

# DREXELBROOK®

A Leader in Level Measurement

## Upgrade Installation Guide

For the

**Universal V™ Lite and Universal V™ Pro**  
Model Transmitters

2-Wire RF Admittance / Capacitance Level  
Measurement System with HART Protocol



For Assistance Call 215-674-1234

**DREXELBROOK®** / **AMETEK®**  
LEVEL MEASUREMENT  
SOLUTIONS

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UV-Upgrade-LM  
Issue #1

# Universal V™ Transmitter with HART® Protocol



**DREXELBROOK®**

*An ISO 9001 Certified Company*

**AMETEK®**

**LEVEL MEASUREMENT  
SOLUTIONS**

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## Universal V Upgrade Package - Integral

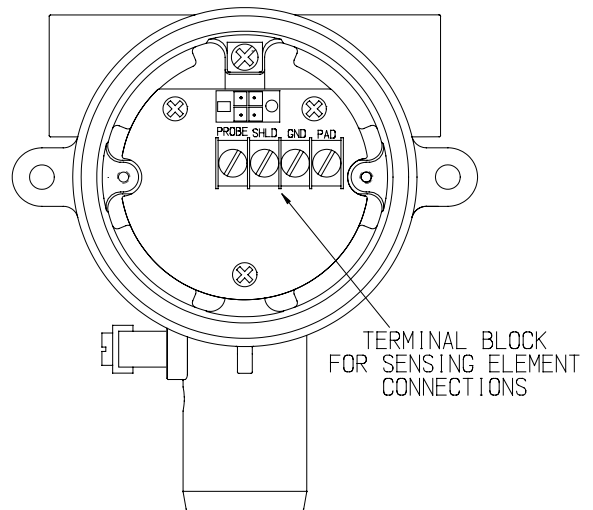
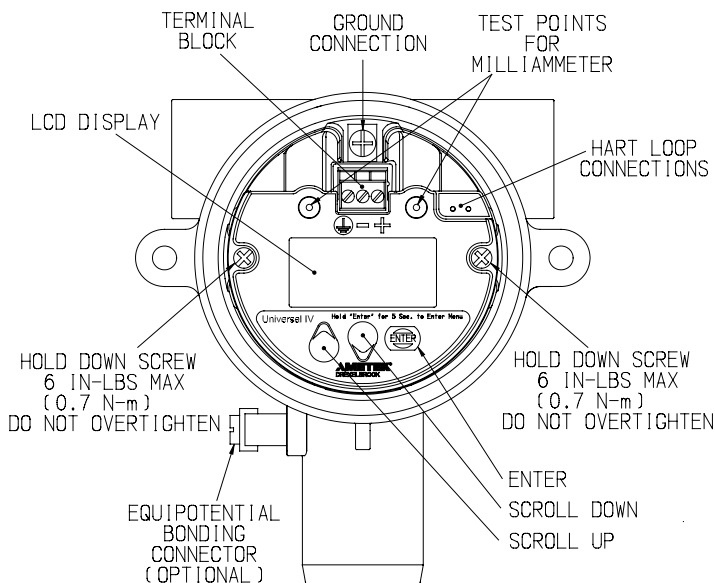
The Universal V integral upgrade package includes:

- Universal V electronics in housing
- Interconnect cable
- Heat-shrink tubing
- Extension tube (if applicable)



**Note:** Not all sensing elements require an extension tube.

Description	Part Number	Upgrade Kit Number										
		R00	R01	R02	R03	R04	R05	R11	R12	R13	R14	R15
Cable Assembly, 2 terminal, 5.25" long	380-9000-079	X	X					X				
Cable Assembly, 3 terminal, 11.5" long	380-9000-127	X		X		X			X		X	
Cable Assembly, 2 terminal, 11.5" long	380-9000-128	X			X		X			X		X
Extension Tube, 3/4 NPT, 5" long	242-0006-100	X		X			X		X			X
Extension Tube, 1 NPT, 8" long	242-0006-113	X			X	X				X	X	
Screw, 6-32 x 1/4", Red	220-0002-115	X		X		X			X		X	
Screw, 6-32 x 1/4", Blue	220-0002-116	X	X	X	X	X	X	X	X	X	X	X
Heat-shrink Tubing, 1" I.D. Expanded	388-0001-067	X	X	X	X	X	X	X	X	X	X	X



ELECTRONIC UNIT REMOVED

### Preparing your current system for upgrade:

- Disconnect the loop wires from the existing system
- Disconnect the interconnect cable from the transmitter and the sensing element
- Remove the spark protector from the sensing element (not installed on all systems).

