



Flo-tech F6600 Series Rate Counter Digital Display Owner's Manual

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Flo-tech F6600 Series Rate Counter Digital Display Owner



WIRING OVERVIEW

Electrical connections are made via screw-clamp terminals located on the back of the display. All conductors should conform to the meter's voltage and current ratings. All cabling should conform to appropriate standards of good installation, local codes and regulations. It is recommended that power supplied to the meter (DC or AC) be protected by a fuse or circuit breaker. When wiring the display, compare the numbers embossed on the back of the display case against those shown in the wiring drawings for proper wire position. Each terminal can accept up to one #14 AWG (2.55 mm) wire, two #18 AWG (1.02 mm), or four #20 AWG (0.61 mm).

1. Strip the wire, leaving approximately 0.3 inches (7.5 mm) bare lead exposed (stranded wires should be tinned with solder).
2. Insert the lead under the screw-clamp terminal.
3. Tighten the screw-clamp until the wire is secure.
4. Pull the wire to verify tightness.

EMC INSTALLATION GUIDELINES

Although this meter is designed with a high degree of immunity to Electromagnetic Interference (EMI), proper installation and wiring methods must be followed to provide compatibility in each application. The type of the electrical noise, source or coupling method into the meter may be different for various installations. The meter becomes more immune to EMI with few I/O connections. Cable length, routing, and shield termination are very important and can mean the difference between a successful or troublesome installation. Listed below are some EMC guidelines for successful installation in an industrial environment.

- Mount the meter in a metal enclosure, which is properly connected to protective earth.
- Use shielded (screened) cables for all signal and control inputs. The shield (screen) pigtail connection should be made as short as possible. The connection point for the shield depends somewhat upon the application.
- Connect the shield only at the panel where the unit is mounted to earth ground (protective earth).
- Never run signal or control cables in the same conduit or raceway with AC power lines, heaters, or conductors feeding motors, solenoids or SCR controls. Run the cables in a metal conduit that is properly grounded. This is especially useful in applications where cable runs are long and portable two-way radios are used in close proximity or if the installation is near a commercial radio transmitter.
- Route the signal or control cables within an enclosure as far away as possible from contactors, control relays, transformers and other noisy components.

- Keep cable runs as short as possible. Long cable runs are more susceptible to EMI pickup than short cable runs.

WIRING THE F6600 / F6650 SERIES DISPLAYS

The frequency signal from the Flo-tech FSC, FSB, and FSD series turbines is connected to the display using one of the F2832 series cables. The Flo-tech Ultima sensor is connected using the F6234 series cables.

FSB, FSC*, and FSD Sensors

- Connect the BLACK wire of the F2832 cable to terminal 5 (INPUT A) and the CLEAR wire to terminal 4 (COMM) on the F6600 series display. See Figure 1.
- Some require the use of the F5140 K-Factor Scaler to ensure adequate signal strength to the display.

Ultima Sensors

- Connect the RED wire of the F6234 cable to terminal 5 (INPUT A) and the BLACK wire to terminal 4 (COMM) on the F6600 series display. See Figure 1. The WHITE wire is not used.
- Some require the use of the F5140 K-Factor Scaler to ensure adequate signal strength to the display.

