RESISTIVITY
MONITOR/CONTROLLERS

Installation • Operation • Maintenance

User Manual for Models: 750, 752, 753, 762

2450 Impala Drive
Carlsbad, CA 92010-7226 USA
Tel: 1-760-438-2021
Fax: 1-800-869-7668 / 1-760-931-9189
www.myronl.com
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>1.1 SCOPE</td>
<td>1</td>
</tr>
<tr>
<td>1.1.1 FUNCTIONAL DESCRIPTIONS</td>
<td>1</td>
</tr>
<tr>
<td>1.1.2 MONITOR APPLICATIONS</td>
<td>1</td>
</tr>
<tr>
<td>1.2 MONITOR SPECIFICATIONS</td>
<td>1</td>
</tr>
<tr>
<td>1.3 RESISTIVITY CELLS</td>
<td>2</td>
</tr>
<tr>
<td>1.3.1 CELL PRODUCT SPECIFICATIONS</td>
<td>2</td>
</tr>
<tr>
<td>1.4 OPTIONAL INTERFACE FEATURES</td>
<td>2</td>
</tr>
<tr>
<td>1.5 HOW TO ORDER</td>
<td>2</td>
</tr>
<tr>
<td>2 INSTALLATION</td>
<td></td>
</tr>
<tr>
<td>2.1 GENERAL</td>
<td>3</td>
</tr>
<tr>
<td>2.2 MECHANICAL INSTALLATION</td>
<td>3</td>
</tr>
<tr>
<td>2.2.1 SURFACE INSTALLATION</td>
<td>4</td>
</tr>
<tr>
<td>2.2.2 PANEL MOUNTING</td>
<td>4</td>
</tr>
<tr>
<td>2.2.3 CELL INSTALLATION</td>
<td>4</td>
</tr>
<tr>
<td>2.3 ELECTRICAL INSTALLATION</td>
<td>4</td>
</tr>
<tr>
<td>2.3.1 MAIN AC POWER INSTALLATION</td>
<td>4</td>
</tr>
<tr>
<td>2.3.2 CELL INSTALLATION</td>
<td>5</td>
</tr>
<tr>
<td>2.3.3 ALARM RELAY INSTALLATION</td>
<td>5</td>
</tr>
<tr>
<td>2.4 OPTIONAL INTERFACE CONNECTIONS</td>
<td>5</td>
</tr>
<tr>
<td>2.4.1 220 VAC CONVERSION</td>
<td>5</td>
</tr>
<tr>
<td>2.4.2 0-5/0-10 VDC RECORDER BOARD</td>
<td>6</td>
</tr>
<tr>
<td>2.4.3 4-20 mA AND 4-20D TRANSMITTER BOARDS</td>
<td>6</td>
</tr>
<tr>
<td>3 OPERATING PROCEDURES</td>
<td></td>
</tr>
<tr>
<td>3.1 GENERAL</td>
<td>7</td>
</tr>
<tr>
<td>3.2 SWITCH AND INDICATORS CONTROLS</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1 MODEL 750</td>
<td>7</td>
</tr>
<tr>
<td>3.2.2 MODEL 752 AND 753</td>
<td>7</td>
</tr>
<tr>
<td>3.2.3 MODEL 762</td>
<td>7</td>
</tr>
<tr>
<td>3.3 OPERATIONAL CHECKOUT PROCEDURES</td>
<td>8</td>
</tr>
<tr>
<td>3.3.1 MODEL 750</td>
<td>8</td>
</tr>
<tr>
<td>3.3.2 MODEL 752, 753 AND 762</td>
<td>8</td>
</tr>
<tr>
<td>4 COMPONENT IDENTIFICATION, CALIBRATION AND PREVENTIVE MAINTENANCE</td>
<td></td>
</tr>
<tr>
<td>4.1 GENERAL</td>
<td>9</td>
</tr>
<tr>
<td>4.2 PRIMARY COMPONENT IDENTIFICATION</td>
<td>9</td>
</tr>
<tr>
<td>4.3 CALIBRATION PROCEDURES</td>
<td>10</td>
</tr>
<tr>
<td>4.3.1 METER MECHANICAL ZERO READING</td>
<td>10</td>
</tr>
<tr>
<td>4.3.2 FULL SCALE CALIBRATION PROCEDURES</td>
<td>10</td>
</tr>
<tr>
<td>4.3.2.1 MODEL 750</td>
<td>10</td>
</tr>
<tr>
<td>4.3.2.2 MODELS 752, 753 AND 762</td>
<td>10</td>
</tr>
<tr>
<td>4.3.3 INTERNAL SET POINT ADJUSTMENT</td>
<td>11</td>
</tr>
<tr>
<td>4.3.4 0-5/0-10 VDC RECORDER BOARD</td>
<td>11</td>
</tr>
<tr>
<td>4.3.5 MODEL 753 WITH 4-20mA or 4-20D OPTION</td>
<td>11</td>
</tr>
<tr>
<td>4.4 PREVENTIVE CARE</td>
<td>12</td>
</tr>
<tr>
<td>5 APPENDIX</td>
<td></td>
</tr>
<tr>
<td>A REPLACEABLE COMPONENTS CHART</td>
<td>13</td>
</tr>
</tbody>
</table>
1.1 SCOPE
This manual provides the necessary information to install, operate and maintain the Myron L Company’s 750/760 Series Resistivity Monitors. Sections 1 thru 3 provide the user with a Monitor’s applicational description, mounting, wiring and operational procedures. Section 4 identifies their primary components and provides the user with easy-to-use calibration, and preventive maintenance procedures.

