

2. Power up the system.
3. Allow Model 8714D to warm-up for 30 minutes.
4. Set the input current to terminals 1 and 2 at 500mA.
5. Determine the average voltage from terminals 18 and 19 over a five minute period.
6. Measure the output from terminals 18 and 19. This value should equate to 21.56 mV per input Ampere (± 0.0011 mV/A).

If your device does not operate in conjunction with this specification, return the Model 8714D to the Rosemount Inc. factory for adjustment.

**Within the United States, Rosemount Inc.
has two toll-free assistance numbers.**

| | |
|------------------------------------|---|
| Customer Central: | 1-800-999-9307 (7:00 a.m. to 7:00 p.m. CST) Technical support, quoting, and order-related questions. |
| North American Response Center: | 1-800-654-7768 (24 hours a day - Includes Canada) Equipment service needs. |

Rosemount Inc.
8200 Market Boulevard
Chanhassen, MN 55317 USA
Tel 1-800-999-9307
Telex 4310012
<http://www.rosemount.com>
© Rosemount, Inc. 1997.



ROSEMOUNT®

FISHER-ROSEMOUNT™ Managing The Process Better™

00821-0100-4764

MODEL 8714D MAGNETIC FLOWMETER SIMULATOR

Electronics Trim of an 8712C/U or 8732C Magnetic Flowmeter Transmitter

The Rosemount Model 8714D is a high-precision instrument that supplies a Model 8712C/U or Model 8732C Magnetic Flowmeter Transmitter with a voltage corresponding exactly to 30.00ft/s. The precise 30.00 ft/s voltage signal may be used to recalibrate or verify operation of the transmitter. (This same procedure is used by the factory to calibrate the transmitter; it is rarely needed by customers.) *Perform this procedure only if you believe that transmitter is no longer accurate.*

NOTE

Model 8714A Flowtube Simulators (without a knob or switch on the front) are for use with Model 8712 Transmitters only. The *Model 8714* (with the large variable black potentiometer on the front) is not calibrated to 30.00 ft/s. These 8714 simulators are used for demonstration purposes only.

Model 8714B Flowtube Simulators (with a switch on the front) are single-point calibrators that work with the 8712 or 8712C/U Transmitters. *Model 8714C Flowtube Simulators* are multi-point simulators that will work with the 8712C/U, but not the 8712.

The *Model 8714D* is the latest release of the Rosemount line of Flowtube Simulators. This calibrator will work with Model 8712C/U or 8732C.

1. Use the HART Communicator or Local Operator Interface (LOI) to change the parameters of the transmitter to the following:
Tube Calibration Number: 1000015010000000
Units: ft/s
Analog Output Range: 20mA = 30.00 ft/s
Analog Output Zero: 4mA = 0 ft/s
Coil Pulse Mode: 6 Hz
2. Set the loop to manual (if necessary).
3. Power down the transmitter.
4. Insert one end of the wiring assembly into the Model 8714D Calibration Standard; wire the contact end of the wiring assembly to the transmitter. See Figures 1 and 2 on the following page for detailed instructions regarding Model 8712C/U and Model 8732C.

Model 8712C/U (Figure 1): Use the six contact Pin terminal plug-style wiring assembly. Follow the numeric convention for the 8712C/U so the plugs match the terminal block.

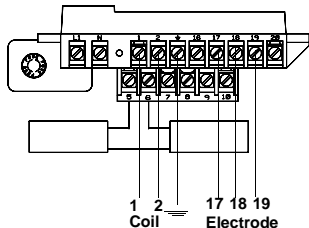


FIGURE 1. Model 8712C/U Terminal Block.

Model 8732C (Figure 2): Use the two black connector-style wiring assembly. (One connector has four contacts, the other has three.) Remove the electronics side cover (furthest away from the conduit plugs). If you do not have a LOI, the connectors will be clearly visible on the bottom side of the board.

If you have a LOI, remove the two mounting screws from the LOI assembly and pull the display assembly away from the connector assembly until the connector assembly on the back of the board is fully released. Then, plug the calibrator connectors into the appropriate receptacles.

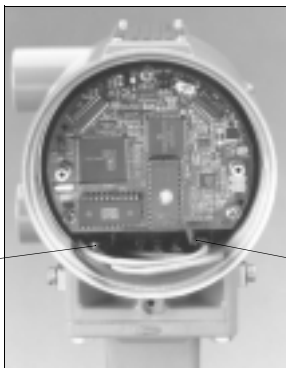


FIGURE 2. Model 8732C Electronics Board.

CAUTION

Attempting an electronics trim without a Model 8714D may result in an inaccurate transmitter. It may also generate a DIGITAL TRIM FAILURE message. If this message appears, no values were changed in the transmitter. Simply power down the transmitter to clear the message. If the trim was completed, or no error message was generated, correction requires a Model 8714D.

5. Set the Model 8714D to simulate a flow rate of 30 ft/s.
6. Power up the transmitter with the Model 8714D connected. Allow the electronics 30 minutes to warm-up before reading the flow rate.
7. Read the flow rate. It should be between 29.97 and 30.03 ft/s. If the reading is within this range, return the transmitter to the original configuration. If the reading is not within this range, continue to step 8.
8. Initiate an electronics trim with the LOI or HART communicator. The electronics trim takes about six minutes to complete. No transmitter adjustments are required.

| | |
|----------------|--------------------|
| HART Fast Keys | 1, 5 |
| LOI | Auxiliary Function |

Guidelines for Checking Series 8714D Magnetic Flowmeter Calibration Standard

The Rosemount Model 8714D MagneticFlowmeter Calibration Standard operates in conjunction with Model 8712C/U or Model 8732C Magnetic Flowmeter Transmitters. This device simulates a flowtube coil load. It accurately produces a simulated flow signal for the purpose of transmitter calibration.

Required Precision Equipment

- Current source
- One ohm resistor (Temperature stable, 5-10 ppm)
- Voltmeter

Limitations

- Current through terminals 1 and 2 shall not exceed 600mA (peak)
- Current through terminals 18 and 19 shall not exceed 5mA.
- Calibration shall occur with the standard set at 30 feet per second.

Procedure

1. Set-up your equipment according to Figure 3.

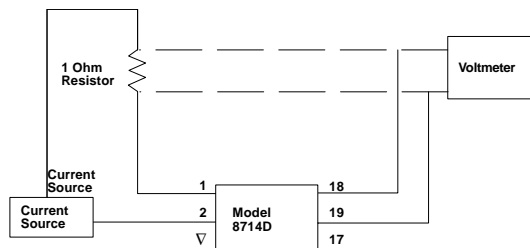


FIGURE 3. Set-up Model 8714D and the transmitter as shown.