

FLOWLINE



Model: LI55

DataView™

Quick Start

QS301033 Rev. B
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Welcome to the LI55 Quick Start

The LI55 Quick Start is meant to show some of the more common setup solutions to getting the LI55 up and running quickly. If you run into an issue that is not addressed here or wish to install or set up with a non-standard configuration, please address the LI55 Manual or refer to the Flowline website at www.flowline.com.

We Do Your Level Best

Thank you for purchasing the Dataview™ Analog Input Display (LI55). The LI55 Series is a multipurpose, easy to use digital process meter ideal for level, flow rate, temperature, or pressure transmitter applications. It accepts current and voltage signals (e.g. 4-20 mA, 0-10 V) and has three front panel buttons that can be programmed for specific operation.

A fully loaded LI55 Series meter has the following: four SPDT relays, 4-20 mA output, and two 24 VDC power supplies. The four relays can be used for alarm indication or process control applications, such as pump alternation control. The 4-20 mA isolated output, and digital I/O options make the LI55 Series an excellent addition to any system.

Ordering Information

Model	Options Installed (model numbers for replacement option card)
LI55-_001	No Options
LI55-_201	2 relays (LI56-1201)
LI55-_011	4-20 mA output (LI56-1011)
LI55-_401	4 relays (LI56-1401)
LI55-_211	2 relays & 4-20 mA output (LI56-1211)
LI55-_411	4 relays & 4-20 mA output (LI56-1411)

Model	Accessories
LI56-1400	4 SPST (Form A) relays
LI56-1000	Meter Copy Cable
LM91-1001	Single Display NEMA 4X Enclosure
LM91-2001	Dual Display NEMA 4X Enclosure
LM92-1001	Single Display NEMA 4X Enclosure w/clear cover
LM93-1001	Dual Display NEMA 4X enclosure w/ clear cover

Installing the Dataview™

For most users, installation can be done without opening the case. It will only require opening when changing from a mA to voltage configuration (shown in the **Transmitter Supply Voltage Selection** section on the next page).

When unpacking the Dataview, thoroughly inspect the unit for any damage that may have occurred during shipping. Be sure to report any damage, as well as any missing parts or malfunctions to your supplier or Flowline.

Mounting the Panel

When mounting the panel, first prepare a standard 1/8 DIN panel cutout – 3.622" x 1.772" (92 mm x 45 mm), as shown in the following diagram.

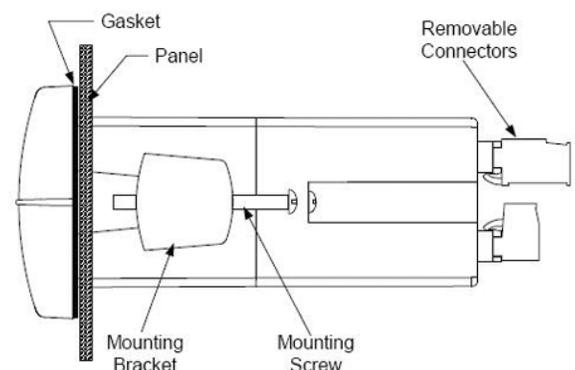
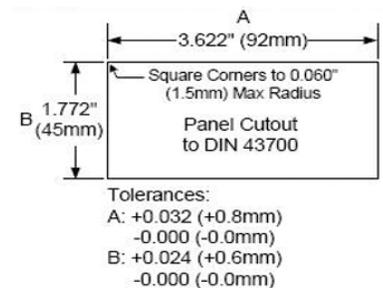
Allow at least 6.0" (152 mm) clearance behind the panel for wiring.

Be sure to maintain a minimum panel thickness of 0.04" - 0.25" (1.0 mm - 6.4 mm) to maintain type 4X rating. This would equal 0.06" (1.5 mm) for a steel panel and 0.16" (4.1 mm) for a plastic panel.

Remove the Dataview's two mounting brackets. Back-off the two screws so that there is ¼" (6.4 mm) or less through the bracket. Slide the bracket toward the front of the case and remove it.

Insert the Dataview™ into the panel cutout.

Install the mounting brackets and tighten the screws against the panel. To achieve a proper seal, tighten the mounting bracket screws evenly until Dataview™ fits snug against the panel along its short side. **DO NOT OVER TIGHTEN** or the rear of the panel may be damaged.



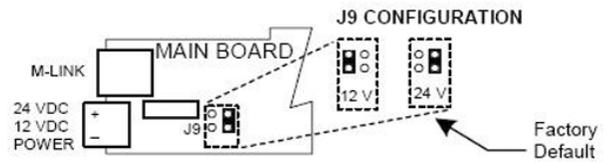
Dataview™ panel mounting details

Configuring for 12 or 24 VDC Power

The Dataview allows for either a 12 or 24 VDC power option and comes shipped from the factory ready to operate from 24 VDC. Do NOT exceed these voltage ratings for the Dataview.

To configure the Dataview for 12 VDC power:

1. Remove all the connectors.
2. Unscrew the back cover.
3. Slide the back cover about one inch to expose the board.
4. Configure the J9 jumper behind the power connector for the desired power configuration, as shown here.



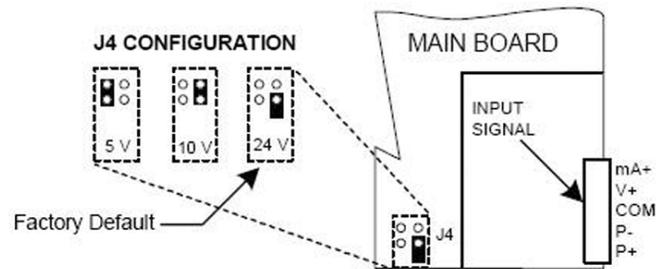
Dataview™ power jumper settings

Transmitter Supply Voltage Selection

All Dataview models come shipped from the factory ready to provide 24 VDC power for the transmitter or sensor. If the installation's transmitter requires 5 or 10 VDC excitation, an internal jumper can be configured accordingly.

To configure the Dataview to provide 5 or 10VDC power:

1. Remove all the wiring connectors.
2. Unscrew the back cover.
3. Slide the back cover about one inch to expose the board
4. Configure the J4 jumper behind the input signal connector for the desired excitation voltage, as shown here.