Section 5 (Appendix) provides Replaceable Components Charts.

1.1.1 FUNCTIONAL DESCRIPTIONS
All models have drip/weather-proof housing which can be panel or surface mounted. The 750 models are a compact 6.0" x 5.0" (152mm x 122mm). The 762 is 6.0" x 10.8" (152mm x 275mm).

All model front panels are equipped with bright green and red LEDs that indicate “Above” or “Below” set point readings. Also standard on all models is a heavy-duty 10 amp Alarm relay, activating on decreasing readings.

For specific Monitor configurations, reference the following individual model descriptions:

Model 750
Provides a front panel accessible set point adjustment knob in place of an analog or digital meter readout display.

Model 752
Set point is internal to discourage unauthorized adjustments. Standard front panel is equipped with a linear analog meter display and a “SET POINT CHECK” switch.

Model 753
Set point is internal to discourage unauthorized adjustments. Standard front panel is equipped with a digital LCD meter display and a “SET POINT CHECK” switch.

Model 762
Set point is internal to discourage unauthorized adjustments. Standard front panel is equipped with a three (3) Range select switch (0-20, 0-2, 0-0.2 megohm-cm), a linear analog meter display and a “SET POINT CHECK” switch.

1.1.2 MONITOR APPLICATIONS
1. Deionized (DI) and distillation ultra-pure treatment systems
2. Electronics
3. Food Processing
4. Plating
5. Power Plants
6. Laboratories

1.2 MONITOR SPECIFICATIONS
RANGES:
- 0-20 megohm-cm
- 0-2 megohm-cm
- 0-200 kilohm-cm
- 0-500 kilohm-cm (Model 750 only)
- 0-20, 0-2, 0-0.20 megohm-cm, (Model 762 only)

READOUT:
- Model 752: 2 ½" (63mm) Analog
- Model 753: ½" x 3 ½ Digit (13mm) Digital
- Model 762: 4 ½" (114mm) Analog

ACCURACY:
- Model 753: ±1 % of span
- Other Models: ±2% of span

SENSITIVITY:
0.5% of span

STABILITY:
0.05% of span

REPEATABILITY:
0.1% of span

CELL INPUTS:
1 Input (standard)
3 Cell input (optional 762 only)

RELAY FUNCTION:
Single set point control:
- Continuously adjustable 0-100% of span
- “ABOVE” (green) and “BELOW” (red) set point LEDs
- Contact Rating:
  SPDT 10 amp @ 250 VAC, 30 VDC. Relay activates on decreasing readings

POWER SPECIFICATIONS:
- 115 VAC, 50/60 Hz ± 15%, 25mA
- 220 VAC, 50/60 Hz ± 15% (Optional)

AMBIENT TEMPERATURE RANGE:
-22°F (-30°C) to 140°F (60°C)

CONSTRUCTION:
- Fully gasketed heavy-duty ABS for corrosion resistance, NEMA type 3 rated

WEIGHT:
(750 Series) 2 lbs (0.9 kg)
(762) 3 lbs (1.4 kg)
1.3 RESISTIVITY CELLS

All 750/760 Series Monitors use a CS10 Cell. These reliable sensors feature two integral thermistors to ensure accurate and rapid automatic temperature compensation. The sturdy polypropylene bushing is modular for easy, inexpensive replacement. Several alternatives for the metal portion of the cell are available, depending on the demands of the application.