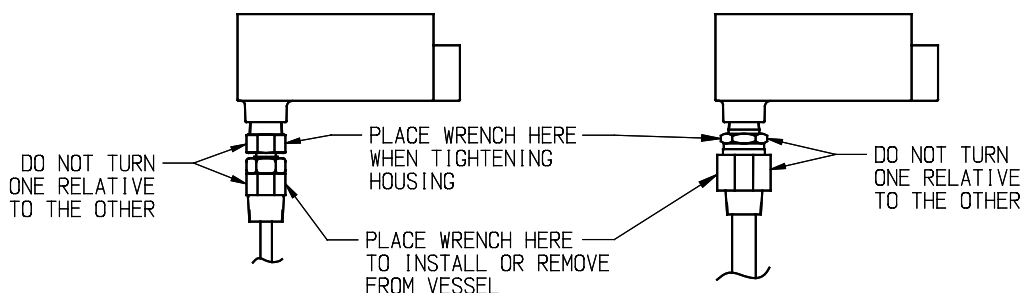


**Note:** The spark protector will not be reinstalled; the Universal V electronics has built-in spark protection.

- Remove the housing from the sensing element by rotating counterclockwise.



**Warning:** Be careful not to loosen the packing gland on the sensing element.



### TYPICAL PACKING GLAND CONFIGURATIONS

### Upgrading your system:

- Remove the lid from the housing to expose the electronic unit.
- Loosen the two (2) hold-down screws on the top of the electronic unit.
- Carefully remove the electronic unit from the housing.
- Connect the new interconnect cable to the sensing element. Use the blue screw for the center wire and the red screw for the shield wire.



**Note:** Not all sensing elements use the shield wire connection.

- Slide the heat-shrink tube over the back end of the sensing element.
- Apply heat to the heat-shrink tube until it fits tightly on the sensing element.



**Note:** If the heat-shrink tube cannot be heated, wrap the back end of the sensing element with an insulated electrical tape.

- If required, install the extension tube over the interconnect cable and thread it clockwise onto the back end of the sensing element and tighten (Use thread sealant on pipe thread connections to prevent galling and to create a weather tight seal).



**Warning:** Do not overtighten the packing gland on the sensing element.

## Universal V - Level Measurement System

- Insert the interconnect cable through the bottom hub of the housing.
- Thread the extension tube, on the back end of the sensing element, clockwise into the housing and tighten. (Use thread sealant on pipe thread connections to prevent galling and to create a weather tight seal).



**Warning:** Do not overtighten the packing gland on the sensing element.

- Connect the interconnect cable to the terminal block in the bottom of the housing. Connect the cable's center wire (blue) to the "PROBE" terminal and the cable's shield wire (red) to the "SHLD" terminal.
- Reinstall the electronic unit.



**Note:** Make sure that the unit is properly seated on the connector socket.

- Tighten the two (2) hold-down screws on the electronic unit.



