# BL-5308 Flow biCoder™
# Installation Guide

The Baseline BL-5308 biCoder is a two-wire decoder that is designed to work with most flow sensors and flow meters that produce a pulsed output. The BL-5308 Flow biCoder transmits the pulse data between the flow device and a BaseStation controller.

A flow sensor or flow meter measures the movement of the water as it moves past a sensor, typically in pulses per gallon. Baseline BaseStation controllers convert the pulse reading into a gallons per minute value. The K-value and Offset accounts for the pipe size when calculating water usage.

**Installation Instructions**

1. Power off the two-wire during the installation of any two-wire device.
2. Install the BL-5308 Flow biCoder as close to the flow device as possible. Follow the flow meter manufacturer's specifications for required straight pipe before and after the flow meter for accurate readings.
3. Connect the red and black wires from the BL-5308 Flow biCoder to the red and black wires from the two-wire field. Be sure to maintain polarity by connecting red to red and black to black. Use 3M™ DBR/Y-6 or equivalent moisture-resistant connectors for all of these connections. Leave 24 to 36 inches of slack on the two-wire to allow for easy installation and maintenance.
4. Depending on the flow device, connect the white, yellow, and blue wires from the BL-5308 Flow biCoder to the wires from the flow device. Use 3M™ DBR/Y-6 or equivalent moisture-resistant connectors for all of these connections.
   - For devices with two wires, see diagram A.
   - For devices with three wires, see diagram B.
5. Verify communications from the BaseStation to the Flow biCoder and complete configuration and setup according to the instructions in the controller's user manual.

**Notes**

- You must use a water meter register that provides at least 10 pulses per gallon. A Reed Switch Register does not generate enough pulses per gallon for meaningful flow measurements for many installations.
- You must have a water meter and register (pipe size and flow rate) that will generate at least 100 pulses per minute to have reasonable flow readings, and 200 pulses per minute is better.
- Netafim three-wire optically coupled register based water meters will operate across a large range of flow rates and are a good choice where extended range is important. More information at http://www.netafim.com or contact your local distributor.

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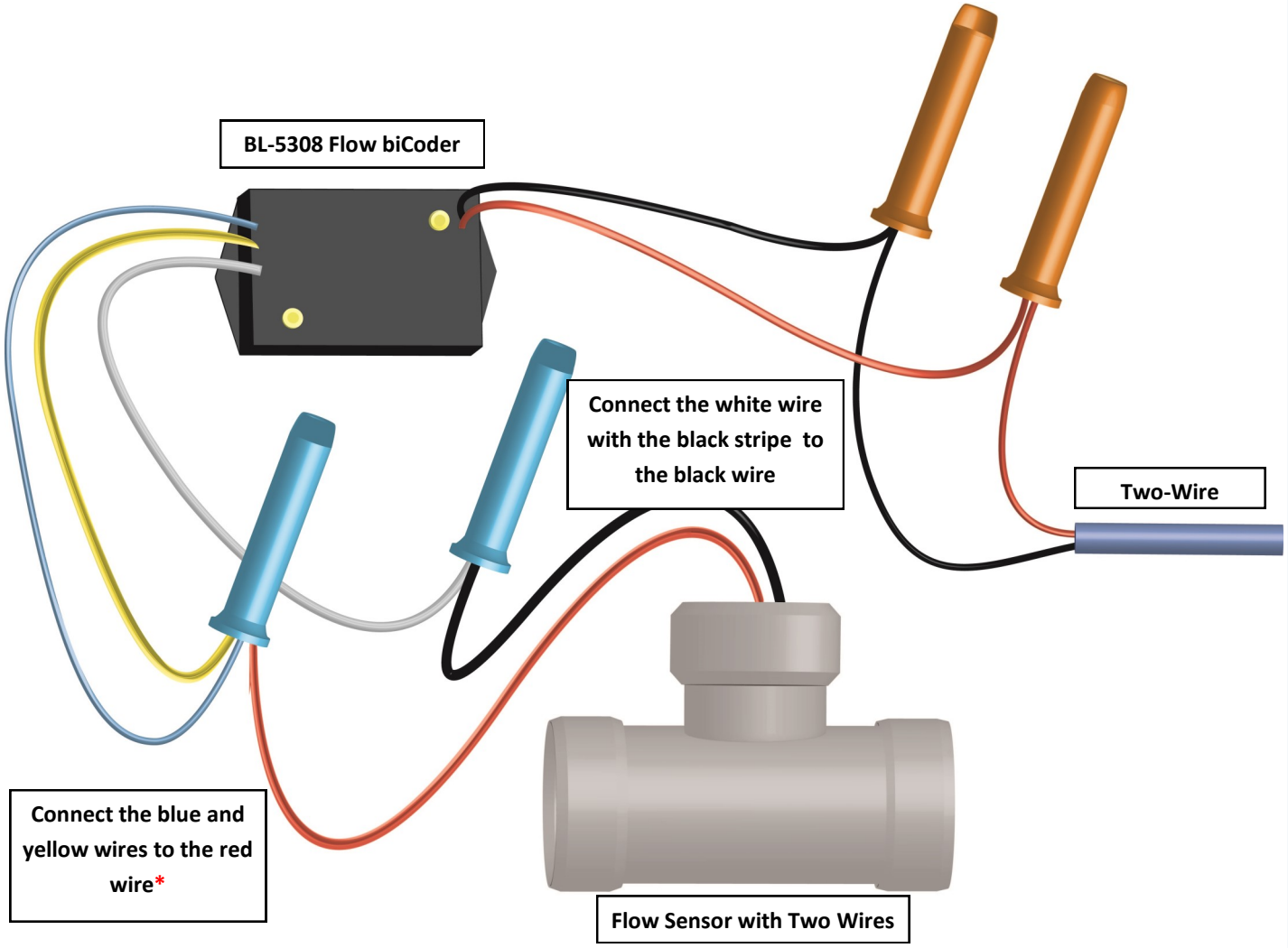
# Diagram A: Flow Devices with Two Wires