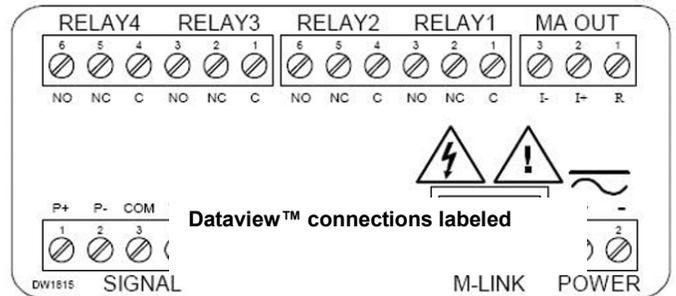
Dataview™ transmitter supply jumper settings

Connections

All connections are made through removable screw terminal connectors located on the rear of the Dataview.

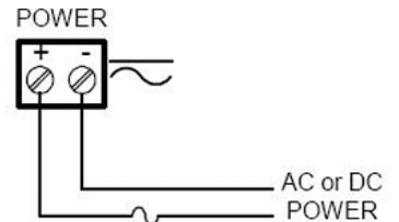
Copper wire with 60°C or 60/75°C insulation should be used for all line voltage connections, observing all safety regulations. Electrical wiring should be performed in accordance with all applicable national, state, and local codes to prevent damage to the meter and ensure personnel safety.

The connectors' label shows the function of each of the connections, such as POWER, RELAY, SIGNAL, etc. The RJ-45 M-LINK connection is intended for Flowline expansion modules, cables, or meters ONLY. Any other use of the Dataview's RJ-45 connection may damage the Dataview and any equipment connected thereto. The different types of connections are explained on the following pages.



Power Connections

Dataview power is connected through a two-terminal connector labeled POWER. The Dataview will operate regardless of polarity connection. The + and - symbols are only a suggested wiring convention.



Required External Fuse:
5 A max, 250 V Slow Blow

Dataview™ power connection



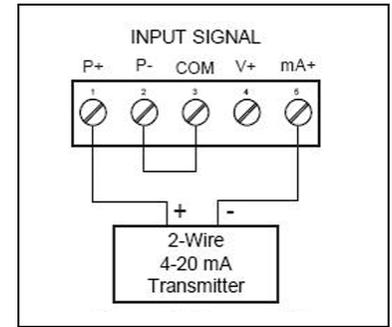
Refer to the product label on the display for the Dataview's power requirements.

Signal Connections

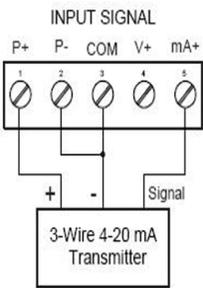
Signal connections are made through a five-terminal connector labeled SIGNAL. The COM (common) terminal is the return for the 4-20 mA and the ± 10 V input signals.



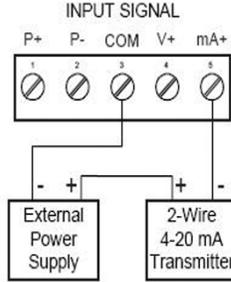
The 2-wire connection (shown on right) is the most common for Flowline products.



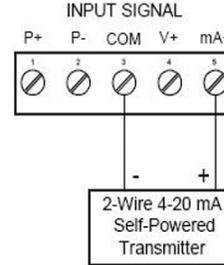
Dataview™ 2-wire transmitter



Dataview™ 3-wire transmitter connection



Dataview™ externally-powered transmitter connection



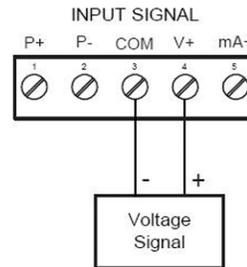
Dataview™ self-powered transmitter connection

Wiring for Current Inputs

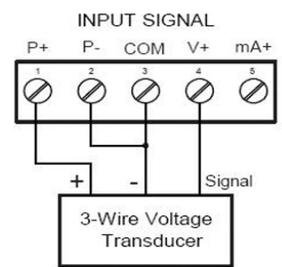
The figures shown below, along with the 2-wire transmitter connection shown above, are examples of current and connections. There are no switches or jumpers to set up for current connections. Setup and programming is performed through the front panel buttons.

Wiring for Voltage Inputs

The figures shown below are examples of voltage connections. See the section 'Transmitter Supply Voltage Selection' for possible jumper setting with voltage connections. Current reception is protected against overload by a resettable fuse. The display may or may not show a fault condition depending on the nature of the overload. The fuse limits the current to a safe level when it detects a fault condition, and automatically resets itself when the fault condition is removed. The Dataview is capable of receiving any voltage ranging from -10 VDC to +10 VDC.



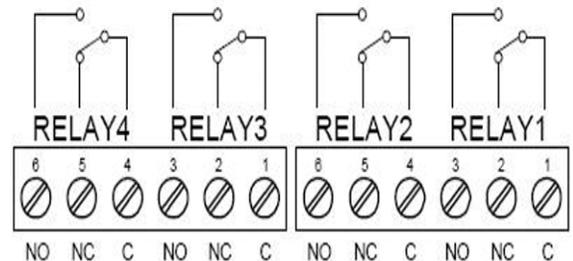
Dataview™ voltage signal receiver connection



Dataview™ 3-wire receiver connection

Relay Connections

Relay connections are made through two six-terminal connectors labeled RELAY1 – RELAY4 on the rear of the Dataview. Each relay's "C" terminal is common only to the normally open ("NO") and normally closed ("NC") contacts of the corresponding relay. The "C" terminals should not be confused with the INPUT SIGNAL connector's Common terminal.



Dataview™ relay connections

Switching Inductive Loads

Suppressors (snubbers) prevent microprocessor disruption and prolong the life of relay contacts and should always be employed. Suppression can be obtained with resistor-capacitor (RC) networks assembled by the user or purchased as complete assemblies. This section is provided to assist you with suppressor assembly and installation.

Choose R and C as follows:

R: 0.5 to 1 Ohms for each volt across the contacts

C: 0.5 to 1 μF for each amp through closed contacts

When using suppressors, please keep in mind:

Always use capacitors rated for 250 VAC.