**Caution:** Do not over tighten the hold-down screws, 6 in-lbs (0.7 N-m) maximum torque.

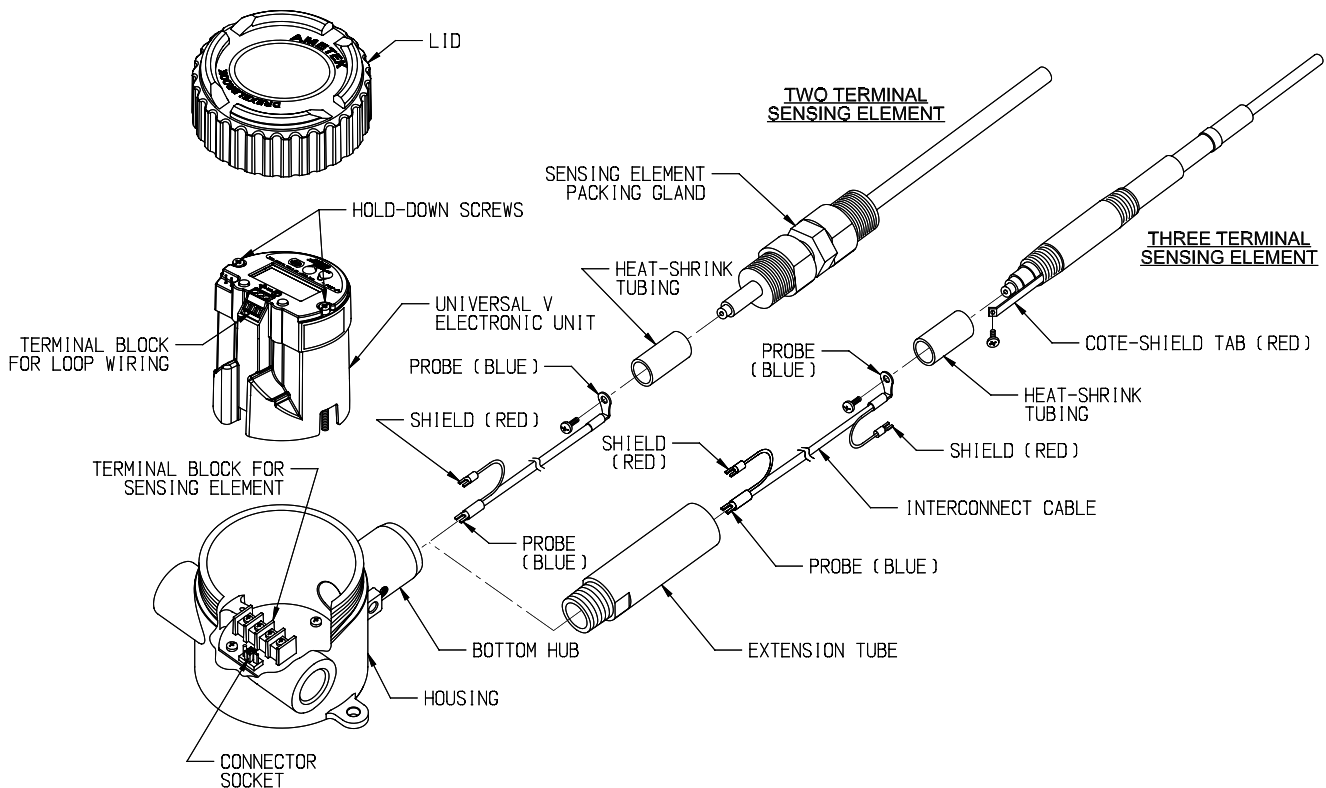
- Connect the loop wires to the terminal block on the top of the electronic unit.
- Reinstall the housing lid.



**Important:** The lid must be fully seated to insure a weather tight seal.



**Note:** For hazardous (classified) locations, refer to the: Universal V Installation and Operating Instructions (UV-LM)



## **Universal V Upgrade Package - Remote**

### **The Universal V remote upgrade package includes:**

- Universal V electronics in housing
- Remote GP cabling
- Probe and/or Signal Filter's in housing (if applicable)

### **Preparing your current system for upgrade:**

- Turn off power supply to electronics transmitter
- Open the lid to the transmitter housing
- Disconnect the loop power wires going to the electronics module
- If replacing your current GP cable, open the lid to the sensing element housing as well.

#### **For Universal IV:**

- Using a screwdriver, remove the two screws on the sides of the module and pull up on the module to remove from the housing.
- Disconnect the GP cable connections from the terminal stripe on the probe (green) board.
- If replacing your current GP cable, disconnect the GP cable connections from the sensing element as well.

#### **For Universal III & II:**

- Using a screwdriver remove the screws located at the foot of the rectangular electronics modules securing it to the housing.
  - Disconnect the GP cable connections from the terminal stripe on the back side of the electronics.
  - If replacing your current GP cable, disconnect the GP cable connections from the sensing element as well.
- Once disconnected, remove the old electronics housing from its mounting location and discard. This housing will not be re-used.

**Upgrading your system:**

- Remove the Universal V electronics module from its housing by removing the two side screws on the side of the module.
- Install your new housing in your desired or same location.
- Re-connect your GP cable to the probe (green) board inside the housing.
- If replacing your GP cable, connect the other end of the new cable to the sensing element.
- Re-install the Universal V electronics inside the housing, making sure it seats properly on the probe board connection.
- Tighten down the side screws on the electronics module
- Re-connect loop power supply wires to the electronics module.
- Re-apply power to the system to ensure system is operating.
- Follow commissioning and calibration procedures found in Universal V Instruction Manual
- Close and tighten the lid on the electronics housing and the sensing element housing if needed.