(Data Industrial Flow and Similar Two-Wire Sensors)




***IMPORTANT!**

Connect the blue wire only when power needs to be supplied to the flow sensor.

**BL-5308 Flow biCoder Wire Key**

**Blue wire = power**

**Yellow wire = sensor**

**White wire with black stripe = common**

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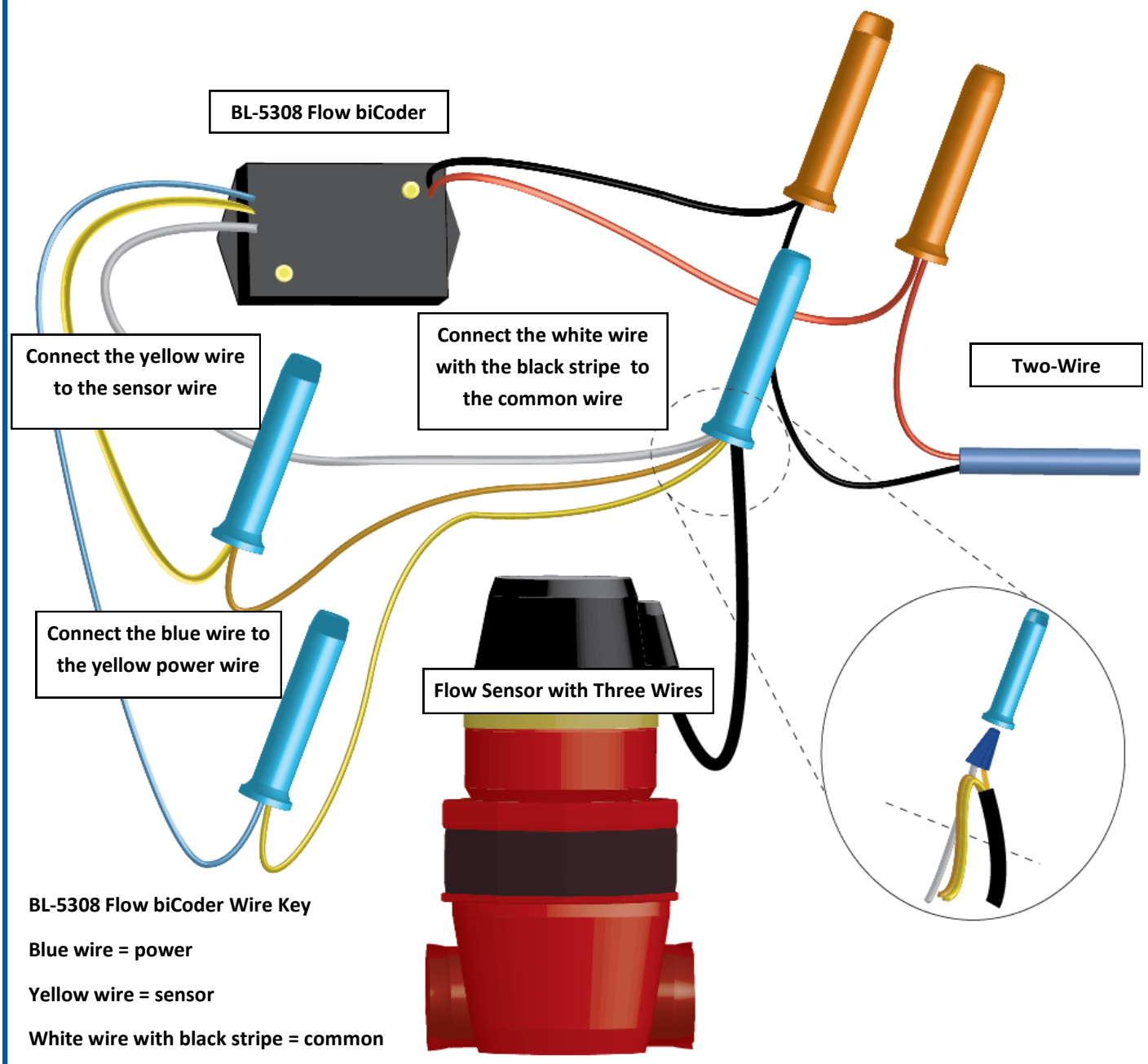
# Diagram B: Flow Devices with Three Wires