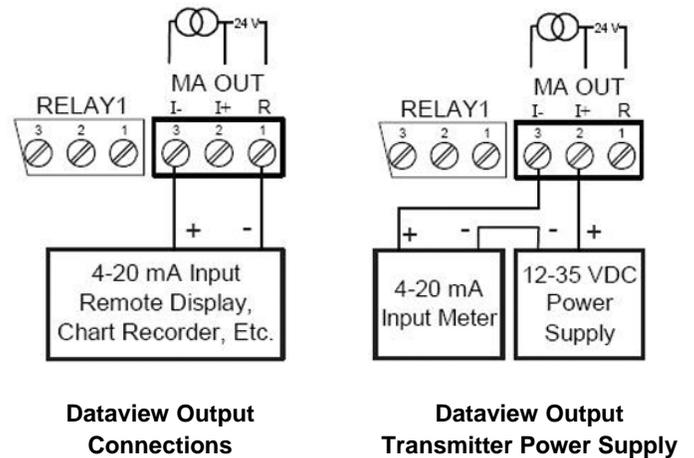
Confirm proper operation. RC networks may affect load release time of solenoid loads.

Install the RC network at the Dataview's relay screw terminals. An RC network may also be installed across the load.

Use a diode with a reverse breakdown voltage two to three times the circuit voltage and forward current at least as large as the load current.

4-20 mA Output Connections

Connections for the 4-20 mA transmitters are made through the connector terminals labeled MA OUT. The 4-20 mA output may be powered internally or from an external power supply.

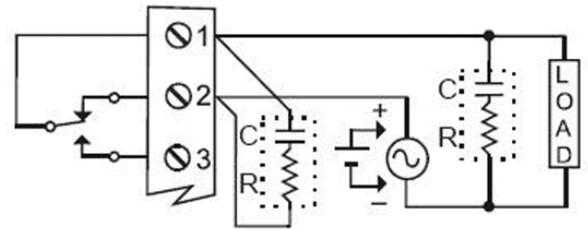


Dataview Output Connections

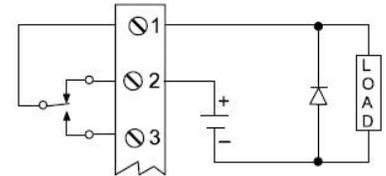
Dataview Output Transmitter Power Supply

Analog Output Transmitter Power Supply

The internal 24 VDC power supply may also be used to power other devices, if the analog output is available. The Dataview's "I+" terminal is the +24 V and the "R" terminal is the return. This power supply is capable of sourcing up to 40 mA.



AC & DC loads protection



Low Voltage DC loads protection

The Dataview Interface

The Dataview is factory calibrated to read either mA or Vdc inputs depending on the input selection. The calibration equipment is certified to NIST standards.

Overview

There are no jumpers to set for the meter input selection.

All setup and programming is performed through the front panel interface.

After power and input signal connections have been completed and verified, apply power to the meter.



Front Panel Operation

Display

The top line displays the level or volume of the tank.

The bottom line displays the units for the level or volume of the tank.

Alarm Indicators 1-8. Indicators 1-4 are enabled by default. When a relay expansion is installed, indicators 5-8 become available.

Buttons

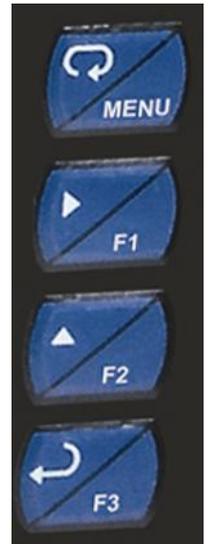
Down the right side of the Dataview's front panel are four buttons. It is through these buttons that you will set up and configure the Dataview. These buttons are explained as follows:

Menu. Use this button to enter or exit the Dataview's Programming Mode, view settings, or access advanced features.

Right Arrow/F1. Use this button to move to the next digit during digit or decimal point programming. This is also used to reset the max/min readings or other parameter/function assigned through the User menu

Up Arrow/F2. Use this button to scroll through the menus, decimal point, or to change the value of a digit. This is also used to display max/min readings or other parameter/function assigned through the User menu

F3. This functions as an ENTER key. Use this button to access a menu or to accept a setting. Programming changes are only saved after this is pressed. This is also used to acknowledge relays or other parameters/function assigned through the User menu.



A note on Characters

0 1 2 3 4 5 6 7 8 9 A b C c d E F G H h I , J K L
n O o P q r S t u V X Y Z - / = [] : ; ' °

The Dataview display uses a graphic system to type out each command.

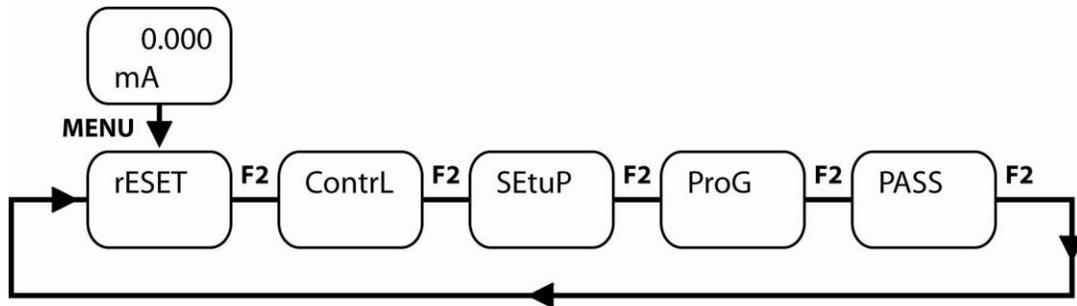
While the letters "m" and "w" are not included, they can be created by combining characters.

r + ' = nr

L + J = LJ

Programming the Dataview™

To enter the Dataview's Programming menu, press the **MENU** button. With the **UP** arrow, you can scroll through five menu options: Reset, Control, Setup, Program, and Password. Each of these options is explained below.



Reset. This resets the values on the main screen. You can reset the upper value, lower value or both.

Control. This switches control of the 4-20 mA analog output and relays from automatic to manual. Each relay and analog output can be programmed independently for manual control. Selecting automatic control sets all relays and analog output for automatic operation.

Setup. The selects: 1. Decimal point position, 2. Display parameter and intensity, 3. Relay operation, and 4. 4-20 mA analog output scaling

Program. This changes display to Scale, which is the most common choice, and also allows for Calibration. Calibration is for users who do not know the 4 mA and 20 mA settings in their transmitters.

Password. Set or change password access through this option.