1.3.1 CELL PRODUCT SPECIFICATIONS

CONSTANT:
0.05

TEMPERATURE COMPENSATION:
Two integral thermistors provide automatic TC to 25°C between 32-212°F (0-100°C)

PRESSURE/TEMPERATURE LIMITS:
100 psi (689.6 kPa) ~ 212°F (100°C)

BUSHING:
Modular Polypropylene threaded .75" NPT

CABLE:
Shielded Belden 8724; 10' (3 meters) standard, Prespecified lengths of 25' (7.5 meters) or 100' (30 meters) also available.

DIMENSIONS:
Metal portion 1.2" (95 mm) L; 0.5" (13 mm) DIA

1.4 OPTIONAL INTERFACE FEATURES

1 0-5/0-10 VDC Recorder Interface
2 4-20 mA Loop Powered Isolated Output (753 only)
3 4-20 mA Self Powered Isolated Output (753 Only)
4 Three (3) Cell Input (762 only)

1.5 HOW TO ORDER

EXAMPLE:

MODEL TYPES:
750: Small Controller with front panel "Set Point" adjustment knob.
752: Small Monitor with 2 ½" analog meter display.
753: Small Monitor with ⅓" LCD digital meter display.
762: Large Monitor with 4 ½" analog meter display and three (3) range select switch.

RANGE SCALES:
1: 0-20 megohm-cm
2: 0-2 megohm-cm
3: 0-200 kilohm-cm
4: 0-20, 0-2, 0-0.20 megohm-cm (Model 762 only)
5: 0-500 kilohm-cm (Model 750 only)

OPTIONS:
03: 3 Cell Input (Available on the 762 Monitor only)
510: 0-5/0-10 VDC Recorder Interface (Available on all Models)
420: 4-20 mA Loop Powered Isolated Output (Available on the 753 Monitor only)
420D: 4-20 mA Self Powered Isolated Output (Available on the 753 Monitor only)

HOW TO ORDER CS10 CELL(S):

CS10-S 316 Stainless Steel
-T Titanium
SECTION 2
Installation

2.1 GENERAL
This section contains the recommended procedures required to properly install the 750/760 Series Monitors, to connect the Cell(s), Alarm relay, Recorder and/or Transmitter cable connections.

WARNING!
The Myron L Company recommends that all mounting and electrical installation procedures be performed by trained and authorized personnel ONLY! Failure to do so could result in damage to equipment and/or property.

2.2 MECHANICAL INSTALLATION
All Monitor electronics are packaged inside drip/weatherproof housings. Their physical dimensions have been designed to allow for both surface and panel mounting.

There are three basic guidelines to consider when selecting the monitor’s mounting location.

1. Select a site that limits the Monitor’s exposure to excessive moisture and corrosive fumes.
2. For best results, position your control area as close as possible to the point(s) being monitored.
NOTE:
750/760 Series Monitors are not designed to operate with Cell
cable lengths that exceed 100'(30 meters).

3  If at all possible, mount the monitor at eye level for
viewing convenience.

2.2.1 SURFACE INSTALLATION
Surface mounting will require two (2) 1/4"-20 mounting screws
(supplied). See Fig. 2-1 for hole drilling locations. For ease of
surface mounting, a surface mounting plate is available.

STEP 1  Select your site location, mark and drill the two (2)
required mounting holes.

STEP 2  Place the Monitor’s mounting threads in alignment with
the surface mounting holes.

STEP 3  Insert and securely fasten the two (2) 1/4"-20 mounting
screws.

STEP 4  Slide the enclosure through the panel cutout until its
flange contacts the panel.

STEP 5  Insert mounting screws through the flange mounting
holes and tightly secure.

STEP 6  Reconnect all panel cable(s)/wires to Control board.
(See Fig’s 4-1 and 4-2 for panel and Control board
cable connector designations.)

