

00809-0200-4716

English
Rev. AA

LCD Meter

for Model 3095 MV™ Multivariable™
Mass Flow Transmitter



ROSEMOUNT®

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SAFETY MESSAGES

Procedures and instructions in this manual may require special precautions to ensure the safety of the personnel performing the operations. Information that raises potential safety issues is indicated by a warning symbol. Refer to the following safety messages before performing an operation preceded by this symbol.

WARNING

Explosions can result in death or serious injury. Do not remove the transmitter covers in explosive atmospheres when the circuit is alive.

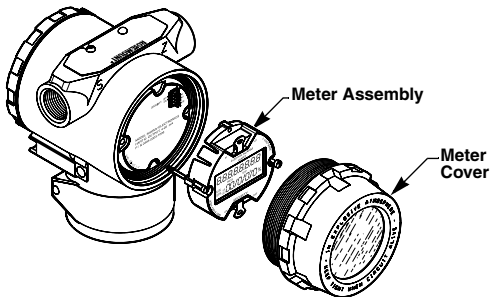
LCD METER

The LCD meter provides local display of Model 3095 MV process variables, calculations, and transmitter diagnostic messages. The meter is located on the circuit side of the transmitter, leaving direct access to the signal terminals. An extended cover is required to accommodate the meter. Figure 1 shows the transmitter fitted with the LCD meter and extended cover.

NOTE

A 3-in. (76 mm) clearance is required for cover removal if a meter is installed.

FIGURE 1. Model 3095 MV with Optional LCD Meter.



The LCD Meter can be ordered factory-installed, or meters can be ordered as spare parts to retrofit existing Model 3095 MV transmitters already in the field.

NOTE

The LCD Meter is only compatible with a Revision 12 or higher electronics board. LCD and Totalizer settings are configurable only with Field Device Revision 2, DD Revision 1 of the Model 275 HART Communicator or Engineering Assistant (EA) software version 4.0.

The LCD meter features a liquid crystal display that provides readouts of Model 3095 MV process variables and flow calculations. Use the Model 3095 MV User Interface Software to change the parameters displayed by the LCD meter (see **Transmitter LCD Settings** on page 4-39 of the Model 3095 MV Multivariable Mass Flow Transmitter Manual). Any of the following parameters and calculations are available for display:

Parameter Name	LCD Parameter Name	Engineering Unit/Example
Flow Rate	FLOW	SCFD
Differential Pressure	PRESS	IN_H2O
Totalized Flow	TOTAL	SCF
Static Pressure	SP	PSI
Temperature	TEMP	°F
Analog Output	OUT	MA
Percent Of Range	%	%

The default display time is three seconds to display user-selected parameters. The LCD meter display time is selectable in one second increments from two to ten seconds. The LCD scrolls through the entire list of selected parameters before repeating the displays. The LCD meter uses a two line display to indicate the engineering unit and parameter name; a third value is displayed to indicate the parameter value.

FIGURE 2. LCD Meter Display.



During Critical Alarm States or Overrange Conditions, the LCD display alternates between the selected parameters and the critical alarms or overrange conditions. For more information concerning Fatal Alarm Messages and Critical Alarm Messages, see **Revision 12 Electronics Board Alarms And Error Conditions** on page 5-2 of the Model 3095 MV Multivariable Mass Flow Transmitter Manual.

Totalizer Display

The LCD meter can display flow total as a selected variable. Depending on the Flow Total Unit selected, the meter will display the measurement value to a varying decimal point. Table 1 shows the available flow total units, maximum displayable flow total, and number of decimal places.

The non-volatile totalizer saves flow total information to the permanent memory of the transmitter. Time between saves to permanent memory is less than five minutes. In the event of power loss, no more than five minutes of flow totalization information is unretrievable.

TABLE 1. Model 3095 MV Flow Total Display.

Flow Total Unit Description	LCD Display	Decimal Places	Maximum Displayable Value
Standard Cubic Feet	SCF	3	99,999.999
Normal Cubic Meters	NCM	2	999,999.99
Standard Cubic Meters	SCM	2	999,999.99
Normal Liters	NLT	1	9,999,999.9
Ounces	OZ	1	9,999,999.9
Pounds	LB	2	999,999.99
Metric Tons	MTON	3	99,999.999
Short Tons	STON	3	99,999.999
Long Tons	LTON	1	99,999.999
Grams	GM	1	9,999,999.9
Kilograms	KGM	2	999,999.99
Special Quantity Unit	User Defined	2	999,999.99

NOTE

The LCD meter will totalize flow up to the maximum displayable value, after which it will scroll over to 0 Total Flow. The EA software and the Model 275 HART Communicator are both able to read the total flow up to 32 character spaces, or maximum displayable value of 9.99E32.

Installing the Meter

Installing the meter on a Model 3095 MV transmitter requires a small instrument screwdriver and the meter kit (PN 3095-0492-0001 for Aluminum Housing, PN 3095-0492-0002 for SST Housing).

The meter kit includes:

- one LCD meter assembly
- one extended cover with cover O-ring installed
- two captive screws
- one meter connector (10-pin male-to-male)

NOTE

The LCD Meter requires a Revision 12 or higher electronics board.

Use the following steps to install the meter. See Figure 1 for an illustration

WARNING

Explosions can cause death or serious injury. do not remove the instrument cover in explosive atmospheres when the circuit is alive.

1. If the transmitter is installed in a loop, secure the loop and disconnect power.
2. Remove the transmitter cover opposite the field terminal side
3. Note location of security/alarm jumpers. Remove the jumpers and discard. Insert the meter connector into the

CAUTION

The circuit board is electrostatically sensitive. Be sure to observe handling precautions for static-sensitive components.

ten-pin socket on the electronics circuit board (see Figure 1).

4. Remove the two circuit board captive screws. To do this, loosen the screws to release the board, then pull out the screws until they are stopped by the captive thread inside the circuit board standoffs. Continue unscrewing and remove the two screws; the circuit board remains.
5. The electronics housing may be rotated to improve field access to the two compartments. To rotate the housing less than 180 degrees, release the housing rotation set screw and turn the housing not more than 180 degrees. To rotate the housing greater than 180 degrees, see **Disassembly Procedures** on page 5-12 of the Model 3095 MV Multivariable Mass Flow Transmitter Manual.

NOTE

The meter may be installed in 90-degree increments for easy viewing. One of the four connectors on the back of the meter assembly must be positioned to accept the meter connector.

CAUTION

Rotating the housing greater than 180 degrees without performing the disassembly procedure may damage the Model 3095 MV sensor module.

- Decide which direction the meter should be oriented. Insert the long meter screws into the two holes on the meter assembly that coincide with the holes on the circuit board.
- Attach the meter assembly to the circuit board by threading the screws into captive threads and attaching the meter assembly to the meter connector. Tighten the meter screws in the standoffs to secure the meter assembly and electronic circuit board in place. The meter screws are designed to be captive screws, so they must first be tightened past the captive thread within the standoffs and then tightened again to hold the meter/circuit board assembly to the housing.
- Check security and alarm jumpers for desired operation. Adjust if necessary.
- Attach the extended cover metal to metal.

 **WARNING**

Explosions can cause death or serious injury. Both transmitter covers must be fully engaged to meet explosion-proof requirements.

Note the following LCD temperature limits:

Operating: -13 to 185 °F (-25 to 85 °C)

Storage: -40 to 185 °F (-40 to 85 °C)

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