SETUP AND PROGRAMMING

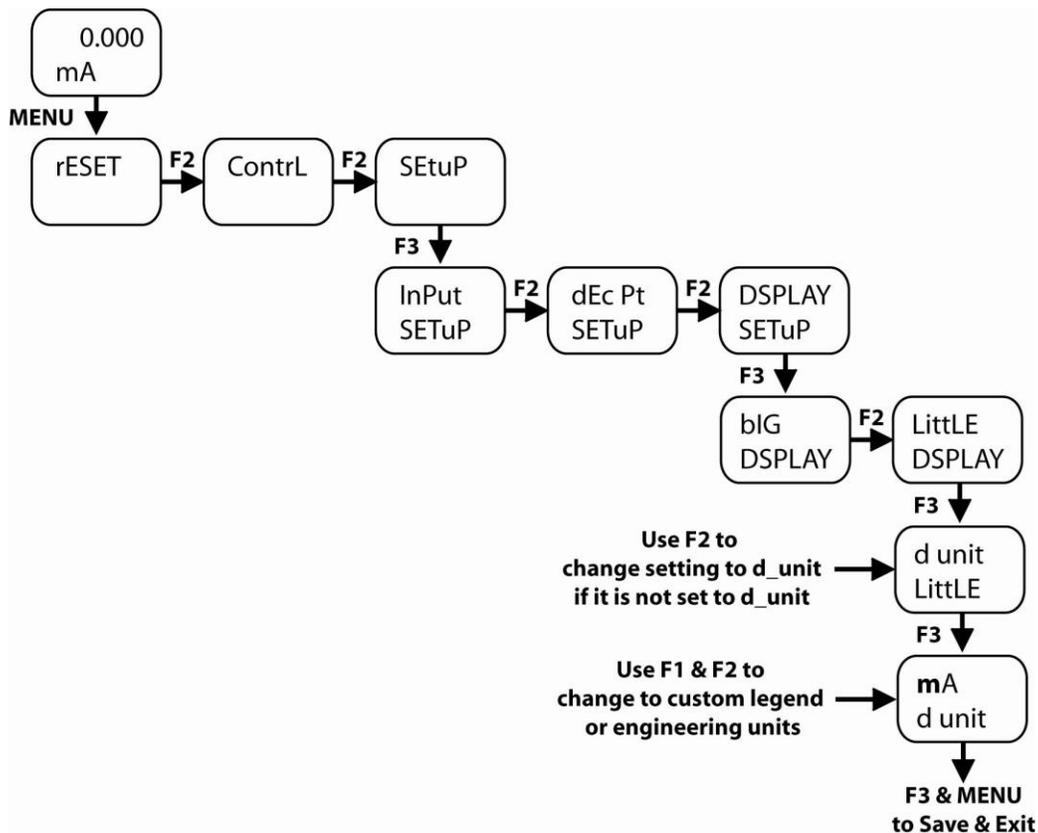
This section will take you through the six key steps in setting up and programming the Dataview (some configurations of DataView will not use all six steps):

- 1) Select and Setting Units of Operation (Input)
- 2) Setting the Display Input
- 3) Setting the decimal point (dec pt)
- 4) Setting the SCALE function
- 5) Setting the Relay Display (dsplay)
- 6) Setting the Analog Output (Aout)

Select and Setting Units of Operation

The LI55 series can show level (ex. InCHES, cm, FEET, Meter, etc) or Volume (GAL, LIteRS, etc.) or any other engineering units. Please determine the units of operation that you want to appear on the display.

Once the units have been selected, the units can be displayed in the Lower display. To change the units, follow the instructions below.



- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup. Press the **F3** button to enter Setup and Input will appear.
- 3) Press the **Up Arrow/F2** button to scroll through the Setup options until you reach Display. Press the **F3** button to enter Display and Big will appear.
- 4) Pressing the **Up Arrow/F2** button to scroll through the Display options until you reach Little. Press the **F3** button to enter Little and dUnit will appear. (If dUnit does not appear, press the **Up Arrow/F2** button to scroll through the Little options until you reach dUnit.)
- 5) Press the **F3** button to continue to the units. Use the **Up Arrow/F2 & Right Arrow/F1** to change to the descriptor that represents your units (You have up to 6-digits to provide a descriptor, such as FEET, InCHES, GAL, etc.).
 - a. Refer to A Note on Characters on the previous page for an example of the characters and symbols available.”
- 6) Press **F3** to save the setting and press **MENU** to exit.

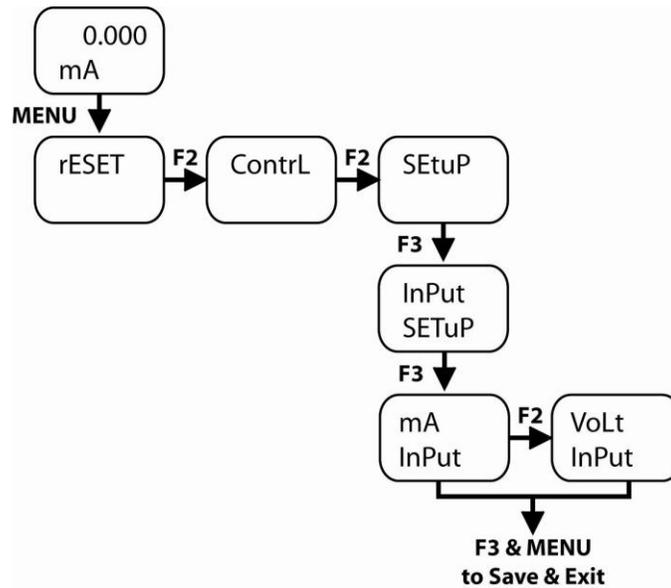
Setting the Display Input

Use the Input option to set the Dataview to display the data in terms of Current (mA) or Voltage (VoLT). The DataView's default is for a current (mA) input. If using mA, you can skip this step.

The Current option (mA) can display any signal from 0 to 20 mA. With this setting, the Dataview will accept 0-20 mA or 4-20 mA signals (the most common input is a 4-20 mA input).

The Voltage (VoLT) can display any signal from -10 to +10 VDC. With this setting, the Dataview will accept 0-5, 1-5, 0-10, or ±10 VDC signals.

