................... 16
2.6 Wiring the System ........................................................... 18
  2.6.1 Connecting an M Series Probe .................................... 21
  2.6.2 Connecting an IQ.probe .............................................. 24
  2.6.3 Connecting the Analog Output ..................................... 27
  2.6.4 Connecting the Alarm Relays ....................................... 27
  2.6.5 Connecting the Input Power ........................................ 30

Chapter 3. Initial Setup & Operation
3.1 Using the dew.IQ ............................................................ 35
  3.1.1 Starting Up ............................................................ 36
  3.1.2 Accessing the Menus ................................................ 36
  3.1.3 Entering Numeric Values ......................................... 37
3.2 Setting Up the Display ..................................................... 38
  3.2.1 Selecting the Primary Units ....................................... 38
  3.2.2 Setting the Decimal Places ....................................... 39
  3.2.3 Adjusting the Contrast .............................................. 39
3.3 Setting Up the Analog Output .......................................... 40
  3.3.1 Entering the Output Menu ....................................... 40
  3.3.2 Selecting the Output Units ....................................... 40
  3.3.3 Selecting an Output Type ......................................... 41
  3.3.4 Changing the Output Span ....................................... 41
  3.3.5 Changing the Output Zero ........................................ 42
  3.3.6 Testing the Output ................................................. 43
Chapter 5. Calibration and Setup

5.2  Setting the Fault Alarm Options ................................................................. 69
5.3  Setting AutoCal ......................................................................................... 70
5.4  Entering Calibration Data for an M Series Probe ...................................... 72
   5.4.1 Selecting the Number of Points ......................................................... 72
   5.4.2 Selecting the Calibration Point .......................................................... 73
   5.4.3 Entering the MH Calibration ............................................................... 73
   5.4.4 Entering the Dew Point Calibration .................................................. 74
5.5  Viewing Calibration Data for an IQ.probe .................................................. 75
   5.5.1 Selecting the Calibration Point .......................................................... 75
   5.5.2 Reading the FH Value ....................................................................... 76
   5.5.3 Reading the DP Value ....................................................................... 76
5.6  Reading and Setting the Calibration References ......................................... 77
   5.6.1 Setting the Calibration High Reference ............................................ 78
   5.6.2 Setting the Calibration Low Reference ............................................. 78
5.7  Entering an M Series Probe Serial Number .............................................. 79
5.8  Setting the Volume Mixing Ratio ................................................................ 80
   5.8.1 Setting the Pressure Units ................................................................. 80
   5.8.2 Setting the Pressure Value ................................................................ 81
   5.8.3 Setting the k x PPMv Multiplier .......................................................... 81
5.9  Setting the System Clock .......................................................................... 82
   5.9.1 Setting the Hour ................................................................................. 82
   5.9.2 Setting the Minutes .......................................................................... 83
   5.9.3 Setting the Month ............................................................................ 83
   5.9.4 Setting the Date ................................................................................. 84
   5.9.5 Setting the Year ................................................................................. 84
5.10 Selecting the Probe Type ........................................................................... 85
5.11 Setting a Constant DP °C Offset ................................................................. 86

Chapter 6. Service and Maintenance

6.1  Introduction ............................................................................................... 87
6.2  The Service Menu ..................................................................................... 87
6.3  Troubleshooting Common Problems .......................................................... 88
6.4  Replacing/Recalibrating Moisture Probes .................................................... 89
6.5  Cleaning the dew.IQ Front Panel ................................................................. 90
Chapter 1. Features and Capabilities

1.1 Introduction

The *dew.IQ* is a single-channel hygrometer that measures moisture content in gases. It is suitable for a wide range of process conditions in applications that require real-time moisture measurement.

The *dew.IQ* accepts any calibration range provided with BHGE probes (see *Chapter 7, Specifications* for more information). It comes equipped with two high/low alarm relays, one fault alarm relay, and a single analog output. It also has on-board data logging capability using a micro SD card.

1.2 Electronics

You can program the meter using the keys on the front panel (see *Figure 1* below). The *dew.IQ* universal power supply accepts voltages from 100 to 240 VAC, or you may order the 24 VDC configuration.

![Figure 1: Front Panel](image-url)
1.3 Probes

The moisture probe is the part of the system that comes in direct contact with the process. The dew.IQ uses any BHGE M Series probe (see Figure 2 below) or an IQ.probe (see Figure 3 below) to measure dew point temperature in °C or °F. The sensor assembly is secured to the probe mount and is protected with a sintered stainless steel shield (see Figure 2 below).

Note: Other types of shields are available upon request.
Chapter 2. Installation

2.1 Introduction

Installing the **dew.IQ** includes the following steps:

- Selecting the analog recorder output (see page 4)
- Mounting the electronics (see page 8)
- Mounting the sample system (see page 15)
- Installing the probe (page 16)
- Wiring the system (see page 18)

**WARNING!** To ensure safe operation, the dew.IQ must be installed and operated as described in this manual. Also, be sure to follow all applicable local safety codes and regulations for installing electrical equipment.
Chapter 2. Installation

2.2 Selecting the Analog Recorder Output

Note: By default, the analog recorder output is set to the current output.

Note: Customers must provide their own cable for connecting the analog recorder output. Cables ranging from 16 to 26 AWG are acceptable.

The *dew.IQ* has one isolated analog recorder output. The analog recorder output provides either a current or voltage signal, as determined by the position of switch S1 on the main PC board.

Complete the following steps to check or reset switch S1 (see *Figure 8 on page 7*):

**WARNING!** Never connect line voltage or any other power input to the analog recorder output terminals.

1. Make sure the *dew.IQ* is turned OFF and unplugged. For wall mount and bench mount units, remove the *dew.IQ* from its enclosure before proceeding (see the appropriate figures in *Appendix A*).

**WARNING!** The *dew.IQ* must be isolated or disconnected from all voltage sources before changing the recorder output.
2.2 Selecting the Analog Recorder Output (cont.)

2. Remove the screw at the top of the back panel (see Figure 4 below).

3. Lift the back edge of the top cover (see Figure 5 below).
2.2 Selecting the Analog Recorder Output (cont.)

4. Slide the cover toward the back of the dew.IQ (see Figure 6 below).

5. Lift the cover away from the enclosure (see Figure 7 below).
2.2 Selecting the Analog Recorder Output (cont.)

6. Locate switch S1 (see the highlighted area in Figure 8 below).

   CAUTION! Use proper ESD grounding prior to setting the switch.

7. Set switch S1 to the desired position: V for voltage or I for current.

8. After setting the switch, reinstall the cover and secure it with the rear enclosure screw. For wall mount and bench mount units, reinstall the dew.IQ in its enclosure (see the appropriate figures in Appendix A).
2.3 Mounting the Electronics

The dew.IQ is available in the following configurations:

- “Panel Mount” on page 8
- “Rack Mount” on page 12
- “Bench Mount” on page 13
- “Wall Mount” on page 14

Proceed to the appropriate section for mounting your dew.IQ electronics.

2.3.1 Panel Mount

The panel mount unit can be installed in a panel up to 0.25 in. (6 mm) thick. See Figure 43 on page 100, for the required panel cutout dimensions.

**IMPORTANT:** For Type 4X and IP66 installation, the dew.IQ must be mounted in a rigid, flat panel using the panel gasket and both mounting brackets provided.
2.3.1 Panel Mount (cont.)

To mount the \textbf{dew.IQ} in a panel with a 3.69” (94 mm) x 1.81” (46 mm) opening, refer to the figures and complete the following steps:

1. Remove the side panel mount label prior to installation.

![Figure 9: Removing Side Panel Mount Label](image)

2. Slide the gasket along the \textbf{dew.IQ} and place it around the back of the display (see \textit{Figure 10} below).

![Figure 10: Installing the Gasket Behind the Display](image)
2.3.1 Panel Mount (cont.)

3. Slide the *dew.IQ* into the panel cutout (see *Figure 11* below).

![Figure 11: Sliding the *dew.IQ* into the Panel Cutout](image)

4. Behind the panel, insert the mounting brackets into the side holes provided (see *Figure 12* below).

![Figure 12: Installing the Mounting Brackets](image)
2.3.1 Panel Mount (cont.)

5. Hold the chassis and lock each mounting bracket in place by sliding it toward the rear of the dew.IQ (see Figure 13 below).

![Figure 13: Locking the Mounting Brackets in Place](image)

6. Use a screwdriver to extend the bracket screws to the back of the panel and secure the dew.IQ in the panel cutout (see Figure 14 below).

![Figure 14: Securing the dew.IQ to the Panel](image)
2.3.1 Panel Mount (cont.)

7. Using a feeler gauge behind the display, check the gasket compression, and tighten the bracket screws until the gap is 0.028” (0.71 mm) ± 0.002” (0.05 mm), as shown in see Figure 15 below.

![Figure 15: Checking the Gasket Compression](image)

2.3.2 Rack Mount

The rack mount dew.IQ is a half-rack sized component designed for mounting in a standard instrument rack. See Figure 42 on page 99, for the dimensions.
Chapter 2. Installation

2.3.3 Bench Mount

The bench mount *dew.IQ* can be placed on any clean, flat, horizontal surface that provides adequate clearance around the unit for proper operation and configuration. See *Figure 44 on page 101*, for the dimensions.
2.3.4 Wall Mount

The wall mount dew.IQ consists of a panel mount unit pre-installed in a standard Type 4X, IP66 wall mount enclosure. See Figure 39 on page 96, Figure 40 on page 97 and Figure 41 on page 98 for dimensions and installation notes.

The enclosure should be mounted on a vertical surface that provides adequate clearance for proper operation and configuration by completing the following steps:

1. Loosen the four (4) screws on the front of the enclosure, pull the door straight forward until it stops and then swing the door open (it is hinged on the left side).
2. Install four (4) self-drilling wall anchors in your mounting location per the hole pattern shown in Figure 39 on page 96.
3. Mount the enclosure on the wall using four (4) #8 x 1-1/2” machine screws in the four mounting holes provided.
4. Prior to operation, the door must be closed and secured with the four screws located at the corners.
2.4 Mounting the Sample System

The sample system is normally fastened to a flat metal plate that has four mounting holes. Upon request, BHGE can also provide the sample system in an enclosure. A typical sample system is shown in Figure 16 below.
2.4  **Mounting the Sample System (cont.)**

Complete the following steps to mount the sample system:

1. Fasten the sample system plate or enclosure to a vertical wall or panel with a bolt in each of the four corners.

2. Connect the sample system inlet to the process and the outlet to the return, using appropriate stainless steel fittings and tubing.