2.2.3 CELL INSTALLATION
Fig. 2-2 illustrates how to properly assemble and install the
CS10 Cell assembly into a “T” type mounting fixture. Improper
assembly could result in damage to equipment and/or property.

A CS10 Cell’s mounting orientation must provide a continuous
and adequate circulation flow to prevent the trapping of air
bubbles within the Cell’s electrode area. Failure to do so will
result in conditions that will prevent the Cell from functioning
properly.

STEP 1  Verify that the Cell’s Fitting assembly is properly
assembled.

STEP 2  Insert the Cell Fitting assembly into the “T” mounting
fixture as shown in Fig. 2-2 and tightly secure.

2.3 ELECTRICAL INSTALLATION
The electrical installation procedures provided in this manual are
common to all 750/760 Series Monitors. See Fig. 2-1 for the
hole dimensions of the enclosure’s various cable access holes.

NOTE:
All water tight cable restraints are user supplied.

2.3.1 MAIN AC POWER INSTALLATION
The following procedures are to be used to install a standard
115 VAC main power source. For the procedures to install the
optional 230 VAC main power source, the user must first
complete the 115V to 230V conversion procedures in Section
2.4.1.

STEP 1  Verify that the facility’s main AC power source is turned
“OFF” or disconnected.

STEP 2  By following the STEPS 2 and 3 in Section 2.2.2, remove the Monitor’s front panel.

STEP 3  Place the facility’s AC power cord and water tight cable
restraint into the enclosure’s appropriate access hole.

STEP 4  Neatly connect cable wires to the Control board TB1
terminal block connectors as shown in Fig. 2-3.
2.3.2 CELL INSTALLATION

STEP 1 Place the Cell’s interface cable and water tight cable restraint into the enclosure’s appropriate access hole.

STEP 2 Neatly connect the cable wires to the Control board’s TB3 terminal block connectors as shown in Fig. 2-3.

2.3.3 ALARM RELAY INSTALLATION

STEP 1 Place the user supplied Alarm relay interface cable and water tight cable restraint into the enclosure’s appropriate access hole.

STEP 2 Neatly connect cable wires to the Control board’s TB2 terminal connectors as shown in Fig. 2-3 and explained below:

All Myron L Company Resistivity Monitor/Controllers are equipped with a relay which is designed to energize/deenergize when the set point is crossed. (See P.11, Sec. 4.3.3. for set point adjustment procedure) The relay energizes on decreasing readings.

Since various devices (alarms, solenoid valves, etc.) controlled by your Myron L instrument can operate on different voltages, the power the relay is to control must be connected by you. Any common AC or DC voltage may be used, provided the current load does not exceed 10 amps.

2.4 OPTIONAL INTERFACE CONNECTIONS

The standard 750/760 Series Monitors can be configured with a combination of available options. Therefore, based upon the user requirements the electrical installation of 1 or more of the following options may be required.

2.4.1 220 VAC CONVERSION

STEP 1 Verify that the Facility’s main AC power source is turned “OFF” or disconnected.

STEP 2 Locate and remove Control board jumpers E1 and E3. (See Fig. 2-3 and 2-4.)

STEP 3 Using one of the removed jumpers, insert it into jumper E2’s connection holes as shown in Fig. 2-4.

A typical example is shown above. The relay contacts are shown in the de-energized position. When energized, the Common (COM) will disconnect from the Normally Closed (NC) contact and connect to the Normally Open (NO) contact. Devices may be operated using either the Normally Open contact or Normally Closed contact; or both relay contacts may be used to activate two devices of the same voltage.
2.4.2 0-5 / 0-10 VDC RECORDER BOARD

STEP 1 Place the user-supplied interface cable and water tight cable restraint into the enclosure's appropriate access hole.

STEP 2 Neatly insert cable wires into the Recorder board's TB1 plus (+) and minus (-) terminal connectors. (See Fig. 2-5).

2.4.3 4-20 mA AND 420D TRANSMITTER BOARDS

STEP 1 Place the user supplied cable and watertight cable restraint into the enclosure's appropriate access hole.

STEP 2 Neatly insert cable wires into the 753 Panel board plus (+) and minus (-) TB1 terminal block connectors as shown in Fig. 2-6-1 or 2-6-2.