To change the Input option:



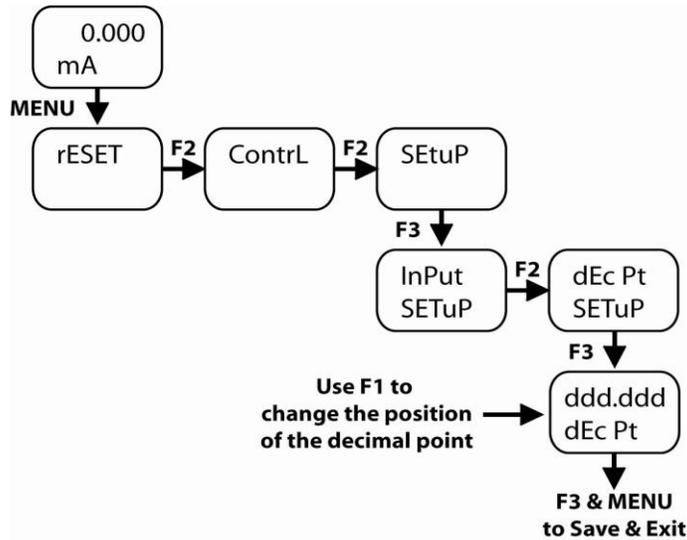
- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup.
- 3) Press **F3** to enter Setup.
- 4) Press the **Up Arrow/F2** button to scroll to Input in the Setup options. (Input should be the first option that appears.)
- 5) Press **F3** to enter Input.
- 6) Pressing the **Up Arrow/F2** button will toggle the Input option between Current (mA) or Voltage (VoLT).
- 7) Press **F3** to save.
- 8) Press the **MENU** button to close the programming menu.

Setting the Decimal Point

The decimal point may be set to as many as five decimal places. Use the Decimal Point feature to position the decimal point for all values displayed. Placement of the Decimal Point can influence the displayed output of your process. For example, setting a scale of 0 to 100% can be show in four different methods:

Method #1	0% to 100%	Reads to the ones place and is not very accurate
Method #2	0.0% to 100.0%	Reads to the 1/10's place and provides good accuracy
Method #3	0.00% to 100.00%	Reads to the 1/100's place. The accuracy is very good but may not be practical
Method #4	0.000% to 100.000%	Reads to the 1/1000's place. This is highly accurate but may not be practical

When selecting a decimal point, take into account the practical scale for reading the level of liquid.



To set the decimal point:

- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup.
- 3) Press the **F3** button to enter Setup and Input will appear.
- 4) Press the **Up Arrow/F2** button to scroll through the Setup options until you reach Decimal Points (dEc Pt).
- 5) Press the **F3** button to change the decimal point. The **Right Arrow/F1** button will move the decimal point from left to right.
- 6) When the decimal is set where you like, press the **F3** button again to save this setting.
- 7) Press the **MENU** button to close the programming menu.

Setting the SCALE function

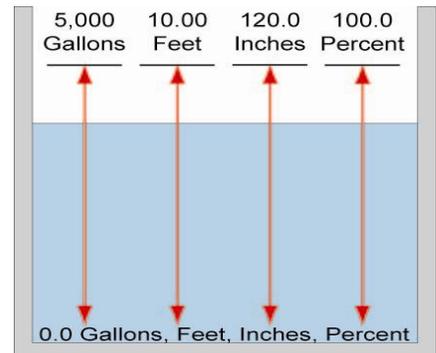
The Dataview displays information about tank contents in engineering units. Typically, this means that an empty tank is displayed with a value of 4 mA and a full tank is displayed with a value of 20 mA. You can scale this information to the levels of full and empty that you wish. A signal source is not needed to scale the meter.

Enter the value you wish the 4 mA signal to reflect and the value you wish the 20 mA signal to reflect.

By configuring the transmitter to 4 mA when the tank is empty and 20 mA when the tank is full, this will show the Empty Display setting (Display 1) as 0 units and the Full Display setting (Display 2) as the full value of the tank.

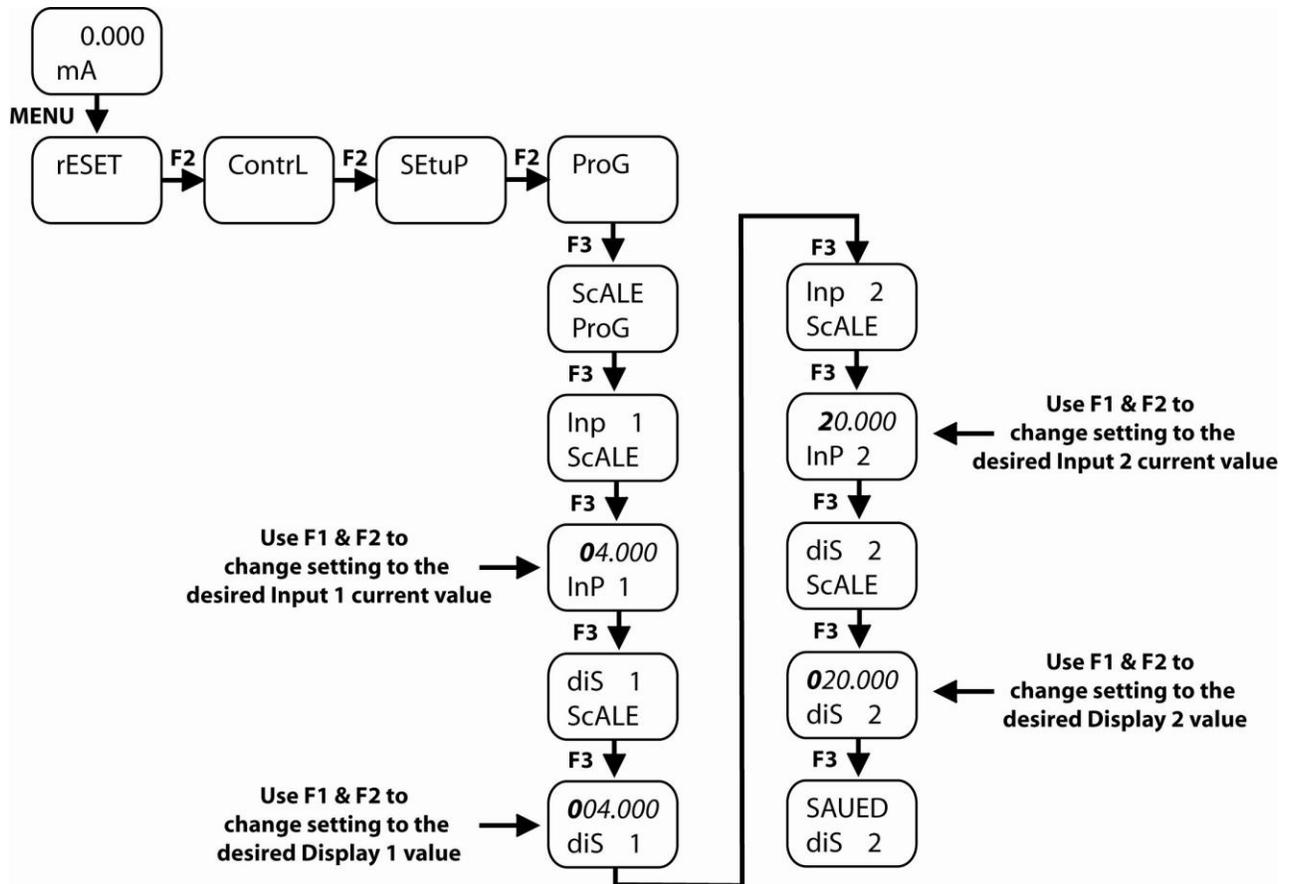
The Dataview’s default setting is for 2-point linear configuration. Multi-point configurations are set up in the Advanced Features menu. Each point of the 2-point linear configuration has two settings, the Input and Display. The Input refers to the current and the Display refers to the display value for the current. For example, with an Input of 20.0 mA and a display of 100.0, the Dataview will show 100.0 when 20.0 mA is supplied to the device.