**CAUTION!** Do not start the process flow through the system until the probe has been properly installed (see the following section).

2.5  **Installing the Probe**

The following probes are available for use with the **dew.IQ**:

- M Series probe (see *Figure 2 on page 2*)
- IQ.probe (see *Figure 3 on page 2*)

BHGE probes are usually installed in a sample system to protect the probe from any damaging elements in the process. The probe is mounted in a cylindrical container called the **sample cell**, which is included as part of your sample system.

Standard **M Series** probes and the **IQ.probe** are mounted in the sample system or the process line with 3/4-16 straight threads that are sealed with an o-ring. Other fittings are available for special applications.

**CAUTION!** If the probe is to be mounted directly in the process line, without a sample system, consult BHGE for proper installation instructions and precautions.
2.5 Installing the Probe (cont.)

Refer to Figure 17 below, and complete these steps to install the probe in the sample cell:

1. Insert the probe into the sample cell and thread the probe into the sample cell fitting. Make sure you do not cross the threads.

2. Tighten the probe securely.

3. Identify the sample cell inlet port as the connection that is perpendicular to the installed probe.

CAUTION! For maximum protection of the aluminum oxide sensor, the probe shield should always be left in place.
2.6 Wiring the System

Wiring the **dew.IQ** system includes the following steps:

- Connecting the probe (see page 21 or page 24)
- Connecting the analog recorder output (see page 27)
- Connecting the alarms (see page 27)
- Connecting the input power (see page 30)

**WARNING!** To ensure safe operation, the dew.IQ must be installed and operated as described in this manual. Also, be sure to follow all applicable local safety codes and regulations for installing electrical equipment.

**WARNING!** For wall mount units, refer to Figure 41 on page 98 for the service loop required on all cable connections.

Refer to Figure 18 or Figure 19 on page 19 or Figure 20 on page 20 and Figure 45 on page 102 when making the electrical connections.

**CAUTION!** This symbol in the three following figures is a reminder that the **dew.IQ** components can be damaged if electrical connections are not made correctly.
2.6 Wiring the System (cont.)

Figure 18: Electrical Connections (AC Power Cord Units)

Note: Figure 18 above, Figure 19 below and Figure 20 on page 20 show the three different power connections available for the dew.IQ. Be sure to use the figure that corresponds to your unit. All other electrical connections are identical for the three versions.

Figure 19: Electrical Connections (DC Power Terminals Units)
Section 2.6 Wiring the System (cont.)

**CAUTION!** This symbol in Figure 20 below indicates the presence of electrical shock hazards. Always de-energize the meter prior to connecting or disconnecting the AC power wires to avoid electrical shock.

![Figure 20: Electrical Connections (AC Power Terminal Units)](image)

100-240 VAC
50-60 Hz, 5W

**RELAY RATING:**
30 VDC, 3 A
250 VAC, 3 A

L1 L2/N G
2.6.1 Connecting an M Series Probe

The M Series probe must be connected to the dew.IQ with a continuous run of BHGE two-wire shielded cable. When connecting the probe, protect the cable from excessive strain (bending, pulling, etc.) and avoid subjecting the cable to temperatures above 65°C (149°F) or below −50°C (−58°F).

Note: Standard factory-assembled cables (see Figure 21 below) are available from BHGE in lengths up to 600 m (2000 ft).

![Figure 21: Two-Wire, Shielded, M Series Probe Cable](image)

To connect the probe cable, refer to the accompanying photographs and complete the following steps:

1. Insert the end of the probe cable with the bayonet-type connector onto the probe and twist the shell clockwise until it snaps into a locked position (approximately 1/8 turn).

IMPORTANT: Ensure that the power is OFF before proceeding.
2.6.1 Connecting an M Series Probe (cont.)

**IMPORTANT:** To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block, and make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).

2. Remove the connector from the lower terminal block on the rear of the dew.IQ (see Figure 22 below).

![Figure 22: Bottom Connector Removed](image)

3. Refer to Figure 23 below and Figure 24 on page 23 to connect the end of the probe cable with the three leads to pins 16, 17 and 18 on the lower terminal block.

![Figure 23: M Series Probe Cable Connections](image)
2.6.1 Connecting an M Series Probe (cont.)

4. Reinsert the connector into the lower terminal block on the rear of the *dew.IQ* (see Figure 25 below).

---

**Figure 24: Making Probe Cable Connections to the Connector**

**Figure 25: Reinserting the Connector into the Terminal Block**
2.6.2 Connecting an IQ.probe

Complete the following steps to wire an IQ.probe to the dew.IQ:

1. Insert the end of probe cable (see Figure 26 below) with the connector onto the probe and twist the connector head clockwise until it is secure.

**IMPORTANT:** *Ensure that the power is OFF before proceeding.*

![Figure 26: Four-Wire, IQ.probe Cable](image)
2.6.2 Connecting an IQ.probe (cont.)

IMPORTANT: To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block, and make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).

2. Remove the connector from the lower terminal block on the rear of the dew.IQ (see Figure 27 below).

![Figure 27: Bottom Connector Removed](image)

3. Refer to Table 1 below and Figure 28 on page 26 to connect the end of the probe cable with the four leads to pins 10, 11, 12 and 13 on the lower terminal block.

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Pin Number</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>10</td>
<td>RTN</td>
</tr>
<tr>
<td>Black</td>
<td>11</td>
<td>COM –</td>
</tr>
<tr>
<td>White</td>
<td>12</td>
<td>COM +</td>
</tr>
<tr>
<td>Blue</td>
<td>13</td>
<td>+15V</td>
</tr>
<tr>
<td>Bare Wire*</td>
<td>no connection</td>
<td>Shield</td>
</tr>
</tbody>
</table>

*The cable shield lead requires no connection to the dew.IQ and should be wrapped around the base of the other four leads.*
2.6.2 Connecting an IQ.probe (cont.)

4. Reinsert the connector into the lower terminal block on the rear of the **dew.IQ** (see Figure 29 below).

![Figure 28: Wiring the Cable to the Connector](image)

**Figure 28: Wiring the Cable to the Connector**

![Figure 29: Reinserting the Connector into the Terminal Block](image)

**Figure 29: Reinserting the Connector into the Terminal Block**

**Note:** If there is a No Link error for the **IQ.probe**, check the wiring connections and make sure there is no short between +15V and RTN.
2.6.3 Connecting the Analog Output

IMPORTANT: Ensure that the power is OFF before proceeding.

Refer to Table 2 below to connect your analog recorder to pins 14 and 15 on the lower terminal block on the back of the dew.IQ (see Figure 22 on page 22 or Figure 27 on page 25).

IMPORTANT: To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block, and make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Pin Number</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>14</td>
<td>Signal-</td>
</tr>
<tr>
<td>Red</td>
<td>15</td>
<td>Signal+</td>
</tr>
</tbody>
</table>

2.6.4 Connecting the Alarm Relays

Note: The cable for connecting the alarm relays is supplied by the customer. Acceptable cables range from 16 to 26AWG.

The dew.IQ has one fault alarm relay and two high/low alarm relays. Each alarm relay is a single-pole, double-throw contact set with the following contacts (see Table 3 below for the connector pin assignments):

- Normally Open (NO)
- Common (C)
- Normally Closed (NC)

<table>
<thead>
<tr>
<th>Contact</th>
<th>Fault Alarm</th>
<th>Alarm A</th>
<th>Alarm B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally Open</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Common</td>
<td>2</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Normally Closed</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>
2.6.4.1 Connecting the High/Low Alarms (A and B)

**IMPORTANT:** Ensure that the power is **OFF** before proceeding.

Each of these alarms can be set to trip on either a high or low condition. For a high alarm, the alarm will trip if the input exceeds the setpoint. For a low alarm, the alarm will trip if the input drops below the setpoint.

To wire the high/low alarm relays, complete the following steps:

1. Remove the connector from the upper terminal block on the rear of the **dew.IQ** (see Figure 30 below).

   **IMPORTANT:** To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block, and make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).

2. Make the Alarm A and Alarm B connections to upper terminal block connector, as indicated in Table 3 on page 27.

3. Reinsert the connector into the upper terminal block on the rear of the **dew.IQ**.
2.6.4.2 Connecting the Fault Alarm

If enabled, the **dew.IQ** fault alarm trips when one or more of the following faults occurs: *power failure, range error* (configurable) or *watchdog function* system reset

**Note:** *The watchdog function is a supervisory circuit that automatically resets the unit whenever a system error occurs.*

The fault alarm has two possible operating modes:

- **Fail-Safe Mode:** Using pins 2 and 3 provides a “normally closed” contact. When the **dew.IQ** is operating in a non-fault state, the fault alarm relay is energized to open the contact between pins 2 and 3. When a fault occurs, the fault alarm relay is de-energized to close the contact between pins 2 and 3 and trigger the alarm.

- **Non-Fail-Safe Mode:** Using pins 1 and 2 provides a “normally open” contact. When the **dew.IQ** is operating in a non-fault state, the fault alarm relay is de-energized with an open contact between pins 1 and 2. When a fault occurs, the fault alarm relay is energized to close the contact between pins 1 and 2 and trigger the alarm.

**IMPORTANT:** *Ensure that the power is off before proceeding.*

To wire the fault alarm relay, complete the following steps:

1. Remove the connector from the upper terminal block on the rear of the **dew.IQ** (see Figure 30 on page 28).

**IMPORTANT:** *To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block, and make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).*

2. Make the fault alarm connections to upper terminal block connector, as indicated in Table 3 on page 27.

3. Reinsert the connector into the upper terminal block on the rear of the **dew.IQ**.
2.6.5 Connecting the Input Power

There are three input power configurations available for the **dew.IQ**:

- AC power cord (not used for wall mount units)
- DC power terminals (available for all configurations)
- AC power terminals (available for all configurations)

Proceed to the appropriate section to connect your input power.

2.6.5.1 Connecting the AC Power Cord

To install the AC power cord included with the **dew.IQ**, simply plug the female connector end of the cable into the male connector on the rear panel of the **dew.IQ** (see Figure 31 below and Figure 32 on page 31).

**Note:** This configuration is not used for AC powered wall mount units.

---

![Figure 31: Inserting the AC Power Cable](image)
2.6.5.1 Connecting the AC Power Cord (cont.)

