

Installation Manual for Analog (Hydrostatic) Depth Probe

1. Preparation and Operating Principle

The hydrostatic probe measures the pressure of the water column above the sensor. It is crucial to protect the probe's membrane from mechanical damage and direct impact from the river current.

 **Important:** The probe cable contains a special capillary tube (vent) that compensates for changes in atmospheric pressure. Do not bend, clog, or allow moisture to enter this tube!

2. Selecting the Installation Site

- **Stable Ground:** Choose a location next to a bridge pier, culvert, a steep bank reinforced with gabion baskets, or drive a dedicated mounting pile.
- **Depth:** The probe must be positioned below the lowest expected water level (even during droughts), but it should not rest directly in the silt or mud at the bottom.
- **Ice Protection:** Whenever possible, select a location where ice will not crush the sensor during winter.

3. Installation Methods (Choose the appropriate variant)

Variant A: Installation in a Protective Stilling Well (Highly Recommended)

Mounting the probe inside a vertical, perforated pipe (e.g., PVC or steel with a minimum diameter of 2 inches) protects it from river currents and floating debris.

1. **Pipe Preparation:** Drill holes (perforations) in the lower section of the pipe to allow water to flow freely while blocking larger sediments.
2. **Securing the Pipe:** Securely attach the pipe to the bridge wall or riverbank embankment using robust mounting brackets (clamps).
3. **Inserting the Probe:** Lower the probe into the pipe to the required depth. The probe should hang freely approximately 10–20 cm above the bottom of the pipe to prevent settling silt from coating it.
4. **Securing the Cable:** Secure the cable at the top of the pipe using a dedicated cable suspension clamp to relieve tension on the wire.

Variant B: Installation on the Riverbed in a Protective Cage (For shallow rivers or lack of infrastructure)

If vertical installation is not possible, the probe can be placed inside a heavy protective cage/basket directly on the riverbed or a sloped embankment.

1. Place the probe inside a heavy, perforated metal pipe or a dedicated stainless steel protective cage.
2. Anchor the cage securely to the riverbed, preferably in a depression, to prevent the current from shifting it.

3. Route the cable inside a flexible protective conduit (e.g., reinforced conduit or HDPE pipe) along the riverbed and bank all the way up to the junction box.

Hydrostatic Probe Installation Methods in Rivers