	Input	Display
1	Typically 04.000 mA	Value of tank at Empty
2	Typically 20.000 mA	Value of tank at Full



In the examples above, the 4 mA/Empty reading could represent 0 Gallons, 0 Feet, 0 Inches or 0.0%. The 20 mA/Full reading could represent 5,000 Gallons, 10.00 Feet, 120.0 Inches or 100.0%. Setting 4mA for an empty tank and 20 mA for a full tank simplifies configuration.

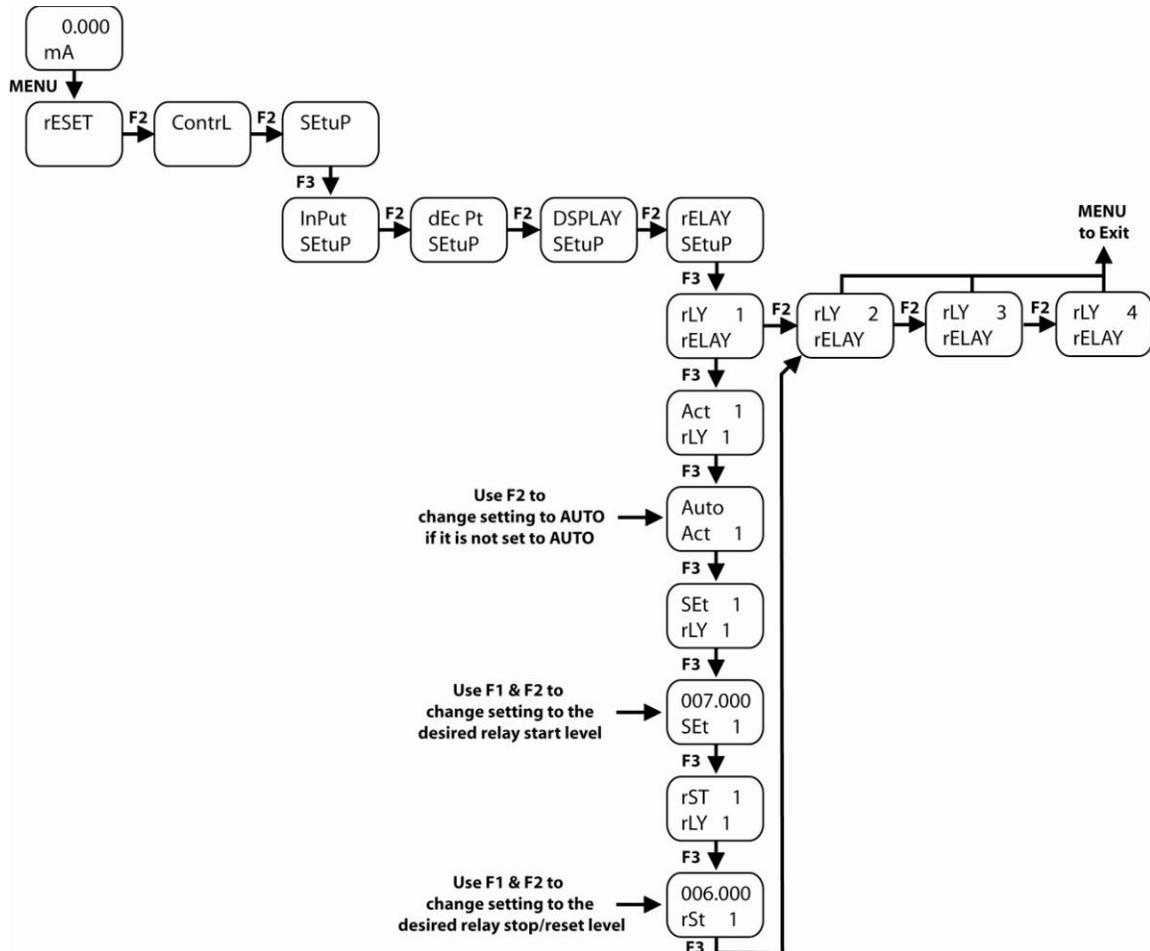
To set the SCALE function:



- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** to scroll through the Menu options until you reach ProG.
- 3) Press the **F3** button to enter ProG and SCALE will appear.
- 4) Press the **F3** button to enter SCALE and Inpt 1 will appear.
- 5) Press the **F3** button to change Input 1 (Inp 1). This is typically the tank's empty value for a 4 mA signal. Press the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save the settings.
- 6) Press the **F3** button again to change Display 1 (DiS 1). This is typically the value seen when the tank is empty. Press the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save the settings.
- 7) Press the **F3** button again to change Input 2 (Inp 2). This is typically the tank's full value for a 20 mA signal. Press the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save the settings.
- 8) Press the **F3** button again to change Display 2 (DiS 2). This is typically the value seen when the tank is full. Press the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value.
- 9) Press the **F3** button again to save the settings.
- 10) Press the **MENU** button to close the programming menu.

Setting the Relay Display

This step sets when the relay will energize (SET#) and de-energize (RST#). For automatic fill or empty applications, use the SET# setting as the ON level and RST# setting as the OFF level. For high level alarms, use the SET# setting as the level where the relay will turn on and the RST# setting where the relay will turn off (the RST# setting should be a lower setting than the SET#). For low level alarms, use the SET# setting as the level where the relay will turn on and the RST# setting where the relay will turn off (the RST# setting should be a higher setting than the SET#). Increasing the RST# setting from the SET# setting will increase the hysteresis of the relay.