Figure 32: The AC Power Cable Installed

2.6.5.2 Connecting the DC Power Terminals

The DC power cable (with 14 to 26 AWG conductors) is supplied by the customer. To connect the power cable to the *dew.IQ* input power terminals (see *Figure 19 on page 19*) complete the following steps:

1. Remove the input power connector from the rear panel of the *dew.IQ* (see *Figure 33* below).

Figure 33: Removing the DC Power Connector
2.6.5.2 Connecting the DC Power Terminals (cont.)

2. Strip the three power cable conductors by about 3/8” (10 mm).

3. Insert each wire into the appropriate connector pin (see Table 4 below) and tighten each screw to secure the wires in place.

4. Reinsert the power connector into the rear panel of the dew.IQ as shown in Figure 34 below.

### Table 4: Pin Assignments for DC Power Connector

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>+</td>
<td>V+</td>
</tr>
<tr>
<td>Black</td>
<td>-</td>
<td>V-</td>
</tr>
<tr>
<td>Green</td>
<td>GND Symbol</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**IMPORTANT:** Be sure that the dew.IQ chassis ground connection is properly grounded.
2.6.5.3 Connecting the AC Power Terminals

**IMPORTANT:** Unlike the DC power connector, which has screw terminals, the AC power connector has spring finger terminals. It is essential that this connector be removed from the **dew.IQ** for wiring to avoid putting stress on the PCB, which may cause damage to the board.

The AC power cable (with 14 to 26 AWG conductors) is supplied by the customer. To connect the power cable to the **dew.IQ** input power terminals, see Figure 20 on page 20 and complete the following steps:

1. Remove the input power connector from the rear panel of the **dew.IQ**, as shown in Figure 35 below.
2.6.5.3  Connecting the AC Power Terminals (cont.)

2. Strip the three power cable conductors by about 3/8” (10 mm).

3. Using a small screwdriver to assist in opening each spring finger terminal, insert each wire into the appropriate connector pin (see Table 5 below).

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>L1</td>
<td>Line</td>
</tr>
<tr>
<td>White</td>
<td>L2/N</td>
<td>Line 2 (230 VAC) or Neutral</td>
</tr>
<tr>
<td>Green</td>
<td>G</td>
<td>Ground</td>
</tr>
</tbody>
</table>

4. Reinsert the power connector into the rear panel of the dew.IQ.
Chapter 3. Initial Setup & Operation

3.1 Using the dew.IQ

All programming of the dew.IQ is done via the front panel keypad and display, as illustrated below.

The front panel components perform the following functions:

- **Display** - The programming menus and options are shown on the LCD display screen.

- **Enter** - In most instances, press this key to save an entry and/or to advance to the next screen.

- **Cancel** - In most instances, press this key to reject an entry and/or to return to the previous screen.

- **Left/Right Arrow Keys** - Use these keys to move the cursor along a row one character at a time in the direction indicated.

- **Up/Down Arrow Keys** - Use these keys to move the cursor between rows one row at a time in the direction indicated.

**Note:** *In those instances when the keys behave in a manner unique to a specific screen, the differences will be described in that section.*
3.1.1 Starting Up

After installation, the dew.IQ moisture analyzer can be configured to meet the user’s requirements. While programming the instrument, refer to one of the following menu maps:

- *Figure 46 on page 104* when using an **M Series** probe (this probe is used for the programming examples in this chapter.)
- *Figure 47 on page 105* when using an **IQ.probe**

Upon the application of power, the dew.IQ performs some self checks and then displays a measurement mode screen like the one below.

![Measurement Mode Screen](image)

Note: After startup, the Main Menu needs to be unlocked. To unlock the menu, press: **Cancel**, **Enter**, **Cancel**.

3.1.2 Accessing the Menus

After unlocking the menu (as confirmed by the absence of the padlock icon in the lower right corner), press **Cancel** to display the Main Menu (see *Figure 36* below). Use the arrow keys to select the desired menu option and press **Enter** to access the highlighted option. Pressing **Cancel** from the Main Menu returns the screen to the Measurement Display.

**Note:** Menu items followed by an ellipsis (i.e., a series of three dots) have submenus, while those without it take immediate action.

<table>
<thead>
<tr>
<th>Main Menu</th>
<th>Settings...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display...</td>
<td>Output...</td>
</tr>
<tr>
<td></td>
<td>Alarm...</td>
</tr>
<tr>
<td>Logs...</td>
<td></td>
</tr>
<tr>
<td>LOCK</td>
<td></td>
</tr>
</tbody>
</table>

![Main Menu](image)
3.1.3 Entering Numeric Values

The dew.IQ has no numeric keypad. Numeric values are entered using a “combination lock” entry (see Figure 37 below as an example):

1. Use the left ◀ and right ▶ arrow keys to select the digit to change. The digit selected will be indicated with an .

2. Use the up ▲ and down ▼ arrow keys to increment or decrement the selected digit.

Note: If incrementing or decrementing a digit would cause the numeric value to leave its allowable range (maximum or minimum value), the digit will not change.

3. After you have completed your numeric entry, press Enter ✓ to save the new value and return to the previous screen, or press Cancel ✗ to leave the original value intact and return to the previous screen.

<table>
<thead>
<tr>
<th>Set Output Span</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max:</strong> +60.0</td>
</tr>
<tr>
<td>+060.0 DP °C</td>
</tr>
<tr>
<td><strong>Min:</strong> -110.0</td>
</tr>
<tr>
<td>✓=Save ✗=Cancel</td>
</tr>
</tbody>
</table>

Figure 37: Numeric Entry
3.2 Setting Up the Display

When the screen is unlocked, press the Cancel key and the Main Menu appears with several options. To set up the display, select Display... and press Enter. The following screen appears:

3.2.1 Selecting the Primary Units

To select the units for the primary display, select Unit Select and press Enter. The following screen appears:

Use the arrow keys to select the desired units and press Enter. The screen returns to the Display Menu.

Note: If the IQ.probe is being used, FH replaces MH.
3.2.2 Setting the Decimal Places

To set the decimal places for unit values, from the Display Menu use the arrow keys to select Decimal and press Enter. The following screen appears:

**Note:** The decimal places setting determines the number of digits displayed to the right of the decimal point (".") for the value, if possible.

Use the arrow keys to change the number of decimal places and press Enter, or press Cancel if no changes are desired. The screen returns to the Display Menu.

3.2.3 Adjusting the Contrast

To adjust the display contrast, from the Display Menu use the arrow keys to select Contrast and press Enter. The following screen appears:

Use the Right/Left arrow keys to increase or decrease the display contrast. Press Enter to save the changes, or press Cancel to discard the changes. The screen returns to the Display Menu.
Chapter 3. Initial Setup & Operation

3.3 Setting Up the Analog Output

3.3.1 Entering the Output Menu

To set up the output, from the Main Menu choose Output... and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Main Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display...</td>
</tr>
<tr>
<td>Output...</td>
</tr>
<tr>
<td>Alarm...</td>
</tr>
<tr>
<td>Logs...</td>
</tr>
</tbody>
</table>

3.3.2 Selecting the Output Units

From the Output Menu, select Units and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Output Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Upper</td>
</tr>
<tr>
<td>Lower</td>
</tr>
</tbody>
</table>

Use the arrow keys to select the desired units and press Enter. The screen returns to the Output Menu.

<table>
<thead>
<tr>
<th>Select Output Unit:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DP °C</td>
<td>g/m³</td>
</tr>
<tr>
<td>DP °F</td>
<td>kg/m³</td>
</tr>
<tr>
<td>PPMv</td>
<td>MH</td>
</tr>
<tr>
<td>mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Note: If the IQ.probe is being used, FH replaces MH.
Chapter 3. Initial Setup & Operation

3.3.3 Selecting an Output Type

IMPORTANT: Before changing the analog output type, refer to “Selecting the Analog Recorder Output” on page 4 to make sure that Switch S1 is set correctly (V for voltage or I for current).

To change the output type, from the Output Menu select Type and press Enter ✔. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Output Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Units</strong></td>
</tr>
<tr>
<td><strong>Test</strong></td>
</tr>
<tr>
<td><strong>Trim...</strong></td>
</tr>
<tr>
<td><strong>Upper</strong></td>
</tr>
<tr>
<td><strong>Lower</strong></td>
</tr>
</tbody>
</table>

Use the arrow keys to select a new output type. Press Enter ✔ to save the selection (or Cancel ✗ to keep the previous value), and return to the Output Menu.

3.3.4 Changing the Output Span

To adjust the output span, from the Output Menu select Upper and press Enter ✔. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Set Output Span</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max:</strong> +60.0</td>
</tr>
<tr>
<td>+060.0 DP °C</td>
</tr>
<tr>
<td><strong>Min:</strong> -110.0</td>
</tr>
<tr>
<td>✔=Save ✗=Cancel</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter ✔ to save (or Cancel ✗ to keep the previous value), and return to the Output Menu.
3.3.5 Changing the Output Zero

To adjust the output zero, from the Output Menu select Lower and press Enter. A screen similar to the following appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Output Menu.
3.3.6 Testing the Output

To verify proper operation of connected recording or SCADA equipment, the dew.IQ can output test signals of known value. Based on the percent of range selected, the Test Menu causes the dew.IQ to output test signals that can be easily calculated. As examples, the test signals for three commonly used range percentages are shown in Table 6 below.

<table>
<thead>
<tr>
<th>Output Type</th>
<th>0%</th>
<th>50%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20mA</td>
<td>0.00 mA</td>
<td>10.00 mA</td>
<td>20.00 mA</td>
</tr>
<tr>
<td>4-20mA</td>
<td>4.00 mA</td>
<td>12.00 mA</td>
<td>20.00 mA</td>
</tr>
<tr>
<td>0-2V</td>
<td>0.00 V</td>
<td>1.00 V</td>
<td>2.00 V</td>
</tr>
</tbody>
</table>

To test the system output, from the Output Menu select Test and press Enter. The dew.IQ will check the output settings, and a screen similar to the following appears:

Use the left and right arrow keys to select each digit to be changed, and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Output Menu.
3.3.7 Trimming the Output

The Trim Menu enables the operator to compensate for differences in the 0/4-20 mA or 0-2V dew.IQ test outputs and the readings on a connected output device. To trim the analog output:

Select Trim from the Output Menu and press Enter. The following screen appears:

When performing a Trim operation, the dew.IQ requires you to first reset the trim. To reset the trim output, select Reset Trim and press Enter. The following screen appears:

Use the left or right arrow keys to select YES and press Enter. This cancels any previous trim values, and returns the dew.IQ to its factory adjustment. The display returns to the previous screen.