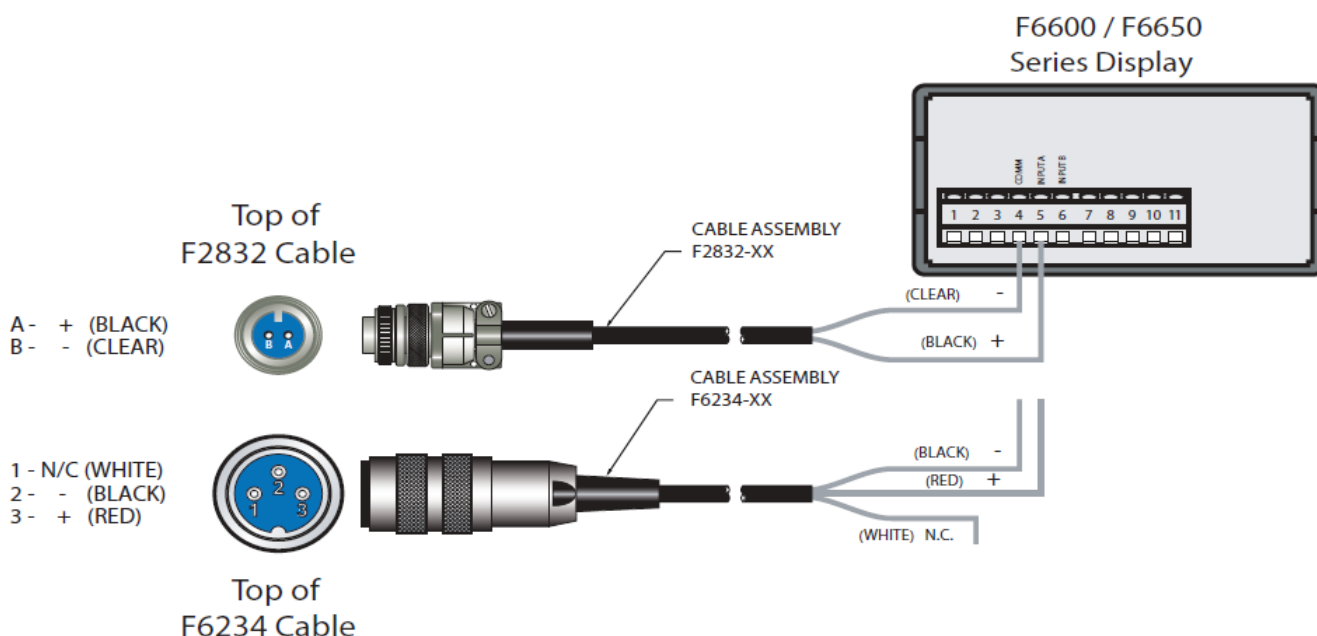


Figure 1: Flo-tech frequency output wiring

WIRING THE F6600 / F6650 SERIES DISPLAYS (WITH F5140 K-FACTOR SCALER)

The Flo-tech FSC-375, F6202-F, and F6222-F turbines require the F5140 K-Factor Scaler to amplify the millivolt sensor output for transmission to the F6600 series display. The turbines produce a low level signal so it is important to keep the F5140 K-Factor Scaler as close to the flow sensor as possible. Close proximity will minimize signal interference and help eliminate erratic readings.

1. Feed the terminal end of the F2832 or F6234 cable through the wire bushing on the F5140. Insert the three-wire (customer-supplied) cable that will be used to bring power and return the output signal to the F6600 series

readout. Tighten the wiring bushing.

2. Connect the BLACK wire from the F2832 or the RED wire from the F6234 cable to terminal 5 of the F5140 K-Factor Scaler. Connect the CLEAR wire from the F2832 or the BLACK wire from the F6234 cable to terminal 6 of the F5140 K-Factor Scaler. See Figure 2.

