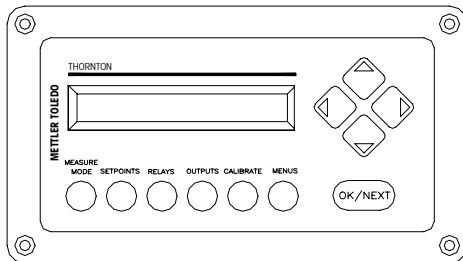


2000 - pH, ORP, DO, Ozone, Conductivity/Resistivity Instrument Initial Set-Up



2000 Front Panel

The keypad has 6 keys which access specific menus as follows:

- Measure mode** - menus to change measurement modes.
- setpoints** - menus for programming setpoints.
- relays** - menus for programming relays.
- outputs** - menus for programming outputs.
- calibrate** - menus to perform calibration.
- menus** - all other menus (cell constants, security, etc.)

The control keys which are used to make changes within a menu are:

OK/Next is used to accept a selection and proceed to the next menu level.

Up arrow is used to scroll up through a list of options (& increase numbers).

Down arrow is used to scroll down through a list of options (& decrease numbers).

Left arrow is used to move the cursor to the left.

Right arrow is used to move the cursor to the right.

Each digit can be scrolled through the values:

. (decimal point), 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. The first digit of each number can also be set to neg.(-)

Following are the steps necessary to install a 2000 instrument and begin operation.

1. Instrument installation - (Manual 84401, Chapter 2)
The 2000 can be panel, pipe or wall mounted and a rear cover is optional but is required for wall and pipe mounting. Drill holes in the rear cover as needed for conduit or cable grips.
2. Wiring - (Chapter 2)
Make all necessary electrical connections to the instrument as shown on the reverse of this sheet. Carefully follow the wiring table for the specific type of sensor being used.
3. AC power frequency - (Chapter 4)
The factory setting for a 115V powered model is 60 Hz. The factory setting for 230V models is 50 Hz. Change the frequency setting if necessary.

4. Meter Calibration - (Chapter 8)
This instrument is factory calibrated within specifications and does not require re-calibration. If Quality Assurance requirements call for verification, follow the procedures in the manual.

5. Sensors - Connect to patch cords.

CAUTION: Be certain that the patch cord is wired specifically for the type of sensor to be connected or damage could result. Do this before selecting the measure mode.

6. Select measurements for each sensor. (Chapter 4)

- Press **measure mode** key
Channel (A,B) Primary settings:
For resistivity, ohm-cm (Auto) is recommended.
For conductivity, S/cm (Auto) is recommended.
For pH, pH () is used.
For ORP, Volts (Milli) is used.
By selecting Auto, the instrument automatically scales the sensor value for readout.

Channel (a,b) Secondary settings:

Secondary settings are usually temperature (°F,°C)

7. **IMPORTANT:** Enter sensor constants for cell and temperature for each channel. (See Chapter 9)

- Press **menus** and up arrow keys to obtain:

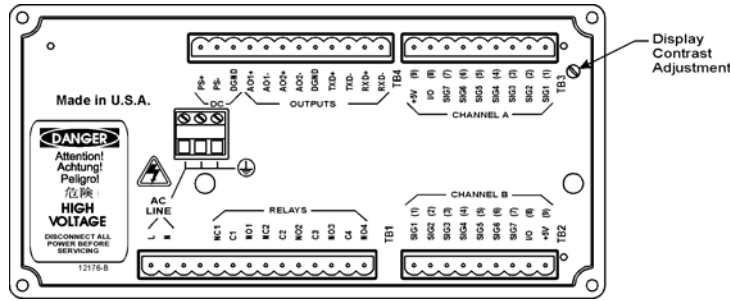
- Press **OK/NEXT** key to obtain:

- Select (**A Cell, A Temp, B Cell, B Temp**) using up and down arrow keys
 - Shift cursor using the right arrow key to enter **M**, the multiplier sensor constant.
 - Shift cursor using the right arrow key to enter the precise value of the cell constant found on the sensor and its certificate of calibration.
 - Shift cursor back to the first field and repeat the above procedure for each of the other constants.
 - Press the **OK/NEXT** key
-
- Press the **OK/NEXT** key

8. Sensor calibration (pH, DO, ozone only, Chapter 9)
Perform a two-point pH sensor calibration in buffer solutions, a one point dissolved oxygen air calibration or a one-point comparison ozone calibration via the CALIBRATE key.