To trim the zero value, select Trim Zero and press Enter. A screen similar to the following appears:

This step causes the dew.IQ to output 4.000 mA or 0.4 V on the output being trimmed. The output value should then be read using the connected analog device or a DVM.
3.3.7 Trimming the Output (cont.)

Enter the value read from the connected equipment as the Zero Trim value, as follows:

**Note:** Since you cannot trim 0 mA or 0 V for negative offsets, trim for the lower end of the scale is always at the 4 mA or 0.4 V output.

Use the left and right arrow keys to select each digit to be changed, and the up and down arrow keys to increase or decrease its value. Press Enter ✔️ to save (or Cancel ✗ to keep the previous value).

The Output Trim menu returns with Trim Span highlighted. To change the span value, press Enter ✔️. A screen similar to the following appears:

This step causes the dew.IQ to output 20.000 mA or 2 V on the output being trimmed. The output value should then be read using the connected analog device or a DVM. Enter the value read from the connected equipment as the Span Trim value, as follows:

Use the left and right arrow keys to select each digit to be changed, and the up and down arrow keys to increase or decrease its value. Press Enter ✔️ to save the new value (or Cancel ✗ to keep the previous value).

Trimming is complete. To verify the accuracy, see “Testing the Output” on page 43.
3.3.7 Trimming the Output (cont.)

Example:

1. Trim is reset, then Trim Zero is selected. The connected output device reports 3.977 mA.
2. The operator enters “3.977” as the Zero Trim value.
3. Trim Span is selected. The connected output device reports 19.985 mA.
4. The operator enters “19.985” as the Span Trim value.
5. The dew.IQ adjusts the output accordingly to align the output with the readings by the connected output device or a DVM.
6. Using the Test Menu, the operator verifies that a test value of 0% now reads 4.000 mA at the connected output device, and a test value of 100% now reads 20.000 mA.

3.4 Setting Up the Measurement Alarms

The dew.IQ has with two programmable high/low alarms and one fault alarm relay. Use the instructions in this section to set up these alarms.

3.4.1 Selecting an Alarm Output

To set up the alarms, on the Main Menu choose Alarm and press Enter. Then, from the Alarm Menu choose Select and press Enter. A screen similar to the following appears:

Use the arrow keys to select the output (A or B) to be set up and press Enter. The display returns to the Alarm Menu.
3.4.2 Selecting the Alarm Status

To select the alarm status, from the Alarm Menu select Status and press Enter. The following screen appears:

```
Alarm Menu [A]
Select Status Upper
Units Lower
Type...

Set Alarm Status:
OFF ON
✓=Accept ×=Cancel
```

Use the arrow keys to select OFF or ON and press Enter. The display returns to the Alarm Menu.

3.4.3 Selecting the Alarm Units

To select the alarm units, from the Alarm Menu select Units and press Enter. The following screen appears:

```
Alarm Menu [A]
Select Status Upper
Units Lower
Type...

Select Alarm Unit:
DP °C g/m³
DP °F kg/m³
PPMv MH
mg/m³
```

Use the arrow keys to select the desired alarm units. Press Enter to save the selection (or Cancel to keep the previous value), and return to the Alarm Menu.

**Note:** If the IQ.probe is being used, FH replaces MH.
3.4.4 Selecting an Alarm Type

To change the alarm type, from the Alarm Menu select Type and press Enter. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Alarm Menu [A]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Upper</td>
</tr>
<tr>
<td>Status Lower</td>
</tr>
<tr>
<td>Units Test</td>
</tr>
<tr>
<td>Type...</td>
</tr>
</tbody>
</table>

Use the arrow keys to select an alarm type (see “How the Alarm Types Work” on page 49). Press Enter to save (or Cancel to keep the previous value), and return to the Alarm Menu.
### 3.4.5 How the Alarm Types Work

The available alarm types (see Figure 38 below) for the dew.IQ are:

- **Setpoint**: The alarm activates when the selected parameter exceeds the upper limit. It deactivates when the selected parameter is less than the lower limit.

- **Inner Band**: The alarm activates when the selected parameter is between the upper limit and the lower limit. It deactivates when the selected parameter exceeds the upper limit or is less than the lower limit.

- **Outer Band**: The alarm activates when the selected parameter exceeds the upper limit or is below the lower limit. It deactivates when the selected parameter is between the upper limit and the lower limit.

---

**Figure 38: Available Alarm Types**
3.4.6 Setting the Alarm Span

To adjust the alarm span, from the Alarm Menu select Upper and press Enter. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Alarm Menu [A]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Upper</td>
</tr>
<tr>
<td>Status Lower</td>
</tr>
<tr>
<td>Units Test</td>
</tr>
<tr>
<td>Type...</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Alarm Menu.

3.4.7 Setting the Alarm Zero

To adjust the alarm zero, from the Alarm Menu select Lower and press Enter. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Alarm Menu [A]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Upper</td>
</tr>
<tr>
<td>Status Lower</td>
</tr>
<tr>
<td>Units Test</td>
</tr>
<tr>
<td>Type...</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Alarm Menu.
3.4.8 Testing the Alarm Relays

To test the alarm relay and devices connected to it, from the Alarm Menu select Test and press Enter. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>Alarm Menu [A]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Upper</td>
</tr>
<tr>
<td>Status Lower</td>
</tr>
<tr>
<td>Units Test</td>
</tr>
<tr>
<td>Type...</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select Reset or Trip and press Enter. If Reset was selected, the message Alarm is RESET appears. If Trip was selected, the message Alarm is Tripped appears. Press Cancel to return to the Alarm Menu.
3.5 Viewing System Information

To view the *dew.IQ* system information, from the Main Menu choose About... and press Enter ✅. Proceed to the following sections.

**Note:** The information in the following screens are examples only. Your *dew.IQ* will display the information for your specific unit.

### 3.5.1 Checking the ID

To check the identity information of the *dew.IQ*, from the About *dew.IQ* menu select ID and press Enter ✅. A screen similar to the following appears:

The information includes serial numbers for the *dew.IQ* unit and the attached probe. To return to the About *dew.IQ* menu, press Cancel ✗.
3.5.2 Checking the Status

To check the status of the MicroSD card, from the About dew.IQ menu select Status and press Enter. A screen similar to the following appears:

The information includes the format, amount of used space and amount of free space for an installed SD card. To return to the About dew.IQ menu, press Cancel.

3.5.3 Checking the Software Version

Note: The information in the following screens is a typical example only. Your unit always displays your actual information.

To check the software version of the dew.IQ, from the About dew.IQ menu select Version and press Enter. A screen similar to the following appears:

The information includes the program number (i.e., the firmware version). To return to the About dew.IQ menu, press Cancel.
### 3.5.4 Checking the Probe

**Note:** The information in the following screens is a typical example only. Your unit always displays your actual information.

To check the probe details, from the About dew.IQ menu select **Probe** and press **Enter**. A screen similar to one of the following appears:

<table>
<thead>
<tr>
<th>About dew.IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
</tr>
<tr>
<td>Status</td>
</tr>
<tr>
<td><strong>Probe</strong></td>
</tr>
</tbody>
</table>

For an **M Series** probe, this probe information is shown. To return to the About dew.IQ menu, press **Cancel**.

<table>
<thead>
<tr>
<th>Menu: X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probe:</strong> Standard</td>
</tr>
</tbody>
</table>

For an **IQ.probe**, this probe information is shown. To return to the About dew.IQ menu, press **Cancel**.

<table>
<thead>
<tr>
<th>Menu: X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probe:</strong> <strong>IQ.probe v. 1.A</strong></td>
</tr>
<tr>
<td><strong>S/N:</strong> 90104</td>
</tr>
</tbody>
</table>
3.5.5 Checking the Wiring

To view the **dew.IQ** wiring diagram, from the About dew.IQ menu select Wiring and press Enter. A screen similar to the following appears:

<table>
<thead>
<tr>
<th>ID</th>
<th>Wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td></td>
</tr>
<tr>
<td>Probe</td>
<td></td>
</tr>
</tbody>
</table>

When you are ready to return to the **dew.IQ** Main menu, press Cancel twice.

3.6 Locking the Main Menu

To lock out access to changing menu settings, from the Main Menu choose LOCK and press Enter. The display returns to normal measurement mode.

**Note:** *To unlock the menu, refer to “Starting Up” on page 36.*
Chapter 4. Data Logging

4.1 Checking the Data Log Status

To check the data log status, from the Logging Menu select Status and press Enter ✅. A screen similar to the following appears:

The current data log status is displayed. After about 10 seconds or upon pressing Cancel ✗ (whichever occurs first), the screen returns to the Logging Menu.

4.2 The Log Settings Menu

Note: To access the Settings... option in the Logging Menu, the log file must be stopped (see “Pausing or Closing a Log” on page 62).

4.3 Setting the Log Units

From the Logging Menu select Settings... and press Enter ✅. The following screen appears:

To set units to log, from the Set Log Params menu, select Units and press Enter ✅. The following screen appears.
4.3 Setting the Log Units (cont.)

Use the arrow keys to select the unit to log, and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Units to Log:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

To change the unit setting, select Modify and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Units to Log:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose Unit Action:</td>
</tr>
<tr>
<td>Modify</td>
</tr>
<tr>
<td>✓=Accept</td>
</tr>
</tbody>
</table>

Use the arrow keys to select the first unit to be logged and press Enter. The screen returns to the Units to Log menu.

Select Unit #1:
<table>
<thead>
<tr>
<th>Unit</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP °C</td>
<td>g/m³</td>
</tr>
<tr>
<td>DP °F</td>
<td>kg/m³</td>
</tr>
<tr>
<td>PPMv</td>
<td>MH</td>
</tr>
<tr>
<td>mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Note: If the IQ.probe is being used, FH replaces MH.

Units to Log:
<table>
<thead>
<tr>
<th>Units to Log:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose Unit Action:</td>
</tr>
<tr>
<td>Modify</td>
</tr>
<tr>
<td>✓=Accept</td>
</tr>
</tbody>
</table>

To remove a unit, from the Units to Log menu, select Remove and press Enter. Select the unit to be removed, press Enter, to delete the selected unit. Press Cancel to return to the Set Log Params menu.
4.4 Setting the Log Interval

To set the log interval, from the Set Log Params menu, select Interval and press Enter. The following screen appears:

```
Set Log Interval
Max: 86400
 00005 seconds
Min: 1
✓=Save ✓=Cancel
```

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Set Log Params menu.