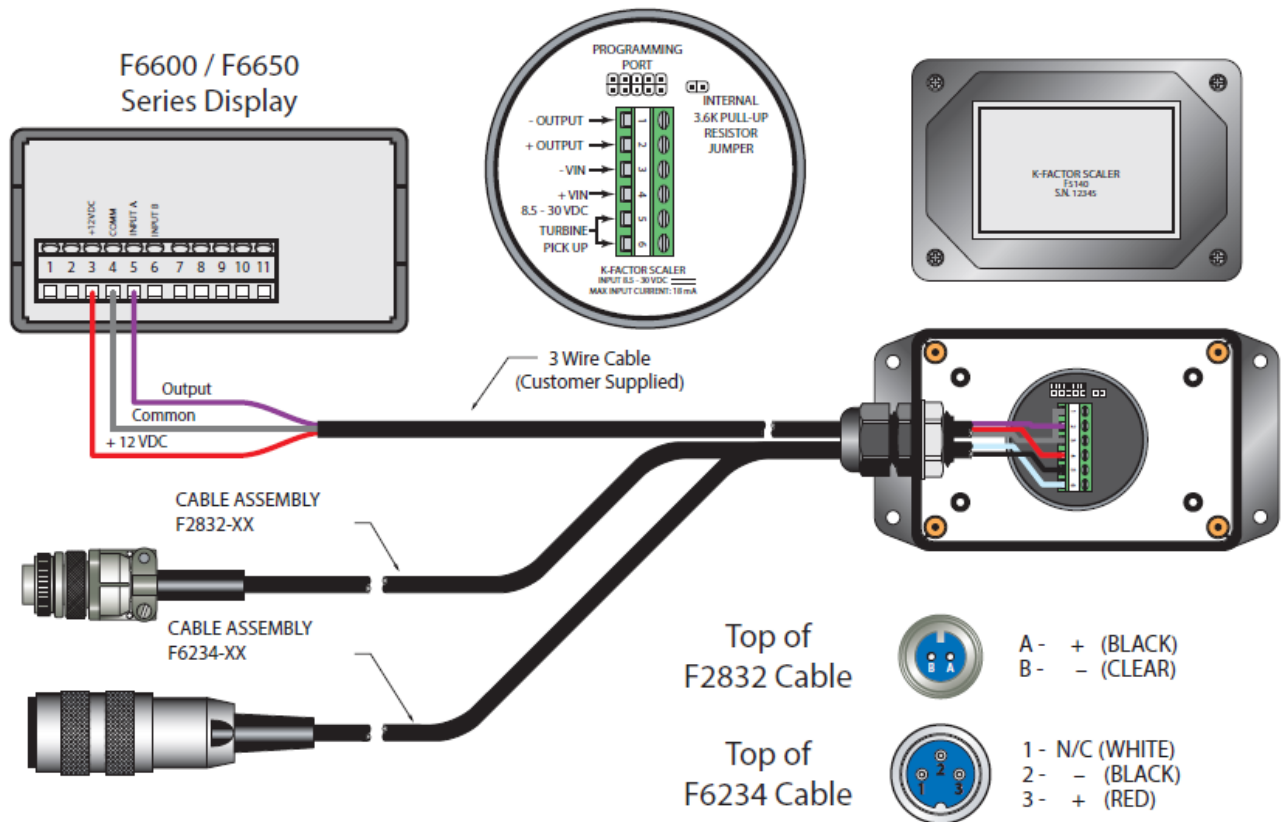


Figure 2: Flo-tech frequency output wiring using F5140 K-factor scaler

3. Connect one of the wires from the customer-supplied cable to terminal 4 (+VIN) of the F5140 and note the wire color. Connect the other end of this wire to terminal 3 (+12V DC) of the F6600 series display.
4. Connect one of the wires from the customer-supplied cable to terminal 2 (+OUTPUT) of the F5140 and note the wire color. Connect the other end of this wire to terminal 5 (INPUT A) of the F6600 series display.
5. Connect the remaining wire from the customer-supplied cable to terminal 1 (-OUTPUT) of the F5140. Connect the other end of this wire to terminal 4 (COMM) of the F6600 series display.

WIRING THE F6700 / F6750 SERIES DISPLAYS

ACTIVA Flow Sensors

ACTIVA Flow Sensors, FS Series Flow Sensors and F6100 Series Sensor Arrays Using the Intelligent Frequency Converter (IFC) Option

4...20 mA Output

The F6557 cable is a five-pin, three-wire cable used to connect the IFC sensors to the F6700 series displays. Only two of the three wires in the cable are used.

1. Connect the RED wire of the F6557 cable to terminal 6 (+24 V EXC) on the F6700 series display. See Figure 3.

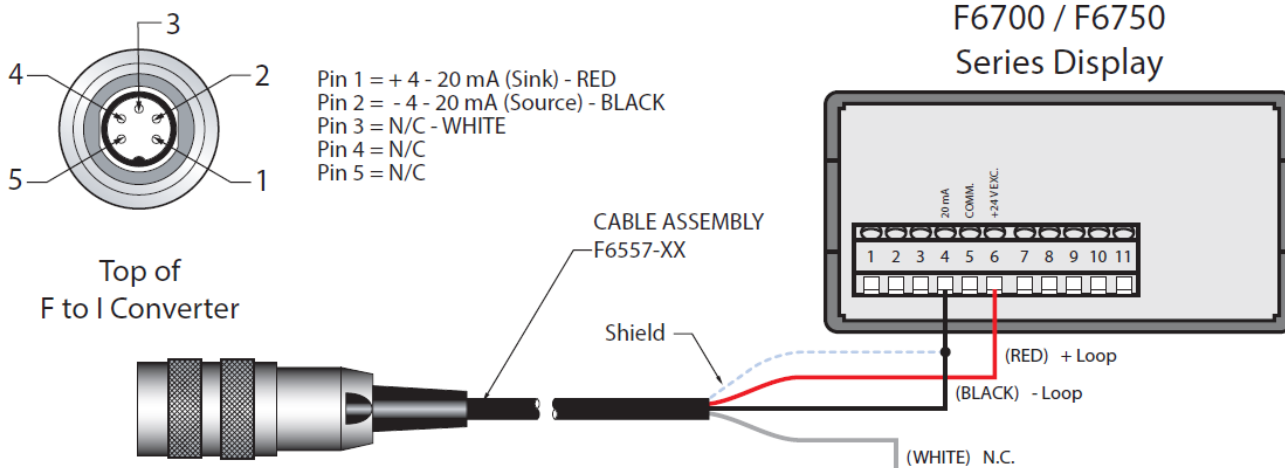


Figure 3: Flo-tech IFC flow sensor wiring

2. Connect the BLACK wire of the F6557 cable to terminal 4 (20 mA) on the F6700 series display.
3. Connect the SHIELD wire of the F6557 cable to terminal 4 (20 mA) on the F6700 series display.