To set the relay display:

- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup.
- 3) Press the **F3** button to enter Setup and Input will appear.
- 4) Press the **Up Arrow/F2** button to scroll through the Setup options until you reach Relay (rELAY).
- 5) Press the **F3** button to view Relay settings. Scroll through the Relays, usually 1-4, using the **Up Arrow/F2** button. Press the **F3** button to select a Relay.
- 6) Press the **F3** button again to view Relay Action (Act #) for the Relay you've chosen. Relay Action sets how the relay reacts as the level changes. This is set to AUTO by default, which will probably be your most common setting. Use the **F2** button to change the setting. Press the **F3** button to save this setting.
- 7) Press the **F3** button again to view the Relay Set Point (Set #) for the relay. The Relay Set Point sets the level where the relay will energize and must fall between their SCALE Display 1 and Display 2 values. Values can be changed by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save this setting.
- 8) Press the **F3** button again to view the Reset Point (rST #) for the relay. The Reset Point sets level where the relay will de-energize and must fall between their SCALE Display 1 and Display 2 values. Again, values can be changed by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save the setting.
- 9) When completed, press the **MENU** button to close the programming menu.

Configuring the Dataview™ for Analog Output

How to configure the Repeater Output / Analog Output

With an optional repeater output, you can transmit the 4-20 mA signal to another device, such as another display, a PLC, a chart recorder, etc. The repeater/analog output can be scaled in two ways:

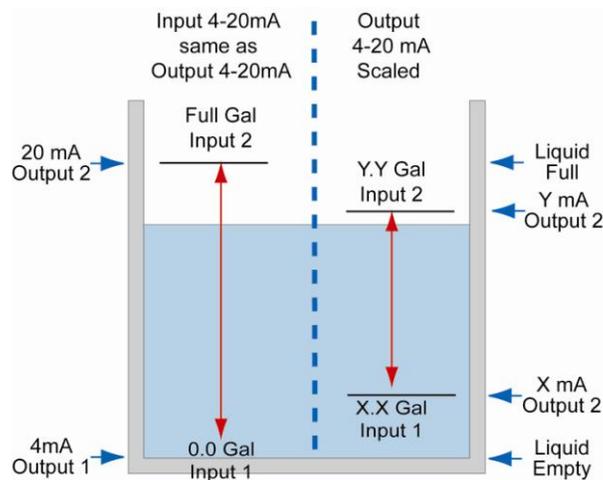
1. Identical to the 4-20 mA input signal. This setup transmits the Dataview's signal directly to your device.
2. Scaled to a new span.
 - a. In instances where you are controlling an actuated valve or pump, this transmits the analog output for a specific range.
 - b. In such a setup, the 4 mA reading can notify you of a level one foot from the bottom of the tank and the 20 mA reading can notify you of a level two feet from the top of the tank.

Input 4-20 mA same as Output 4-20 mA

	Display	Output
1	Value of tank at Empty	Typically 04.000 mA
2	Value of tank at Full	Typically 20.000 mA

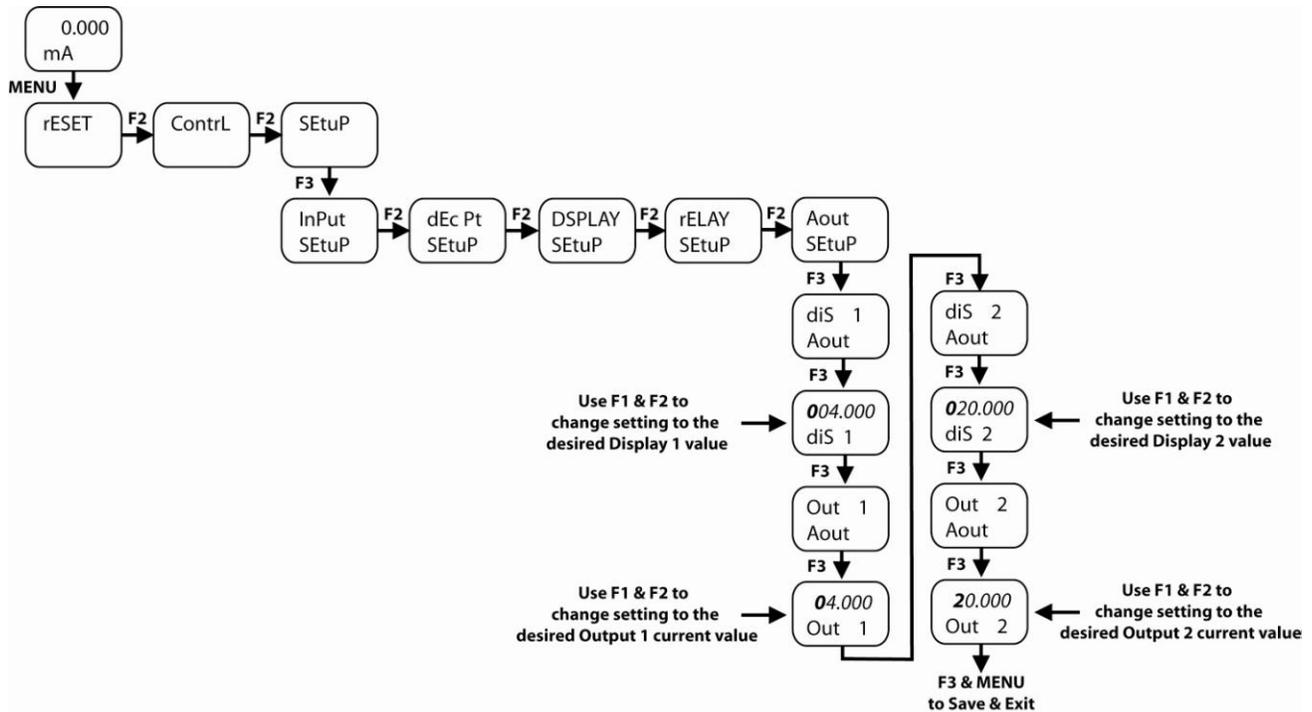
Output 4-20 mA Scaled

	Display	Output
1	Tank level at lowest current (mA) value	Lowest current (mA) value
2	Tank level at highest current (mA) level	Highest current (mA) value



The Repeater/Analog output uses a 2-point linear configuration where each point has two settings, the Display and Output. The Display refers to number being displayed and the Output refers to the output current that corresponds with that number. A Display of 0.0, for example, would have an Output of 04.000 mA. Therefore, you should determine what the output current will be for a specific display value.