**Caution:** Do not over tighten the hold-down screws, 6 in-lbs (0.7 N-m) maximum torque.

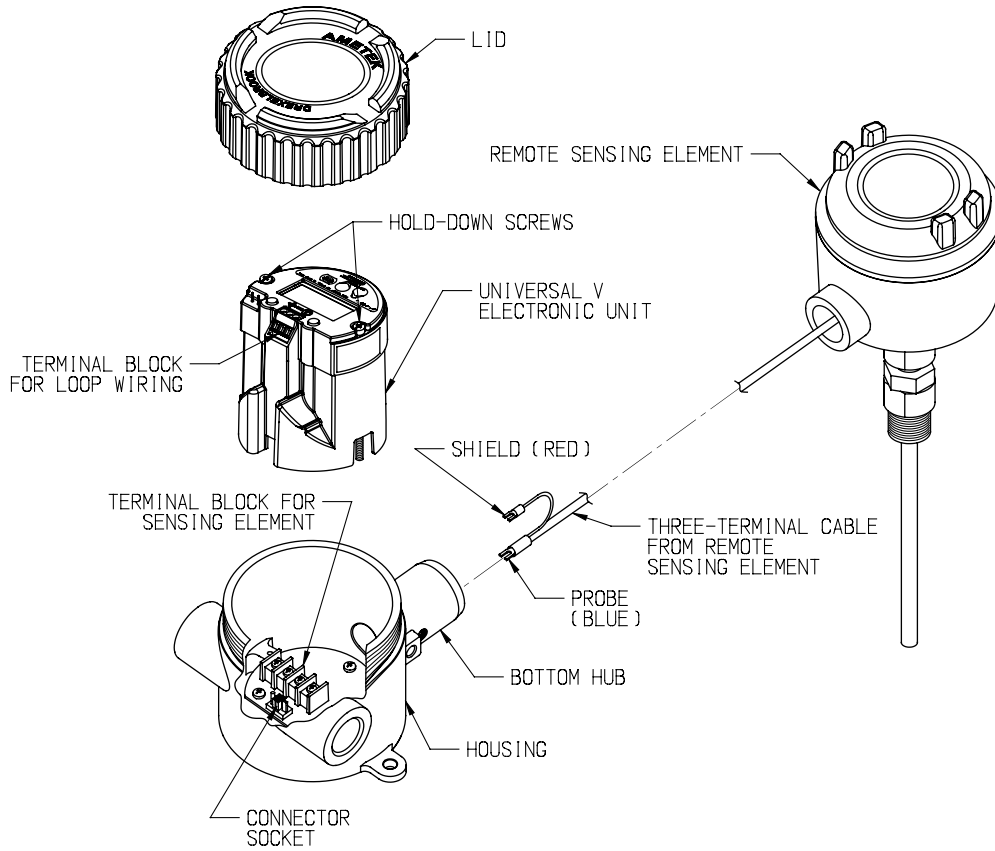


**Important:** The lid must be fully seated to ensure a weather-tight seal.

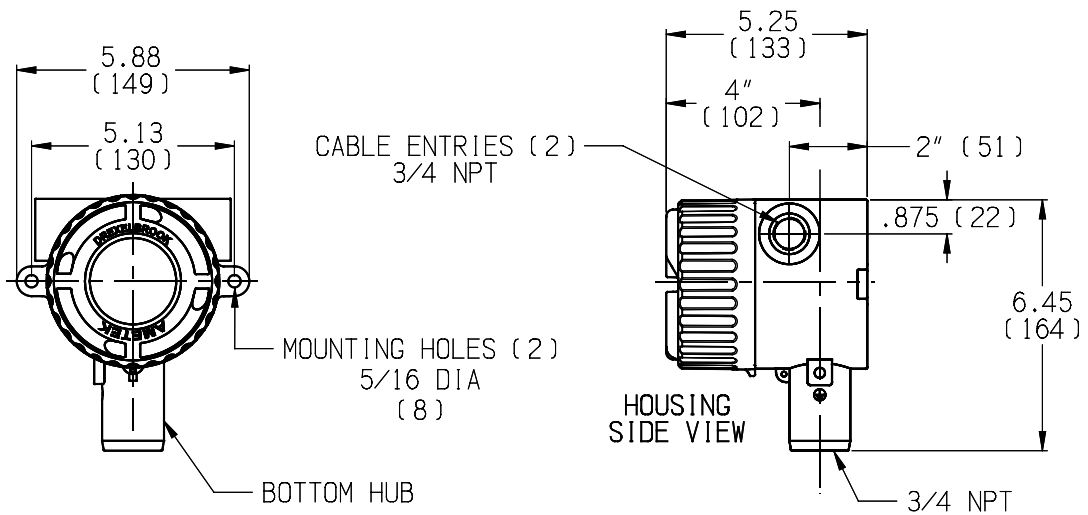


**Note:** For hazardous (classified) locations, refer to the Universal V Installation and Operating Instructions (UV-LM)

Remote Installation



Housing Dimensions



DIMENSIONS ARE IN INCHES (mm)



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