0...5 Volt Output

The F6557 cable is a five-pin, three-wire cable used to connect the IFC sensors to the F6700 series displays. Only two of the three wires in the cable are used.

1. Connect the RED wire of the F6557 cable to terminal 6 (+24 V EXC) on the F6700 series display. See Figure 4.

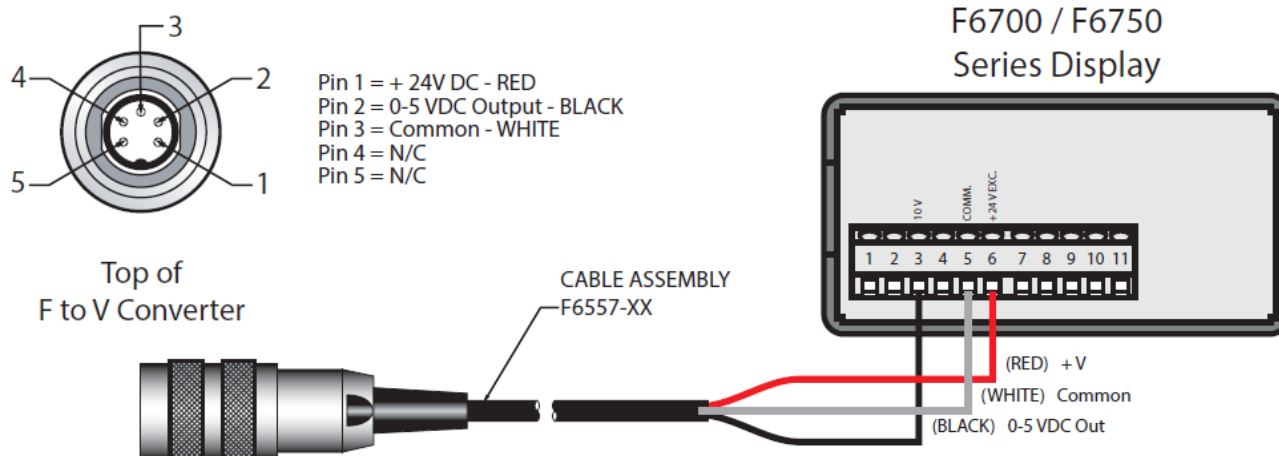


Figure 4: Flo-tech IFC flow sensor wiring

2. Connect the BLACK wire of the F6557 cable to terminal 3 (10 V) on the F6700 series display.
3. Connect the WHITE wire of the F6557 cable to terminal 5 (COMM) on the F6700 series display.

F6301 Pressure Sensors and F6310 Temperature Sensors

The F6234 cable is a three-pin, three-wire cable used to connect either a pressure or temperature sensor to the F6700 series displays. Only two of the three wires in the cable are used.