STEP 3 See Section 4.3.5 to calibrate the 4-20mA minimum and maximum current outputs.
SECTION 3
Operating Procedures

3.1 GENERAL
This section provides the user with the 750/760 Series Monitor’s recommended operational checkout procedures. The illustrations contained in Section 3.2 have been provided to assist the user in identifying all standard and optionally available switch and indicator controls.

3.2 SWITCH AND INDICATORS CONTROLS
(Standard on all Models)

“ABOVE/BETWEEN” Set Point Indicators

The green LED indicator light is “ON” only when the resistance of the water is “ABOVE” the Monitor’s internal set point adjustment.

The red LED indicator light is “ON” only when the resistance of the water is “BELOW” the Monitor’s internal set point adjustment.

3.2.1 MODEL 750
“SET POINT” Adjustment Knob

Front panel adjustment knob provides immediate access for adjusting the Controller’s Set Point setting and to verify its Full Scale reading.

3.2.2 MODEL 752 AND 753

2 1/2” ANALOG METER (752)

The 752’s 2 1/2” (63 mm) linear analog meter provides a continuous readout of the water being monitored.

DIGITAL LCD METER (753)

The 753’s 1/2” (13 mm) digital LCD meter provides a continuous readout of the water being monitored.

“SET POINT CHECK” Switch

When the “SET POINT CHECK” switch is depressed the internal “Set Point” reading is immediately displayed on the 752’s analog or 753’s digital display meter.

3.2.3 MODEL 762

4 1/2” ANALOG METER

The 762’s 4 1/2” (114 mm) linear analog meter provides a continuous readout of the water being monitored.
Operating Procedures

“3 RANGE” Full Scale Select Switch
A full scale range of 0-20 megohms is selected when the switch is placed to its RANGE “X 1” position.
A full scale range of 0-2 megohms is selected when the switch is placed to its RANGE “X.1” position.
A full scale range of 0-0.2 megohms is selected when the switch is placed to its RANGE “X.01” position.

“3 CELL INPUT” Select Switch (Optional)
Cell 1’s inputs are monitored when switch is placed to its CELL “1” position.
Cell 2’s inputs are monitored when switch is placed to its CELL “2” position.
Cell 3’s inputs are monitored when switch is placed to its CELL “3” position.

3.3 OPERATIONAL CHECKOUT PROCEDURES
The following check-out procedures are used to verify that a Monitor is operating properly.

3.3.1 MODEL 750
STEP 1 Turn the “SET POINT” adjustment knob to 20 megohm. The red “BELOW” light should be on indicating that the water being monitored is below the Set Point.
STEP 2 Turn the “SET POINT” adjustment knob to 0 megohm. The green “ABOVE” light should be on indicating that the water being monitored is above the Set Point.

STEP 3 Rotate the Set Point adjustment knob back and forth and note the reading at which the lights change. Also note an audible click as the relay picks up and drops out. This reading corresponds to the actual water purity.
STEP 4 Set the adjustment knob to the desired control point setting. Check-out is now complete.

3.3.2 MODELS 752, 753, AND 762
STEP 1 On Model 762, set range switch and cell selector switch (if applicable) to the desired settings.
STEP 2 Observe resistance reading of water being monitored.
STEP 3 With front panel removed, depress “CHECK SET POINT” switch and observe “SET POINT” on panel readout. With a small screwdriver, rotate the Set Point adjustment pot (R31, Fig. 4-1) to above the reading observed in Step 2. Release “CHECK SET POINT” switch and observe that the red (below) light is on. Depress “CHECK SET POINT” switch and adjust Set Point to below the reading observed in Step 2. Release “CHECK SET POINT” switch and observe that the green (above) light is on. Also note the audible click of the relay as the lights change.
STEP 4 Adjust Set Point to desired setting and replace front panel. This completes the checkout.
SECTION 4
Component Identification, Calibration and Preventive Maintenance

4.1 GENERAL
Section 4.2 provides detailed illustrations to assist the user in identifying a 750/762 Series Monitor’s primary components. Section 4.3 provides the user with the 750/762 Series Monitor’s various Calibration procedures. Section 4.4 provides the user with the Myron L Company’s recommended Preventive Care.

4.2 PRIMARY COMPONENT IDENTIFICATION
As identified in Section 3, the Monitor’s various switch and indicator components are mounted directly to the front panel. The Monitor’s Control board is contained within and mounted to the back of the enclosure. The 762 Monitor, when equipped with 3 Cell Input option and the 753 Monitor have a second component board mounted on the back of the front panel.
4.3 CALIBRATION PROCEDURES

All 750/760 Series Monitors are calibrated and tested prior to shipment.