4.5 Setting a Log Field Separator

To designate a text character to separate the log fields, from the Set Log Params menu select FieldSep and press Enter. The following screen appears:

```
Set Log Params
Units
Interval
FieldSep
Flags
```

Use the arrow keys to select the text character used to separate the log fields and press Enter. The screen returns to the Set Log Params menu.
### 4.6 Setting the Log Status Flags

The flags used to identify the log status are as follows:

- Range Err
- Over Range
- Under Range
- No Comm
- No Link
- Bad CRC
- Bad Message
- Auto Cal
- No Refs
- No Data
- No Cal
- Write Err
- Read Err
- ADC Failure
- Cal Error

To turn log status flags on or off, from the Set Log Params menu select Flags and press Enter. The following screen appears:

![Set Log Params](image1)

Use the arrow keys to select OFF or ON and press Enter. The screen returns to the Set Log Params menu. Then, press Cancel to return to the Logging Menu.
4.7 Managing Log Files

4.7.1 Creating a New Log

**Note:** The New Log option is available only if there are no logs currently running or paused. All running or paused logs must be closed before proceeding. Note that a closed log cannot be resumed.

To manage the log file status, from the Logging Menu select Manage and press Enter ✔️. If no log has been created, the following screen appears:

To create a new log, from the Manage Log Files menu select New Log and press Enter ✔️. A screen similar to the following appears:

A file name, which corresponds to the date and time the log is started, is assigned to the new log by the **dew.IQ**. For example, a log started on May 1 at 4:37 pm will be named 05011637. After about 10 seconds or upon pressing Cancel ✗ (whichever occurs first), the screen returns to the Manage Log Files menu.

**Note:** When a new log is created, the New Log option in the Manage Log Files menu changes to a Pause/Close option.
Chapter 4. Data Logging

4.7.2 Pausing or Closing a Log

After a new log is created, it can be paused or closed at any time. To pause or close a log, from the Manage Log Files menu select Pause/Close and press Enter. The following screen appears:

The log file name is shown in the header. Select Pause or Close and press Enter. The screen returns to the Manage Log Files menu.

**Note:** After a log is paused, the Pause/Close option in the Manage Log Files menu changes to a Resume/Close option.
4.7.3 Resuming a Log

A paused log can be resumed or closed at any time. To resume or close a log, from the Manage Log Files menu select Resume/Close and press Enter. The following screen appears:

Select Resume or Close and press Enter. The screen returns to the Manage Log Files menu.

Note: After a log is resumed, the Manage Log Files menu displays the Pause/Close option again.

Note: If a log is running and the dew.IQ reboots due to a power failure, the log returns to its status prior to the power failure.

4.7.4 Viewing the Log Directory

To view the existing log file names, select Directory and press Enter. A screen similar to the following appears:

When a log file is highlighted, the date, time and size of that log file is shown at the bottom of the screen. Use the arrow keys to move from one log file to another. To return to the Manage Log Files menu, press Cancel.
4.7.5 Deleting Log Files

To erase existing log files, from the Manage Log Files menu, select Erase Log and press Enter. The File Listing screen appears:

Using the arrow keys, move to the name of the log file to be deleted and press Enter. The following screen appears:

Using the arrow keys, select YES to erase the log file, or NO to keep the log file. Press Enter and the screen returns to File Listing. If YES was selected, the erased log file is no longer listed. If NO was selected, the log file is still listed. Press Cancel to return to the Manage Log Files menu.
4.8 Ejecting the MicroSD Card

Ejecting the MicroSD card requires two steps:

1. Closing all active logs. Complete this step by following the instructions in “Pausing or Closing a Log” on page 62.

2. Ejecting the MicroSD card. Accomplish this as follows:

**IMPORTANT:** Physically removing the MicroSD card from the dew.IQ without first closing all active logs and ejecting the card will not damage either the card or the dew.IQ, but it may result in data loss.

To eject the SD card, from the Logging Menu, select Eject Card and press Enter. The following screen appears:

Use the arrow keys to select EJECT or CANCEL and press Enter. The screen returns to the Logging Menu. Press Cancel to return to the Main Menu.

If EJECT was selected above, the MicroSD card may now be physically removed from the dew.IQ. To remove and read the card see Appendix C, “Reading the MicroSD Card” on page 107.
4.9 Viewing Data Log Files

Any standard MicroSD card reader may be used to read the `dew.IQ` MicroSD card on a PC. The log files are stored in text format, and any word processing or spreadsheet program may be used to read the data.

See “Reading the MicroSD Card” on page 107, for instructions and examples on how to work with the `dew.IQ` log files.
Chapter 5. Programming the Settings Menu

5.1 Entering Your Passcode

To access the Settings Menu, proceed as follows:

The Settings Menu is the only user menu that requires a passcode. The passcode is a four-digit number that enables only authorized users to enter setup data. The dew.IQ prompts you to enter your passcode whenever you attempt to program most of the Settings Menu options, as shown below.

**IMPORTANT:** See page 125 near the end of this manual for your factory default passcode.

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. After the passcode has been entered, press Enter to proceed.

**Note:** The AutoCal, Clock and DpC Offset submenus do not require a passcode for access.

**Note:** After entering your passcode, all menus that require the passcode for access will display a U in the lower right corner to indicate that the Settings menu has been Unlocked.
5.2 Setting the Fault Alarm

Note: Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

To configure the fault alarm, from the Settings Menu select Fault Alarm and press Enter ✔. Then, enter your passcode and press Enter ✔.

5.2.1 Setting the Fault Alarm Status

To check the status of the fault alarm, from the Fault Alarm menu, select Status and press Enter ✔. The following screen appears:

To change the status of the fault alarm, select OFF or ON and press Enter ✔. The screen returns to the Fault Alarm menu.
### 5.2.2 Setting the Fault Alarm Type

**Note:** For more information on alarm types, see “How the Alarm Types Work” on page 49.

To check or change the fault alarm type, select Type and press Enter ✓. The following screen appears:

<table>
<thead>
<tr>
<th>Fault Alarm Status Type Options Test</th>
</tr>
</thead>
</table>

To change the type of fault alarm used, select the non-highlighted option and press Enter ✓. The screen returns to the Fault Alarm menu.

### 5.2.3 Setting the Fault Alarm Options

To check or change the Fault Alarm options, select Options and press Enter ✓. The following screen appears:

<table>
<thead>
<tr>
<th>Fault Alarm Status Type Options Test</th>
</tr>
</thead>
</table>

To set the Alarm on Range Error response, select Yes or No and press Enter ✓. The screen returns to the Fault Alarm menu. Then, press Cancel ✗ to return to the Settings Menu.
5.2.4 Testing the Fault Alarm

To test the Fault Alarm, select Test and press Enter ✔. The following screen appears:

<table>
<thead>
<tr>
<th>Fault Alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Options</td>
</tr>
<tr>
<td><strong>Test</strong></td>
</tr>
</tbody>
</table>

Fault Alarm
Fault Alm is TRIPPED

- **Reset**
- **Trip**

✓=Accept ✗=Cancel

To reset the fault alarm, select Reset and press Enter ✔. To trip the fault alarm, select Trip and press Enter ✔. Press Cancel ✗ twice to return to the Settings Menu.

5.3 Setting AutoCal

Note: Access to this menu does not require a passcode.

Note: The AutoCal Settings menu is only available for an M Series probe. This menu is not available for an IQ.probe.

To change the AutoCal settings, from the Settings Menu select AutoCal and press Enter ✔. The following screen appears:

<table>
<thead>
<tr>
<th>Settings Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault Alm...</td>
</tr>
<tr>
<td>Clock...</td>
</tr>
<tr>
<td><strong>AutoCal...</strong></td>
</tr>
<tr>
<td>Probes</td>
</tr>
<tr>
<td>Cal Data...</td>
</tr>
<tr>
<td>DpC Offset</td>
</tr>
<tr>
<td>V/V Ratio...</td>
</tr>
</tbody>
</table>

To change the AutoCal interval settings, select Interval and press Enter ✔. A screen similar to the following appears:
5.3 Setting AutoCal (cont.)

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter ✔️ to save the new value (or Cancel ❌ to keep the previous value), and return to the AutoCal Settings menu.

To manually initiate an immediate one-time AutoCal, select Cal Now and press Enter ✔️. A screen similar to the following appears:

To initiate the AutoCal, select Yes. To cancel the AutoCal select No. Press Enter ✔️ to confirm your selection and return to the AutoCal Settings menu.
Chapter 5. Programming the Settings Menu

5.4 Entering Calibration Data for an M Series Probe

Note: Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

Note: If you are using an IQ.probe, see “Viewing Calibration Data for an IQ.probe” on page 75.

To enter M Series probe calibration data, from the Settings Menu select Cal Data and press Enter ✔️. Then, enter your passcode and press Enter ✔️. The following screen appears:

For a standard M Series probe, the MH/DP Cal option is highlighted by default. Press Enter ✔️ and continue to the next section.

5.4.1 Selecting the Number of Points

To select the number of points, highlight Select Num of Points and press Enter ✔️. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter ✔️ to save the new value (or Cancel ✗ to keep the previous value), and return to Edit MH/DP Cal.
5.4.2 Selecting the Calibration Point

To select the calibration point, highlight Select Cal Point and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Edit MH/DP Cal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Num of Points</td>
</tr>
<tr>
<td>Select Cal Point</td>
</tr>
<tr>
<td>Edit MH</td>
</tr>
<tr>
<td>Edit DP/°C</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Edit MH/DP Cal menu.

5.4.3 Entering the MH Calibration

To enter the MH calibration value for the selected point, highlight Edit MH and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Edit MH/DP Cal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Num of Points</td>
</tr>
<tr>
<td>Select Cal Point</td>
</tr>
<tr>
<td>Edit MH</td>
</tr>
<tr>
<td>Edit DP/°C</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Edit MH/DP Cal menu.
5.4.4 Entering the Dew Point Calibration

To enter the dew point calibration value for the selected point, highlight Edit DP/°C and press Enter. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value), and return to the Edit MH/DP Cal menu. Press Cancel to return to the Cal Data menu.
Chapter 5. Programming the Settings Menu

5.5 Viewing Calibration Data for an IQ.probe

**Note:** Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

**Note:** If you are using an M Series probe, see “Entering Calibration Data for an M Series Probe” on page 72.

### 5.5.1 Selecting the Calibration Point

To select the calibration point, highlight **Select Cal Point** and press **Enter**. The following screen appears:

<table>
<thead>
<tr>
<th>Settings Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault Alm... Clock...</td>
</tr>
<tr>
<td>Cal Data... DpC Offset</td>
</tr>
</tbody>
</table>

To view the IQ.probe calibration data, from the Settings Menu select Cal Data and press **Enter**. Then, enter your passcode and press **Enter**. The following screen appears:

<table>
<thead>
<tr>
<th>Cal Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>MH/DP Cal...</td>
</tr>
<tr>
<td>Cal Reference...</td>
</tr>
</tbody>
</table>

For an IQ.probe, the FH/DP Cal option is highlighted by default. Press **Enter** and continue to the next section.