(Netafim or Similar Three-Wire Water Meters)




**BL-5308 Flow biCoder Wire Key**

**Blue wire = power**

**Yellow wire = sensor**

**White wire with black stripe = common**

**For Most Netafim Hydrometers (including Baseline BL-BHM series hydrometers):** Connect the bare copper wire, which is the common, to the white wire with the black stripe from the BL-5308. Connect the clear wire, which is the sensor wire, to the yellow wire from the BL-5308. Connect the yellow wire, which is the power wire, to the blue wire from the BL-5308.

# Common K-Values and Offsets

**Data Industrial — Calibration Table for Series 228PV**

| Model | Apparent ID for Series 1000, 900 | K Value | Offset | Suggested Operating Range (GPM) |
|---|---|---|---|---|
| 228PV15xx-xxx | 1.5 | 1.699 | -0.316 | 5-100 |
| 228PV20xx-xxx | 1.94 | 2.8429 | 0.1435 | 10-200 |
| 228PV30xx-xxx | 4.02 | 8.309 | 0.227 | 20-300 |
| 228PV40xx-xxx | 5.15 | 13.74283 | 0.23707 | 40-500 |

**Data Industrial — Calibration Table for Series 228BR, 228CB, 250BR, 228CS, 228SS**

| Model | Apparent ID for Series 1000, 900 | K Value | Offset | Suggested Operating Range (GPM) |
|---|---|---|---|---|
| 228BR20xx-xxxx | 1.99 | 2.747 | 0 | 10-100 |
| 228BR25xx-xxxx | 2.52 | 3.741 | 0.386 | 16-160 |
| 228CR20xx-xxxx | 2.07 | 2.809 | 0.276 | 12-120 |
| 150 PSI Tee | 2.07 | | | |
| 400 PSI Tee | 2.1 | 2.604 | 0.25 | 12-120 |
| 228BR20xx-xxxx | 2.51 | 3.74 | 0.277 | 16-160 |
| 228BR20xx-xxxx | 2.07 | 2.809 | 0.276 | 12-120 |
| 228BR20xx-xxxx | 1.99 | 2.747 | 0 | 10-100 |
| 250BR05xx-xxxx | | | | |
| Sch40 PVC | None | 0.337379 | 0.097041 | 0.8-8 |
| Sch80 PVC | None | 0.338073 | 0.134854 | 0.8-8 |
| Sch40 steel | None | 0.356212 | 0.075729 | 0.8-8 |
| Type L | None | 0.350899 | -0.321666 | 0.8-8 |
| 250BR07xx-xxxx | | | | |
| Sch40 PVC | None | 0.436827 | 0.567915 | 1-10 |
| Sch80 PVC | None | 0.43983 | 0.692372 | 1-10 |
| Sch40 steel | None | 0.434836 | 0.766196 | 1-10 |
| Type L | None | 0.432127 | 0.619813 | 1-10 |
| 250BR10xx-xxxx | 1.05 | 0.397368 | 0.261768 | 2-40 |
| 250BR12xx-xxxx | 1.38 | 0.76447 | 0.16489 | 3-60 |
| 250BR15xx-xxxx | 1.61 | 1.06526 | 0.0892 | 4-80 |