CAUTION!

When performing Calibration procedures, the user must take extreme care to avoid contacting fuse or any other portions of the circuit other than the Calibration controls. Failure to do so could result in damage to equipment and/or property.

4.3.1 METER MECHANICAL ZERO READING

(752 and 762 analog meters only)

STEP 1 Turn OFF the Monitor’s main AC power and verify that the meter is indicating a zero (0) reading. If the meter does not indicate a zero (0) reading, proceed to STEP 2.

STEP 2 Remove the meter’s zero adjustment plug to access the meter’s Mechanical Zero adjustment screw.

STEP 3 Turn screw until meter indicates a zero (0) reading and then replace the plug.

NOTE: If it becomes necessary to replace a faulty meter, see Fig. 4-2 for the meter wire/terminal designations.

4.3.2 FULL SCALE CALIBRATION PROCEDURES

The Calibration Module is configured for the specific range being calibrated. See Fig. 4-3 for proper Calibration Module.

4.3.2.1 MODEL 750

STEP 1 Turn “OFF” the Monitor’s main AC power.

STEP 2 Being careful not to excessively strain cable, unfasten and remove the Monitor’s front panel.

STEP 3 Remove all five (5) wires from Control board terminal block TB3 (See Fig. 4-1).

STEP 4 By following the wiring diagram in Fig. 4-3, connect the Calibrator Module’s lead wires to the Control board’s TB3 terminal connectors.

STEP 5 Turn “ON” the Monitor’s main AC power.

STEP 6 Set the Set Point adjustment knob to a full scale reading.

STEP 7 Rotate the main calibration trimmer (R8, Fig. 4-1) counterclockwise until the red light turns on. Now rotate clockwise slowly and stop when the green light comes on. Counting turns, rotate counterclockwise and stop when the red light turns on. Finally, rotate clockwise 1/2 of the turns counted in the last step. This completes the calibration procedure.

4.3.2.2 MODELS 752, 753 AND 762

Before attempting to calibrate the Model 752 or 762 analog meter, refer to Section 4.3.1.

STEP 1 Repeat STEPS 1-4 in Section 4.3.2.1.

NOTE: If equipped with the 3 Cell Input option, place the Cell select switch to its “CELL 1” setting and remove the five (5) wires from Cell 1’s terminal block only.

STEP 2 Turn “ON” the main AC power and verify that the 752 and 762 analog meter or 753 digital display is indicating a full scale reading. (i.e. a 20 megohm reading on model 752-1 or a 19.99 megohm reading on model 753-1.)

NOTE: If the meter indicates an accurate reading, proceed to STEP 4.

If the meter does not indicate the appropriate reading, proceed to STEP 3.

STEP 3 Turn the Control board’s R8 adjustment screw (See Fig. 4-1) until the meter displays the appropriate reading as indicated in STEP 2.

STEP 4 Remove the Calibrator Module’s lead wires and reconnect the Cell cable wires as shown in Fig. 2-3.
4.3.3 INTERNAL SET POINT ADJUSTMENT

NOTE:
Because the Model 750 is equipped with a standard front panel “SET POINT” adjustment knob, it does not require an internal Set Point adjustment setting. Refer to Section 3.3 for procedures to adjust the 750’s Set Point.

STEP 1 Being careful not to excessively strain cable, unfasten and remove the Monitor’s front panel.

STEP 2 While simultaneously depressing the “SET POINT CHECK” switch, turn the Control board’s R31 adjustment screw (See Fig. 4-1) until the desired Set Point value is indicated on the meter display.

NOTE:
The Monitor’s Set Point setting is based upon the user’s particular water purity specifications.

STEP 3 After successfully completing STEP 2, remount the front panel and tightly secure both retaining screws.

4.3.4 0-5 / 0-10 VDC RECORDER BOARD

When properly calibrated to a Monitor’s Full Scale output, the Recorder interface will provide an adjustable 0-5 through 0-10 VDC.

NOTE:
The Recorder board’s circuitry is not isolated from the Monitor’s standard Control and Panel board circuitry. Therefore, DO NOT attempt to connect any user device that could provide a path to earth ground and/or has an input impedance less than 2000 ohms. Failure to do so may result in faulty operation of the monitor.