Note: Before configuring the Analog Output, make sure the Programming of the display (Scale or Cal) has been completed.



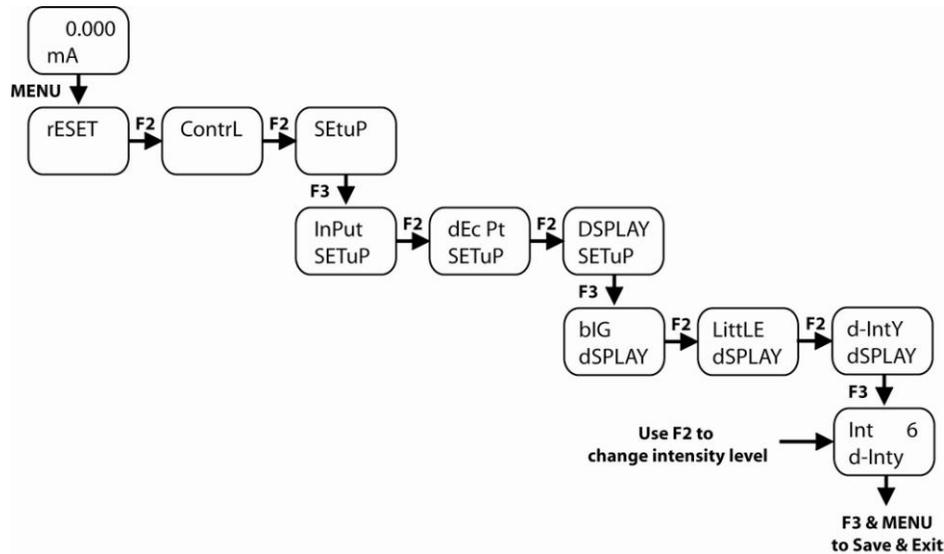
To configure for analog output:

- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup.
- 3) Press the **F3** button to enter Setup and Input will appear.
- 4) Press the **Up Arrow/F2** button to scroll through the Setup options until you reach Analog Output (Aout). Press the **F3** button to enter Aout.
- 5) Press the **F3** button to view the Display 1 (diS 1) setting. Display 1 is typically the empty tank setting. Change the value
- 6) by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase
- 7) the setting's value. Press the **F3** button to save this setting.
- 8) Press the **F3** button again to view the Analog Output 1 (Out 1) setting. This displays the current to correspond with
- 9) Display 1, which is typically empty or 04.000 mA. Change the value by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save this setting.
- 10) Press the **F3** button again to view the Display 2 (diS 2) setting. Display 1 is typically the full tank setting. Change the value by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save this setting.
- 11) Press the **F3** button again to view the Analog Output 2 (Out 2) setting. This displays the current to correspond with Display 2, which is typically full or 20.000 mA. Change the value by pressing the **Right Arrow/F1** button to move the highlighted digit to the right and the **Up Arrow/F2** button to increase the setting's value. Press the **F3** button to save this setting.
- 12) When completed, press the **MENU** button to close the programming menu.

Additional Features

Adjust the LED Intensity

The LED display's intensity can be adjusted. The intensity of the display is based upon a scale from 1 to 8 with 1 being the dimmest and 8 being the brightest. The display is shipped from the factory at an intensity level of 6.

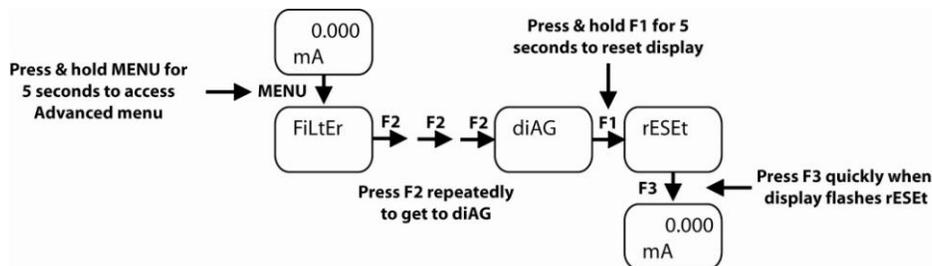


To adjust the intensity of the display:

- 1) Press the **MENU** button to bring up the programming menu.
- 2) Press the **Up Arrow/F2** button to scroll through the Menu options until you reach Setup. Press the **F3** button to enter Setup and Input will appear.
- 3) Press the **Up Arrow/F2** button to scroll through the Setup options until you reach Display. Press the **F3** button to enter Display and Big will appear.
- 4) Pressing the **Up Arrow/F2** button to scroll through the Display options until you reach d-IntY. Press the **F3** button to enter d-IntY and Int 6 will appear.
- 5) Press the **F2** button to adjust the intensity level.
 - a. Intensity will increase and after level 8, it will drop to the lowest level of 1 and begin to rise again.
- 6) Press **F3** to save the setting and press **MENU** to exit.

Reset Display to Factory Defaults

When the parameters have been changed in a way that is difficult to determine what's happening, it might be better to start the setup process from the factory defaults.



Instructions to load factory defaults:

- 1) Press and hold **MENU** for 5 seconds to enter Advanced menu. FiLteR will appear on the display.
- 2) Press **Up Arrow/F2** to go to Diagnostics menu (diAG).
- 3) Press and hold **Right Arrow/F1** for five seconds until rESEt appears. Press **F3** when display flashes reset.
 - a. Note: If **F3** is not pressed within three seconds, the display returns to the Diagnostics menu.
- 4) The meter goes through an initialization sequence (similar as on power-up), and loads the factory default settings.

**For complete product documentation, video training, and technical support, go to www.flowline.com.
For phone support, call 562-598-3015
from 8am to 5pm PST, Mon - Fri.**

(Please make sure you have the Part and Serial number available.)

Warranty

Flowline warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by Flowline for a period, which is equal to the shorter of one year from the date of purchase of such products or two years from the date of manufacture of such products. Flowline's obligation under this warranty is solely and exclusively limited to the repair or replacement, at Flowline's option, of the products or components, which Flowline's examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Flowline must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired or replaced under this warranty will be warranted only for the remainder of the original warranty period.

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