Use the left and right arrow keys to select each digit and the up and down arrow keys to increase or decrease its value. Press **Enter** to save the new value (or **Cancel** to keep the previous value), and return to Read FH/DP Calibration.
5.5.2 Reading the FH Value

To view the FH calibration value for the selected point, highlight Read FH and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Read FH/DP Calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Cal Point</td>
</tr>
<tr>
<td>Read FH Value</td>
</tr>
<tr>
<td>Read DP Value</td>
</tr>
</tbody>
</table>

The FH value is for viewing only. When you are ready, press Cancel to return to the Read FH/DP Calibration menu.

5.5.3 Reading the DP Value

To view the DP calibration value for the selected point, highlight Read DP and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Read FH/DP Calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Cal Point</td>
</tr>
<tr>
<td>Read FH Value</td>
</tr>
<tr>
<td>Read DP Value</td>
</tr>
</tbody>
</table>

The DP value is for viewing only. When you are ready, press Cancel to return to the Read FH/DP Calibration menu. Press Cancel twice to return to the Settings Menu.
5.6 Reading and Setting the Calibration References

**Note:** This section applies only to an M Series probe. The Cal Reference menu is not available for an IQ.probe.

**Note:** Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

**IMPORTANT:** The dew.IQ is factory programmed with high and low reference MH values. These values are generated from a factory lab calibration and should not be changed without first consulting BHGE technical support. Changes to these values will alter the accuracy of your measurements.

To update the calibration references, from the Settings Menu select Cal Data and press Enter ✔. Then, enter your passcode and press Enter ✔. The following screen appears:

To view or edit the calibration reference settings, select Cal Reference and press Enter ✔. Proceed to the next section.
5.6.1 Setting the Calibration High Reference

To update the high reference setting, from the Edit Cal Refs menu select High Reference and press Enter. A screen similar to the following appears:

```
<table>
<thead>
<tr>
<th>High MH Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max: 15.0000</td>
</tr>
<tr>
<td>3.0419 MH</td>
</tr>
<tr>
<td>Min: 0.0000</td>
</tr>
<tr>
<td>=Save ≠Cancel</td>
</tr>
</tbody>
</table>
```

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. After the changes have been made, press Enter. The screen returns to the Edit Cal Refs menu.

5.6.2 Setting the Calibration Low Reference

To update the low reference setting, from the Edit Cal Refs menu select Low Reference and press Enter. A screen similar to the following appears:

```
<table>
<thead>
<tr>
<th>Low MH Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max: 15.0000</td>
</tr>
<tr>
<td>0.1752 MH</td>
</tr>
<tr>
<td>Min: 0.0000</td>
</tr>
<tr>
<td>=Save ≠Cancel</td>
</tr>
</tbody>
</table>
```

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. After the changes have been made, press Enter. The screen returns to the Edit Cal Refs menu.
5.7 Entering an M Series Probe Serial Number

**Note:** This section applies only to an M Series probe. The Probe SN menu is not available for an IQ.probe.

**Note:** Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

To update the probe serial number, from the Settings Menu select Cal Data and press Enter ✔️. Then, enter your passcode and press Enter ✔️. The following screen appears:

To view or edit the probe serial number, select Probe SN and press Enter ✔️. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. After the changes have been made, press Enter ✔️. The screen returns to the Cal Data menu.
Chapter 5. Programming the Settings Menu

5.8 Setting the Volume Mixing Ratio

Note: Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

To set the volume mixing ratio, from the Settings Menu select V/V Ratio and press Enter. Then, enter your passcode and press Enter. Proceed to the following sections.

5.8.1 Setting the Pressure Units

To set the pressure units, select Press. Units and press Enter. The following screen appears:

Volume Mixing Ratio

Press. Units
Press. Value
k x PPMv

Use the left and right arrow keys to highlight the desired units. Press Enter to save the new units (or Cancel to keep the previous units) and return to the Volume Mixing Ratio menu.
5.8.2 Setting the Pressure Value

To set the pressure value, select Press. Value and press Enter. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the Volume Mixing Ratio menu.

5.8.3 Setting the k x PPMv Multiplier

To set the multiplier value, select k x PPMv and press Enter. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the Volume Mixing Ratio menu.
5.9 Setting the System Clock

Note: Access to this menu does not require a passcode.

To set the system clock, from the Settings Menu select Clock and press Enter to display the current day, date and time. To make changes, see the following sections.

5.9.1 Setting the Hour

To change the hour, select Hour and press Enter. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the previous menu.
5.9.2 Setting the Minutes

To change the minutes, select Minutes and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Set Minutes [0-59]:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max: 59</td>
</tr>
<tr>
<td>44</td>
</tr>
<tr>
<td>Min: 0</td>
</tr>
<tr>
<td>✓=Save ✗=Cancel</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the previous menu.

5.9.3 Setting the Month

To change the month, select Month and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Set Month [1-12]:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max: 12</td>
</tr>
<tr>
<td>02</td>
</tr>
<tr>
<td>Min: 1</td>
</tr>
<tr>
<td>✓=Save ✗=Cancel</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the previous menu.
5.9.4 Setting the Date

To change the date, select Date and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Thu 2/4/2010 13:44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hour</td>
</tr>
<tr>
<td>Minutes</td>
</tr>
<tr>
<td>Month</td>
</tr>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the previous menu.

5.9.5 Setting the Year

To change the year, select Year and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Thu 2/4/2010 13:44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hour</td>
</tr>
<tr>
<td>Minutes</td>
</tr>
<tr>
<td>Month</td>
</tr>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press Enter to save the new value (or Cancel to keep the previous value) and return to the previous menu.
### 5.10 Selecting the Probe Type

**Note:** Access to this menu requires a passcode (see “Entering Your Passcode” on page 67).

**IMPORTANT:** Changing the probe type will reset the analog output, measurement alarms, fault alarm and output range to their factory default settings.

To select the probe type, from the Settings Menu select Probes and press Enter. Then, enter your passcode and press Enter. The following screen appears:

<table>
<thead>
<tr>
<th>Settings Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault Alm... Clock...</td>
</tr>
<tr>
<td>AutoCal... <strong>Probes</strong></td>
</tr>
<tr>
<td>Cal Data... DpC Offset</td>
</tr>
<tr>
<td>V/V Ratio...</td>
</tr>
</tbody>
</table>

Use the left or right arrow key to select the correct probe type and press Enter. The **dew.IQ** will reboot in 5 seconds.

<table>
<thead>
<tr>
<th>Settings Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Probe:</td>
</tr>
<tr>
<td><strong>STANDARD</strong> IQ.probe</td>
</tr>
<tr>
<td>✓=Accept ✗=Cancel</td>
</tr>
</tbody>
</table>
5.11 Setting a Constant DP °C Offset

**Note:** *Access to this menu does not require a passcode.*

This feature enables the user to add a constant DP °C offset to all *dew.IQ* readings. It allows for positive or negative offset limiting up to ±50°C. The constant offset only applies within the calibrated range of the probe, and the measurement alarms will use the constant offset within that range.

Use the following procedure to set the DP °C Offset:

To set a constant DP °C offset, from the **Settings Menu** select DpC and press **Enter**. The following screen appears:

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. Press **Enter** to save the new value (or **Cancel** to keep the previous value) and return to the previous menu.
Chapter 6. Service and Maintenance

6.1 Introduction

The **dew.IQ** is designed to be maintenance and trouble free. However, because of severe process conditions and other factors, minor problems may occur from time to time. Some of the most common problems and recommended maintenance procedures are discussed in this chapter. If you cannot find the information you need in this chapter, please consult BHGE for help.

**CAUTION!** Do not attempt to troubleshoot the dew.IQ beyond the instructions in this chapter. If you do, you may damage the unit and void the warranty.

This chapter covers the following topics:

- “The Service Menu” on page 87
- “Troubleshooting Common Problems” on page 88
- “Replacing/Recalibrating Moisture Probes” on page 89
- “Cleaning the dew.IQ Front Panel” on page 90

Proceed to the appropriate section to perform any of the above tasks.

6.2 The Service Menu

The **dew.IQ** Service menu is intended for use only by trained service engineers and requires the use of a Factory-Level Passcode for access.

<table>
<thead>
<tr>
<th>Service Passcode:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
</tr>
</tbody>
</table>

Use the left and right arrow keys to select each digit to be changed and the up and down arrow keys to increase or decrease its value. After the passcode has been entered, press **Enter** to proceed.
### 6.3 Troubleshooting Common Problems

If the **dew.IQ** measurements read too wet or too dry, or if they do not make sense, there may be a problem with a process component or the probe. See *Table 7* below to troubleshoot and solve such problems.

#### Table 7: Troubleshooting Guide for Common Problems

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Response and Action</th>
</tr>
</thead>
</table>
| **Symptom:** The accuracy of the moisture sensor is questioned. | **Response:** Reads too wet during dry down conditions or too dry in wet up conditions.  
**Action:** Change the flow rate. A change in dew point indicates the sample system is not at equilibrium or there is a leak. Allow sufficient time for sample system to equilibrate and moisture reading to become steady. Check for leaks. |
| There is insufficient time for the system to equilibrate. | **Response:** Reads too wet during dry down conditions or too dry in wet up conditions.  
**Action:** Change the flow rate. A change in dew point indicates the sample system is not at equilibrium or there is a leak. Allow sufficient time for sample system to equilibrate and moisture reading to become steady. Check for leaks. |
| Dew point at the sampling point is different from the dew point of the main stream. | **Response:** Reads too wet or too dry.  
**Action:** Readings may be correct if the sampling point and main stream do not run under the same process conditions. The different process conditions cause readings to vary. If sampling point and main stream conditions are the same, check sample system pipes, and any pipe between the sample system and main stream for leaks. Also, check sample system for adsorbing water surfaces, such as rubber or plastic tubing, paper-type filters, or condensed water traps. Remove or replace the contaminating parts with stainless steel parts. |
| Sensor or sensor shield is affected by process contaminants | **Response:** Reads too wet or too dry  
**Action:** Clean the sensor and the sensor shield, then reinstall the sensor. |
| Sensor is contaminated with conductive particles. | **Response:** Reads high dew point.  
**Action:** Clean the sensor and the sensor shield, then reinstall the sensor. Also, install a proper filter (i.e. sintered or coalescing element). |
| Sensor is corroded | **Response:** Reads too wet or too dry  
**Action:** Return probe to factory for evaluation. |
| Stream particles causing abrasion. | **Response:** Reads too wet or too dry.  
**Action:** Return probe to factory for evaluation. |
6.4 Replacing/Recalibrating Moisture Probes

For maximum accuracy, moisture probes should be returned to the factory for recalibration every 6–12 months, depending on the application. Under very severe conditions, more frequent calibrations are recommended. However, under very mild conditions, less frequent calibrations are necessary. Contact a BHGE applications engineer for your specific recommended calibration frequency.