STEP 1 As shown in Fig. 4-5, connect voltmeter probes to the Recorder board’s TB1 (+) and (-) terminal connectors.

STEP 2 While simultaneously depressing the “SET POINT CHECK” switch (See Fig. 4-1) turn the Control board’s Set Point adjust trimmer (R31) until the meter displays the appropriate Full Scale reading.

STEP 3 Next, while still depressing the “SET POINT CHECK” switch, turn the Recorder board’s R3 Trimmer adjustment screw (See Fig. 4-5) until the desired full scale voltage output is indicated on voltmeter.

STEP 4 Reset Set Point to desired setting.

4.3.5 MODEL 753 WITH 4-20 mA OR 4-20D OPTION

NOTE: FOR 420D, PROCEED TO STEP 1.

CAUTION: FOR 4-20mA OPTION ONLY
The proper supply voltage (VDC Supply) and load resistance (R) must be selected. Failure to do so could result in damage to the 753 optional panel board.

NOTE:
The proper load resistance (in ohms) is found by using the formula and/or chart as shown below.

\[
R_l = \frac{VDC\ Supply - 14.5}{0.02} \pm 275\ ohms
\]

EXAMPLE: If VDC Supply = 40 Volts

\[
\frac{40 - 14.5}{0.02} = 1275 \pm 275\ ohms
\]

FORMULA: 4-20 mA (VDC SUPPLY) & (R) SELECTION

SELECTION CHART: 4-20 mA (VDC SUPPLY) & (R) SELECTION

Component Identification, Calibration and Preventive Maintenance 11
STEP 1 Set the controls of a test meter to read at least 20 mA and connect it between the positive terminals of the Transmitter and Receiver as shown in Fig. 4-7 (4-20 mA option) and Fig. 4-8 (4-20D option).

NOTE: Receiver connected to 420D option should have an input impedance less than 500 ohms.

STEP 2 Press and hold the “SET POINT CHECK” switch. It must be depressed during all the following adjustment steps.

STEP 3 Turn the Set Point trimmer (R31 ) (see Fig. 4-1 ) until the meter displays a reading of 0.00.

STEP 4 Turn the 4-20 mA Null trimmer (R23) (see Fig. 4-6) until the test meter indicates 4 mA.

STEP 5 Readjust the Set Point trimmer (R31 ) until the meter displays 1999 (decimal point omitted).

STEP 6 Turn the 4-20 mA Full Scale trimmer (R20) (see Fig. 4-6) until the test meter indicates 20 mA.

STEP 7 Repeat STEP 3 through STEP 6, readjusting as required.

STEP 8 Reset the set point to the desired setting. Release the “SET POINT CHECK” switch.

4.4 PREVENTIVE CARE

Although designed to minimize operating problems, the Myron L Company recommends that the following Preventive Care procedures be observed.

1. Try to prevent exposure to excessive heat and moisture.
2. The Monitor’s main AC power source must be protected against excessive voltage spikes.
3. Take care not to damage Monitor during handling.

NOTE:

Daily, weekly or monthly maintenance schedules are based upon the frequency of use and the severity of the Monitor’s environment and operating conditions.

STEP 1 Repeat the Monitor’s Check-Out procedures and/or isolate possible troubleshooting symptoms.

STEP 2 Check all cable connections to ensure that they are free of moisture and contamination.

STEP 3 Inspect and replace damaged component boards and cable assemblies.