9. Optional—program setpoints, relays and analog outputs as needed (Chapters 5, 6, 7). Do not calibrate analog outputs.

For additional information refer to Manual 84401.
For coverage of digital RS232/RS422 communications refer to Manual 84364.



2000 Back Panel

Warning: Make sure power to all wires is turned off before proceeding with the power installation. High voltage may be present on the input power wires and relay wires.

Terminal Block TB1

Models 6820- and 6822- have 2 relays. Model 6842- has 4 relays. The wiring sequence is shown in the table below. Relays 3 and 4 are solid state, for AC only. Refer to Manual Chapter 2 for limitations.

TB1	Input Power & Relay Function
L	115V/230VAC Line
N	115V/230VAC Neutral
⊕	Earth Ground
NC1	Relay 1: Normally Closed
C1	Relay 1: Common
NO1	Relay 1: Normally Open
NC2	Relay 2: Normally Closed
C2	Relay 2: Common
NO2	Relay 2: Normally Open
C3	Relay 3: Common
NO3	Relay 3: Normally Open
C4	Relay 4: Common
NO4	Relay 4: Normally Open

Line Power Voltage

The power voltage is preset at the factory and identified on the instrument label. To change the voltage refer to Manual, Chapter 2.

Output Connections

Connections for all outputs are made to terminal block TB4. The serial port can be configured as an RS-232 port or an RS-422 port. For 2000 units that have analog outputs, each analog output has a signal line (AO1+ or AO2+) and a return (AO1- or AO2-).

CAUTION: These outputs are self-powered and must not be connected to externally powered circuits.

Output Connections continued

TB4	RS232 Function	RS422 Function
RXD-	Receive Data	Receive Data -
RXD+	Not Used	Receive Data +
TXD-	Transmit Data	Transmit Data -
TXD+	Not Used	Transmit Data +
DGND	Ground	Not Used
AO2-	Analog Output 2	Analog Output 2
AO2+	Analog Output 2	
AO1-	Analog Output 1	Analog Output 1
AO1+	Analog Output 1	

Sensor Connections

2000 Instruments use 1XXX-67 series patch cords for sensor connections. These are different from the 1XXX-66 series patch cords used with 200CR Instruments. Wire for each channel as shown below for the type of sensor to be connected.

Caution: Miswiring patch cords or plugging in wrong sensors may cause damage.

Terminals	2- & 4-E Conductivity / Resistivity	pH/ORP	Dis-solved Oxygen	Dis-solved Ozone
EARTH GND *	SHIELD	SHIELD	-	SHIELD
PS-	-	BLACK	BLACK	BLACK
+5V (9)	-	BLUE	BLUE	BLUE
I/O (8) CH A **	-	-	WHT/BLU	WHT/BLU
I/O (8) CH B **	-	-	RED	RED
SIG7(7)	BLUE	WHT/BLU	SHIELD	JUMP5***
SIG6(6)	BLACK	-	-	-
SIG5(5)	RED	RED	CLEAR	CLEAR
SIG4(4)	GREEN	GREEN	GREEN	GREEN
SIG3(3)	WHITE	WHITE	WHITE	WHITE
SIG2(2)	CLEAR	CLEAR	-	-
SIG1(1)	WHT/BLU	-	-	-

* Connect to any of three earth ground terminals
 ** Connections for dissolved oxygen and ozone use both channel A and B I/O terminals as shown regardless of which channel is assigned for that measurement.
 *** Install a wire jumper between terminals 5 and 7.