All new or recalibrated moisture probes must be installed in accordance with the instructions in Chapter 2, Installation.

**IMPORTANT:** To maintain good contact at the terminal block and to avoid damaging the pins on the wiring connector, pull the connector straight off (not at an angle) the terminal block. Make the cable connections while the connector is off the unit. After the wiring is complete, push the connector straight onto the terminal block (not at an angle).

After the probe has been installed and wired, enter the probe calibration curve data as described in Chapter 5, Programming the Settings Menu. Each probe is shipped with its own Calibration Data Sheet, which includes the serial number for that probe.
6.5 Cleaning the dew.IQ Front Panel

When necessary, use the procedure below to clean the front panel of the dew.IQ. You will need the following items:

- Clean, lint-free cloth
- Cleaning solution (soap and warm water)

To clean the front panel, complete the following steps:

1. Moisten the cloth with the cleaning solution.
2. Gently wipe the front panel clean.
3. Use a dry cloth to dry the front panel.
Chapter 7. Specifications

7.1 Electronics

Intrinsic Safety
External safety barrier for moisture input (optional on M Series probe)

European Compliance
See the EU Declaration of Conformity at the back of this manual

Input
Moisture signal from an M Series probe or an IQ.probe

Analog Output
Single internal isolated recorder output, internally optically isolated, 10-bit (0.1%) resolution

Switch-Selectable Output Ranges
0–2 V, 10 kΩ minimum load resistance
0–20 mA, 400 Ω maximum series resistance
4–20 mA, 400 Ω maximum series resistance

The outputs are user-programmable within the range of the instrument and the corresponding sensor or transmitter.

Alarm Relays
One fail-safe system fault relay,
Two standard Form C SPDT relays, rated for 3 A at 250 VAC/30 VDC

The alarm relays may be set to any level within the range of the instrument and are programmable from the front panel.
7.1 Electronics (cont.)

Alarm Setpoint Repeatability
$\pm 0.2^\circ F \ (\pm 0.1^\circ C)$ dew point

Datalogger
32 GB capacity with MicroSD card, 4 GB MicroSD card included

Display
128 x 64 matrix LCD

Display Functions
Dew point temperature °F or °C, ppmv with a constant pressure input, or sensor signals for diagnostics

Power Requirements
Universal power supply,
100-240 VAC @ 50-60 Hz or 24 VDC nominal

Temperature
Operating: $-20^\circ$ to $60^\circ$C ($-4^\circ$ to 140°F)
Storage: $-40^\circ$ to $70^\circ$C ($-40^\circ$ to 158°F)

Warm-Up Time
Meets specified accuracy within three minutes

Configurations
Panel Mount: front panel rated Type 4X and IP66
Half-Rack: 9.5”
Bench Top
Wall Mount: rated Type 4X and IP66
7.2 Moisture Measurement

Sensor Type

Thin-film aluminum oxide

Moisture Probe Compatibility

Compatible with all Panametrics M-Series aluminum oxide moisture probes and the IQ.probe

Dew/Frost Point Temperature

*Overall range capability:* –110° to 60°C (–166° to 140°F)

*Standard:* –80 to 20°C (–112 to 68°F) with data to –110°C (–166°F)
*Ultra-Low:* –110 to –50°C (–166 to –58°F)
*High Range Data:* –80 to 60°C (–112 to 140°F)

Calibrated Accuracy at 77°F (25°C)

±2°C (±3.6°F) from –65° to 10°C (–85° to 50°F)
±3°C (±5.4°F) from –80° to –66°C (–112° to –87°F)

Repeatability

±0.5°C (±0.9°F) from –65° to 10°C (–85° to 50°F)
±1.0°C (±1.8°F) from –80° to –66°C (–112° to –87°F)
[no content intended for this page]
Appendix A. Outline and Installation Drawings

This appendix includes the following *dew.IQ* drawings:

- “Wall Mount Outline & Installation (ref. dwg. 712-1823, 1 of 3)” on page 96
- “Wall Mount Outline & Installation (ref. dwg. 712-1823, 2 of 3)” on page 97
- “Wall Mount Outline & Installation (ref. dwg. 712-1823, 3 of 3)” on page 98
- “Rack Mount Outline & Installation (ref. dwg. 712-1824)” on page 99
- “Panel Mount Outline & Installation (ref. dwg. 712-1825)” on page 100
- “Bench Top Outline & Installation (ref. dwg. 712-1826)” on page 101
- “Interconnection Diagram (ref. dwg. 702-1381)” on page 102
Appendix A. Outline and Installation Drawings

Figure 39: Wall Mount Outline & Installation (ref. dwg. 712-1823, 1 of 3)

STEP 2: SWING DOOR OPEN

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)
2. RECOMMENDED MOUNTING HARDWARE:
   - SELF-DRILLING DRYWALL ANCHORS 4x
   - #8 x 1-1/2" MACHINE SCREWS 4x
3. REMOVE TERMINAL BLOCK CONNECTOR PRIOR TO WIRING. 18 AWG CONDUCTOR POWER CORD REQUIRED.

REMOVE CCWD PRIOR TO WIRING, SEE NOTE 3

UNIONING HOLE PATTERN
Figure 40: Wall Mount Outline & Installation (ref. dwg. 712-1823, 2 of 3)

NOTES (CONT.):

4. THREAD CABLE GLAND BODY INTO ENCLOSURE. TIGHTEN ALL CABLE GLAND BODIES TO 11 in-lbs +/- 1 in-lb TO ENSURE PROPER O-RING COMPRESSION. HAND-TIGHTEN CABLE GLAND NUT ON INSIDE OF ENCLOSURE.

5. PLUG ALL UNUSED PORTS. TIGHTEN PLUGS TO 11 in-lbs +/- 1 in-lb TO ENSURE PROPER O-RING COMPRESSION.
4. SERVICE LOOP LENGTH OF 10-12" OF CABLE SHOULD BE LEFT INSIDE
ALL CABLE CONNECTIONS TO AVOID PULL DAMAGE UPON OPENING.
A CABLE CONNECTION, EXCEPT POWER, TO BE UNSHIELDED, JACKETED, TWISTED PAIR.

6. A SERVICE LOOP LENGTH OF 10-12" OF CABLE SHOULD BE LEFT INSIDE
ALL CABLE CONNECTIONS TO AVOID PULL DAMAGE UPON OPENING.
A CABLE CONNECTION, EXCEPT POWER, TO BE UNSHIELDED, JACKETED, TWISTED PAIR.

8. USE MINIMUM BEND RADIUS OF 2.50" FOR ALL CABLE CONNECTIONS.

10. WEIGHT: 1.87 lb. (0.850 kg)
Figure 42: Rack Mount Outline & Installation (ref. dwg. 712-1824)
Figure 43: Panel Mount Outline & Installation (ref. dwg. 712-1825)
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)
2. WEIGHT: 1.01 lb. (0.459 kg)

Figure 44: Bench Top Outline & Installation (ref. dwg. 712-1826)
Figure 45: Interconnection Diagram (ref. dwg. 702-1381)
Appendix B. Menu Maps

This appendix includes the following *dew.IQ* menu maps:

- “Main Menu Map Using M Series Probe” on page 104
- “Main Menu Map Using IQ.probe” on page 105
Figure 46: Main Menu Map Using M Series Probe
Figure 47: Main Menu Map Using IQ.probe

Appendix B. Menu Maps
[no content intended for this page]
Appendix C. Reading the MicroSD Card

C.1 Removing the MicroSD Card

**IMPORTANT:** Before physically removing the MicroSD Card, refer to “Ejecting the MicroSD Card” on page 65.

1. Locate the memory card in the lower center of the rear panel of the dew.IQ and pull the left side of the flexible cover. The cover is hinged on the right side (see Figure 48 and Figure 49 below).

![Figure 48: Pulling the Flexible Cover](image)

![Figure 49: The Exposed Memory Card Holder](image)
C.1 Removing the MicroSD Card (cont.)

2. Push in the memory card until it clicks and then release it (see Figure 50 below).

![Figure 50: Pushing in on the MicroSD Card](image1)

3. After the MicroSD card is partially ejected, pull it from the dew.IQ chassis (see Figure 51 below).

![Figure 51: Removing the MicroSD Card](image2)
C.2 Connecting the MicroSD Card to a PC

1. Plug the MicroSD card into a card reader (see Figure 52 below).

![Figure 52: Plugging the MicroSD Card into a Card Reader](image)

2. Connect the card reader to a PC (see Figure 53 below).

![Figure 53: Plugging the Card Reader into a PC](image)
C.3 Accessing the Log Files

1. From the PC, open My Computer and find the card reader in the “Devices with Removable Storage” section. (see Figure 54 below).

![Figure 54: Locating the Card Reader]
C.3 Accessing the Log Files (cont.)

2. Click on the Removable Disk icon and a window similar to Figure 55 below opens. The available log files are listed in the window.

![Figure 55: List of Log Files](image)

3. Click on the desired log file and a window similar to Figure 56 below opens. The data in the log file is listed in the window.

![Figure 56: Log File Data](image)
C.3 Accessing the Log Files (cont.)

4. The dew.IQ log files can be opened with a spreadsheet program, such as Microsoft Excel. Launch the spreadsheet program and select Open (see Figure 57 below).

![Figure 57: Opening a Log File in Microsoft Excel]

5. Click on the name of the desired log file (see Figure 58 below).

![Figure 58: Selecting the Log File to Open]
C.4 Setting Up a Log File

1. Make sure that the file type is set to “All Types” and then open the selected log file by double clicking on the file name. A window similar to the one in Figure 59 below will open.

![Figure 59: Microsoft Excel Import Wizard - Step 1](image-url)
C.4 Setting Up a Log File (cont.)