1. Connect the RED wire of the F6234 cable to terminal 6 (+24 V EXC) on the F6700 series display. See Figure 5.

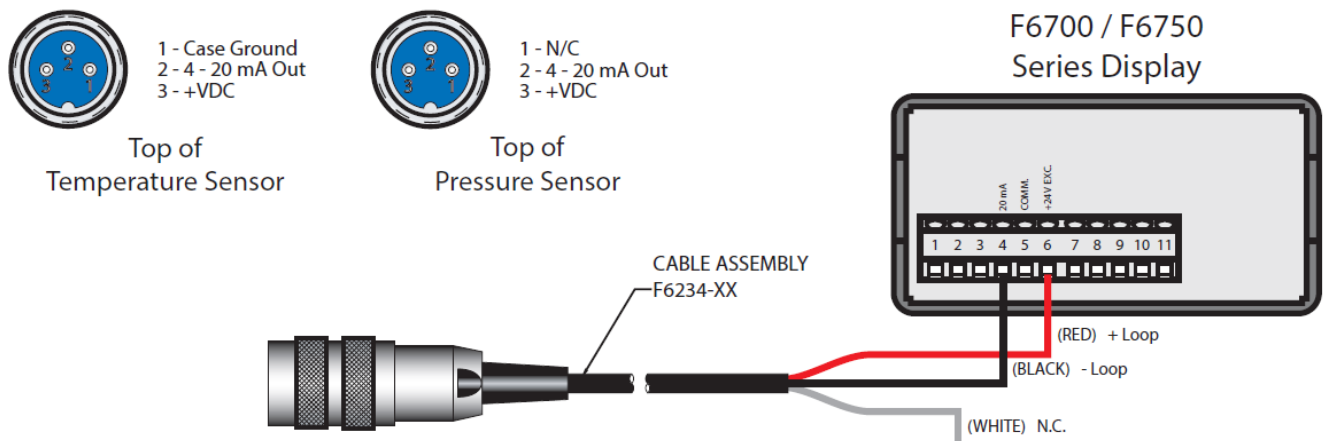


Figure 5: Flo-tech pressure and temperature sensor wiring

2. Connect the BLACK wire of the F6234 cable to terminal 4 (20 mA) on the F6700 series display.

Hedland Flow Transmitter

The HN100542 cable is a four-pin, four-wire cable used to connect the HEDLAND flow transmitters to the F6700 series displays. Only two of the four wires in the cable are used.

1. Connect the RED wire of the HN100542 cable to terminal 6 (+24 V EXC) on the F6700 series display. See Figure 6.

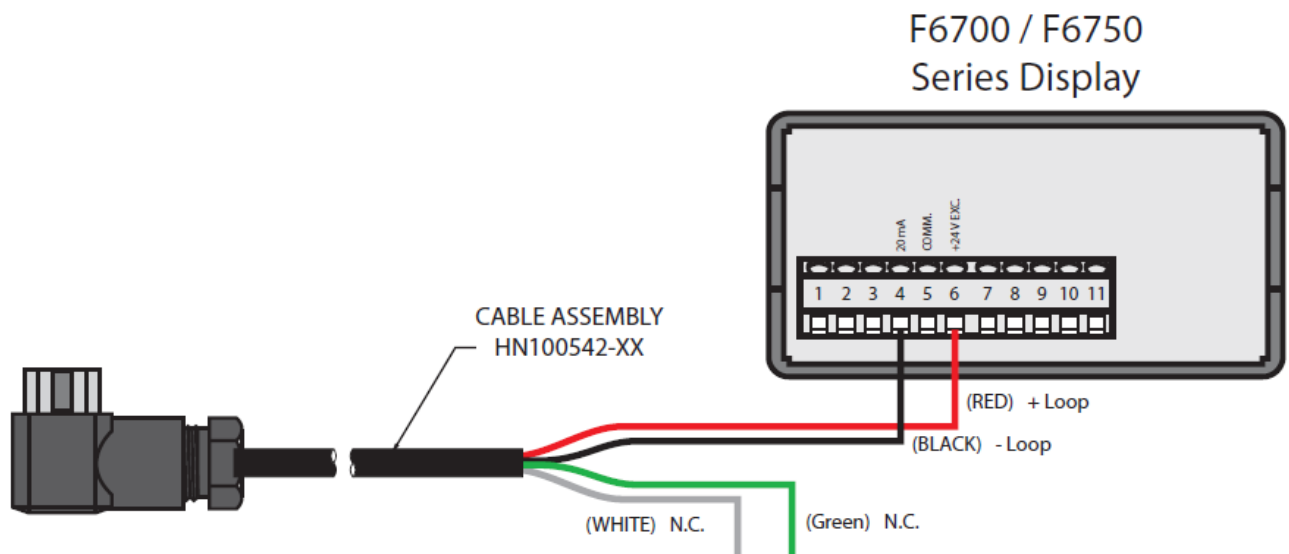


Figure 6: Hedland flow transmitter wiring

2. Connect the BLACK wire of the HN100542 cable to terminal 4 (20 mA) on the F6700 series display.

After the signal wiring has been completed the F6700 series display can then be mounted in the panel and power wiring applied. See the specific F6700 series display manual for power wiring and additional setup requirements.

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Documents / Resources

	<p>Flo-tech F6600 Series Rate Counter Digital Display [pdf] Owner's Manual F6600 Series Rate Counter Digital Display, F6600 Series, Rate Counter Digital Display, Digital Display</p>
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References

-  [Calcert](#)