STEP 4 Remove and clean sensor with soap and water. Rinse thoroughly.
## RESISTIVITY MONITOR CONTROLLERS REPLACEABLE COMPONENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-1 Control Board</td>
<td>501RM</td>
</tr>
<tr>
<td>750-2 Control Board</td>
<td>502RM</td>
</tr>
<tr>
<td>750-3 Control Board</td>
<td>503RM</td>
</tr>
<tr>
<td>750-5 Control Board</td>
<td>505RM</td>
</tr>
<tr>
<td>750 Panel Cable Assembly</td>
<td>50RCA</td>
</tr>
<tr>
<td>752-1 Control Board</td>
<td>521RM</td>
</tr>
<tr>
<td>752-2 Control Board</td>
<td>522RM</td>
</tr>
<tr>
<td>752-3 Control Board</td>
<td>523RM</td>
</tr>
<tr>
<td>752 Panel Cable Assembly</td>
<td>52RCA</td>
</tr>
<tr>
<td>752-1 2 1/2&quot; Analog Meter</td>
<td>521AM</td>
</tr>
<tr>
<td>752-2 2 1/2&quot; Analog Meter</td>
<td>522AM</td>
</tr>
<tr>
<td>752-3 2 1/2&quot; Analog Meter</td>
<td>523AM</td>
</tr>
<tr>
<td>753-1 Control Board</td>
<td>521RM</td>
</tr>
<tr>
<td>753-2 Control Board</td>
<td>522RM</td>
</tr>
<tr>
<td>753-3 Control Board</td>
<td>523RM</td>
</tr>
<tr>
<td>753-1 Digital Display Assembly</td>
<td>531DPM</td>
</tr>
<tr>
<td>753-2 Digital Display Assembly</td>
<td>532DPM</td>
</tr>
<tr>
<td>753-3 Digital Display Assembly</td>
<td>533DPM</td>
</tr>
<tr>
<td>753-1 Digital Display Assembly with 420 Option</td>
<td>531DPM4</td>
</tr>
<tr>
<td>753-2 Digital Display Assembly with 420 Option</td>
<td>532DPM4</td>
</tr>
<tr>
<td>753-3 Digital Display Assembly with 420 Option</td>
<td>533DPM4</td>
</tr>
<tr>
<td>753 Panel Cable Assembly</td>
<td>53RCA</td>
</tr>
<tr>
<td>750 Series Enclosure</td>
<td>50EC</td>
</tr>
<tr>
<td>750 Series Front Panel with Label, Gasket &amp; Screws</td>
<td>50FP*</td>
</tr>
<tr>
<td>762 Control Board</td>
<td>62RM</td>
</tr>
<tr>
<td>762 Panel Cable Assembly</td>
<td>62RCA</td>
</tr>
<tr>
<td>762 Range Select Cable with switch</td>
<td>62RRSCA</td>
</tr>
<tr>
<td>762 4 1/2&quot; Analog Meter</td>
<td>60AM*</td>
</tr>
<tr>
<td>760 Series Enclosure</td>
<td>60EC</td>
</tr>
<tr>
<td>760 Series Front Panel with Label, Gasket &amp; Screws</td>
<td>60FP*</td>
</tr>
<tr>
<td>3 Cell Input Three Range, 3 Cell Input Module</td>
<td>03</td>
</tr>
<tr>
<td>with Harness &amp; Knobs</td>
<td></td>
</tr>
<tr>
<td>Control Board Fuse</td>
<td>FUSE</td>
</tr>
<tr>
<td>1/8 AMP AGC 1/8 (All Models)</td>
<td></td>
</tr>
<tr>
<td>0-5 through 10 VDC Output Board</td>
<td>510</td>
</tr>
<tr>
<td>Cable For CS10 Cells, Belden 8724</td>
<td>MCRD</td>
</tr>
<tr>
<td>Polypropylene Fitting for CS10 Cells 1/8&quot;NPT</td>
<td>PPF</td>
</tr>
<tr>
<td>PVDF Fitting for CS10 Cells 1/2&quot; NPT</td>
<td>PVDF</td>
</tr>
<tr>
<td>Stainless Steel Fitting For CS10 Cells 1/2&quot; NPT</td>
<td>HPSS</td>
</tr>
</tbody>
</table>

---

**IMPORTANT:**

WHEN ORDERING ANY COMPONENT, COMPLETE INSTRUMENT MODEL NUMBER MUST BE SPECIFIED.

* WHEN ORDERING THESE COMPONENTS, RANGE MUST ALSO BE SPECIFIED.
WARRANTY

All Myron L Resistivity monitors and sensors have a two year warranty. If any monitor or sensor fails to function normally, return the faulty unit to the factory prepaid. If, in the opinion of the factory, failure was due to materials or workmanship, repair or replacement will be made without charge. A reasonable service charge will be made for diagnosis or repairs due to normal wear, abuse or tampering. Warranty is limited to the repair or replacement of monitor or cell only. The Myron L Company assumes no other responsibility or liability.

Myron L Company, having a policy of continuous product improvement, reserves the right to make changes in design, specifications and prices without notice.