2. Follow the directions on the screen, make changes if necessary, and then click on Next. A window similar to the one in *Figure 60* below will open.

![Microsoft Excel Import Wizard - Step 2](image)

*Figure 60: Microsoft Excel Import Wizard - Step 2*
3. Select the desired data delimiters, and click on **Next >**. A window similar to the one in *Figure 61* below will open.

4. Select each column and set the desired data format for that column (see *Figure 61* below).

*Figure 61: Microsoft Excel Import Wizard - Step 3*
C.4 Setting Up a Log File (cont.)

5. When the setup is complete, click on Finish, and a window similar to Figure 62 below will open. The log file is now properly formatted for graphing or analysis, and the results may be saved as a standard spreadsheet file for future use.

![Figure 62: Successful Log File Import](image-url)
Index

A

About Menu ......................................................... 52
Alarm Menu ......................................................... 46
Alarm Relays
  Alarm Types ..................................................... 49
  Fault Alarm ...................................................... 29
  Fault Alarm, Checking Status ................................. 68
  Fault Alarm, Setting ........................................... 68
  Fault Alarm, Setting Options ................................. 69
  Fault Alarm, Setting Type .................................... 69
  Fault Alarm, Testing .......................................... 70
Measurement, Selecting an Output ......................... 46
Measurement, Selecting Status ............................... 47
Measurement, Selecting Type .................................. 48
Measurement, Selecting Units ................................. 47
Measurement, Setting the Span ............................... 50
Measurement, Setting the Zero .............................. 50
Measurement, Setting Up ........................................ 46
Specifications ....................................................... 91
Testing .............................................................. 51
Wiring ............................................................... 27
Alarm Types Explained ........................................... 49
Alarms
  see Alarm Relays
Analog Output
  Changing the Span ............................................. 41
  Changing the Zero ............................................. 42
  Ranges ........................................................... 91
  Selecting I or V ................................................ 4
  Selecting Type .................................................. 41
  Selecting Units ................................................ 40
  Setting Up ....................................................... 40
AutoCal
  Initiate Now .................................................... 71
  Setting ........................................................... 70
# Index

## B
- Bench Mount, Installation ................................................. 13

## C
- Cable
  - IQ.probe ................................................................. 24
  - M Series Probe ....................................................... 21
- Calibration
  - Entering Data, M Series Probe ..................................... 72
  - Probe, Factory ......................................................... 89
  - Reading & Setting References .................................... 77
  - Viewing Data, IQ.probe ........................................... 75
- Clock, Setting ................................................................. 82
- Contrast, Adjusting .......................................................... 39

## D
- Data Logging
  - Programming ............................................................... 57
  - Specifications ............................................................ 92
- dew.IQ
  - Configurations .......................................................... 8, 92
  - Features ................................................................. 1
  - Removing the Top Cover ............................................ 5
  - Wiring Connections ................................................... 18
- Display Menu
  - Adjusting the Contrast ............................................... 39
  - Programming .............................................................. 38
  - Selecting Primary Units ........................................... 38
  - Setting Number of Decimal Places ................................ 39
- Document Number ............................................................. i
- Drawings, Outline & Installation ........................................ 95

## E
- Ejecting the MicroSD Card .................................................. 65
- Electronics
  - Features ................................................................. 1
  - Mounting ................................................................. 8
  - Specifications ............................................................ 91
- European Compliance ....................................................... 91
Index

F
Fault Alarm
  Description ......................................................... 29
  Setting ............................................................... 68
  Wiring ................................................................. 29
Features & Capabilities ...................................................... 1

G
Gasket, Panel Mount Installation ........................................ 9

I
ID, Checking .................................................................. 52
Initial Setup .................................................................. 35
Input Power, Specifications .................................................. 92
Installation
  Bench Mount ............................................................. 13
  Drawings .................................................................. 95
  Panel Mount ................................................................ 8
  Probe ........................................................................ 16
  Rack Mount ................................................................ 12
  Wall Mount ................................................................ 14
Interconnection Diagram ....................................................... 102
Intrinsic Safety ................................................................. 91
IQ.probe
  Photograph ................................................................ 2
  Viewing Calibration Data ................................................. 75

K
k x PPMv Multiplier, Setting ............................................... 81

L
Lock Menu .................................................................. 55
Index

Logs
  Checking the Status ................................................. 57
  Creating a New Log .................................................. 61
  Deleting Log Files ................................................... 64
  Managing Log Files ................................................... 61
  Menu ................................................................. 57
  Setting a Field Separator ........................................... 59
  Setting Status Flags .................................................. 60
  Setting the Interval .................................................. 59
  Setting Units .......................................................... 57
  Settings Menu ........................................................ 57
  Viewing Log Files .................................................... 63, 66

M

M Series Probe
  Entering Calibration Data ............................................ 72
  Photograph ............................................................... 2

Main Menu
  About Menu ............................................................ 52
  Accessing ............................................................... 36
  Alarm Menu ............................................................. 46
  Display Menu ........................................................... 38
  Lock Menu ............................................................... 55
  Logs Menu .............................................................. 57
  Menu Map, IQ.probe .................................................... 105
  Menu Map, M Series Probe ........................................... 104
  Output Menu ........................................................... 40
  Service Menu .......................................................... 87
  Settings Menu .......................................................... 67

Menu Map
  Main Menu, IQ.probe .................................................. 105
  Main Menu, M Series Probe ........................................... 104
MicroSD Card
   Accessing the Log Files ........................................... 110
   Checking Status ......................................................... 53
   Connecting to a PC ..................................................... 109
   Ejecting ................................................................. 65
   Reading ................................................................. 107
   Removing ................................................................. 107
   Setting Up a Log File ............................................... 113
Moisture Measurement, Specifications ........................................ 93
Moisture Signal, Specifications .............................................. 91
Mounting
   Electronics .............................................................. 8
   Sample System .......................................................... 15
Multiplier, Setting k x PPMv ............................................... 81
Numeric Values, Entering .................................................. 37
Offset, Entering Constant DP °C ........................................ 86
Outline & Installation Drawings ........................................... 95
Output Menu ............................................................... 40
Panel Mount
   Gasket ................................................................. 9
   Installation ............................................................ 8
Passcode
   Factory Level .......................................................... 87
   User, Entering ........................................................ 67
   User, Factory Default ................................................. 125
PC Board
   Access ................................................................. 5
   S1 Location ............................................................. 7
Power Input
   Connecting AC Cord ............................................... 30
   Connecting AC Terminals ......................................... 33
   Connecting DC Terminals ......................................... 31
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications</td>
<td>91</td>
</tr>
<tr>
<td>Alarm Relays</td>
<td>91</td>
</tr>
<tr>
<td>Analog Output Signal</td>
<td>91</td>
</tr>
<tr>
<td>Data Logging</td>
<td>91</td>
</tr>
<tr>
<td>Electronics</td>
<td>92</td>
</tr>
<tr>
<td>European Compliance</td>
<td>91</td>
</tr>
<tr>
<td>Input Power</td>
<td>92</td>
</tr>
<tr>
<td>Intrinsic Safety</td>
<td>91</td>
</tr>
<tr>
<td>Moisture Measurement</td>
<td>91</td>
</tr>
<tr>
<td>Moisture Signal</td>
<td>93</td>
</tr>
<tr>
<td>Temperature</td>
<td>92</td>
</tr>
<tr>
<td>Warm-Up Time</td>
<td>92</td>
</tr>
<tr>
<td>Starting Up</td>
<td>36</td>
</tr>
<tr>
<td>Support</td>
<td></td>
</tr>
<tr>
<td>Customer Support Centers</td>
<td>2</td>
</tr>
<tr>
<td>Switch S1</td>
<td>7</td>
</tr>
<tr>
<td>System Information</td>
<td>52</td>
</tr>
<tr>
<td>Checking MicroSD Card Status</td>
<td>53</td>
</tr>
<tr>
<td>Checking the ID</td>
<td>52</td>
</tr>
<tr>
<td>Checking the Probe</td>
<td>54</td>
</tr>
<tr>
<td>Checking the Software Version</td>
<td>53</td>
</tr>
<tr>
<td>Checking the Wiring Diagram</td>
<td>55</td>
</tr>
<tr>
<td>Temperature, Specifications</td>
<td>92</td>
</tr>
<tr>
<td>Testing</td>
<td></td>
</tr>
<tr>
<td>Analog Output</td>
<td>43</td>
</tr>
<tr>
<td>Fault Alarm</td>
<td>70</td>
</tr>
<tr>
<td>Measurement Alarms</td>
<td>51</td>
</tr>
<tr>
<td>Trimming, Analog Output</td>
<td>44</td>
</tr>
<tr>
<td>Troubleshooting Guide</td>
<td>88</td>
</tr>
<tr>
<td>Volume Mixing Ratio, Setting</td>
<td>80</td>
</tr>
<tr>
<td>Wall Mount, Installation</td>
<td>14</td>
</tr>
<tr>
<td>Warm-Up Time</td>
<td>92</td>
</tr>
</tbody>
</table>
# Index

## Wiring

- Alarm Relays .......................................................... 27
- Checking the Diagram ................................................. 55
- dew.IQ ................................................................. 18
- Diagram, AC Cord ....................................................... 19
- Diagram, AC Terminals ............................................... 20
- Diagram, DC Terminals ............................................... 19
- Interconnection Diagram ............................................. 102
- IQ.probe ............................................................... 24
- M Series Probe ......................................................... 21
- Power Input, AC Cord .................................................. 30
- Power Input, AC Terminals ......................................... 33
- Power Input, DC Terminals ......................................... 31
Default Factory Passcode

Your passcode is **2719**.

Please remove this page and put it in a safe place for future reference.
[no content intended for this page]
We, GE Sensing
1100 Technology Park Drive
Billerica, MA 01821
USA

declare under our sole responsibility that the
dew.IQ Moisture Analyzer
to which this declaration relates, is in conformity with the following harmonized standards:

- EN 61326-1: 2013, Group 1, Class A, Industrial EM Environments
- EN 61326-2-3:2013
- EN 61010-1:2010, Overvoltage Category II, Pollution Degree 2

following the provisions of directives 2014/30/EU (EMC), 2014/35/EU (Low Voltage) and 2014/34/EU (ATEX).

The product listed above, and any ancillary equipment supplied with it, does not bear the CE mark for directive 2014/68/EU (Pressure Equipment) as it falls under Article 4, section 3 (sound engineering practice) for DN <25.

Billerica - October 27, 2016

Mr. Christopher Frail
Engineering Manager
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