

# EXPRESS KIT

A No Bells, No Whistles, Low Cost, *Right Now* solution to the Water and Natural Gas data acquisition problem.

Real-Time, Hi-Res, Non-Invasive.

Orders of magnitude more granular than utility data.

The '*Right Now*' solution for all 50,000 utility territories.

Without plumbers, or cut pipes, or futzing and fiddling for months with utility or plumber schedules.

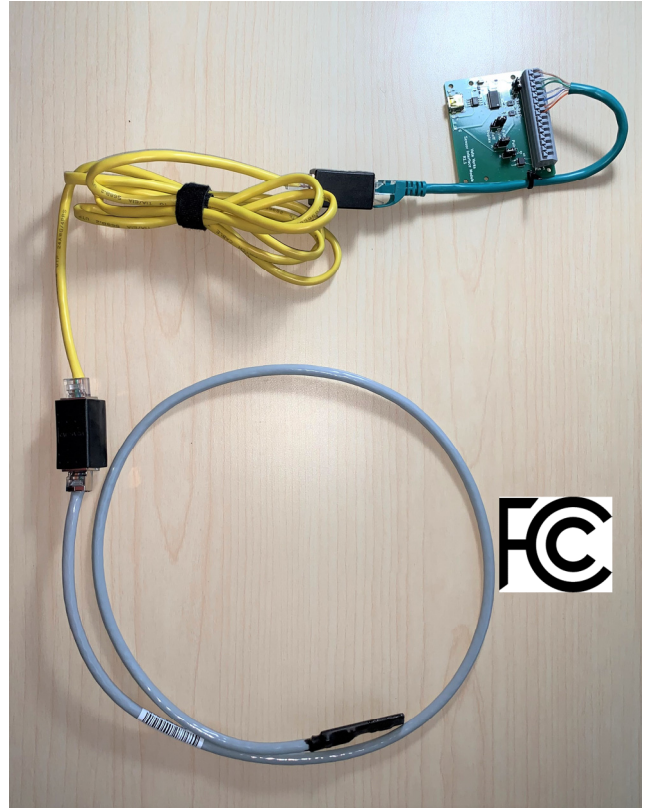
Without disruption to metering, plumbing, tenants, or your project.

## Applications

- Indoor or Outdoor Gas or Water Meters
- Whole building applications
- Projects requiring hi-res or hi-frequency data
- Disruption-restricted locations
- Approved for secure / government locations
- Digitizing old and new meters without replacement
- Baseline studies
- LEED and other Efficiency programs
- Cost and usage tracking
- Leak and anomaly detection
- Building security and oversight
- Research and development
- Continuous and Ongoing Commissioning

## Features

- Non-invasive, disruption-free water and gas data
- Burial-safe, water-proof.
- Auto calibrate / Auto track
- No plumber or utility involvement
- Low profile / inconspicuous
- Compatible with all meter sizes
- Compatible with >95% of installed utility meters
- Highest data Granularity / Resolution available
- Secure Data
- Up to 200 ft of Cat6 cable distance to sensor probe
- Modbus-RTU and PULSE Output



VV-102 with customer supplied CAT6 extension.



Building owners and facility managers need building Water and Gas usage data to track costs, detect anomalies and leaks, oversee operations, to improve efficiency, for boiler upgrades or CHP baseline studies, and as required by certifications such as LEED and some regional regulations.

Plumbed utilities, Water and Natural Gas are not like other tracked variables.

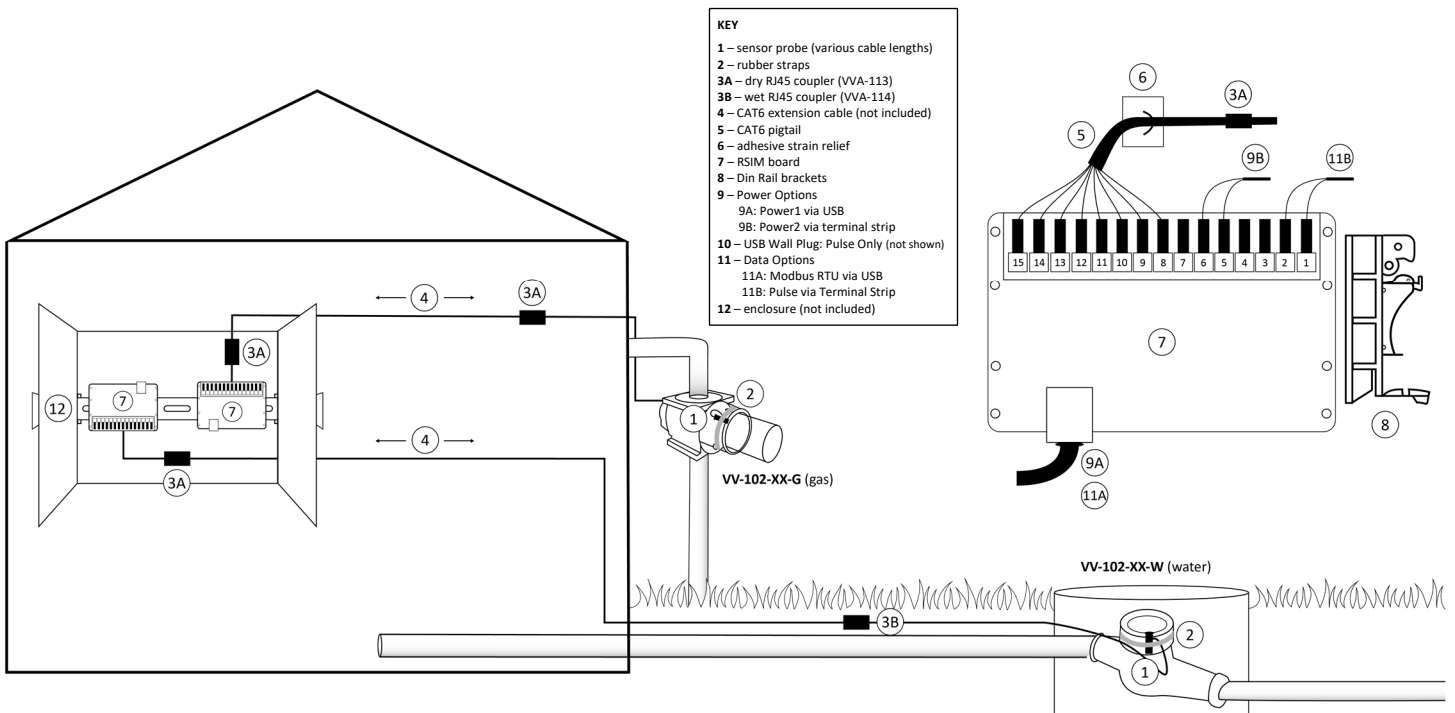
Until now usage tracking cost thousands in plumbers and disruption to building operations, off-hour installation, and weeks or months delay.

This is disruptive to project flow, requires property managers to participate in project coordination of multiple site visits, is expensive, and results in low-quality, “dirty” data. **A movie we have all seen before.**

Vata Verks leverages the meters that already exist in the building, eliminating hardware, and specialized installation. The sensor simply straps to the side of the Water or Natural Gas meter and is able to resolve hi-resolution, real-time flow information.

**No special installation skills or hardware.**  
**No disruption to project flow or building operation.**  
**No 3rd party involvement or coordination.**

Integrates with BMS and building monitoring systems.



## Meter Compatibility

### Water Optimized Version

All positive displacement, compound, multi + single-jet, piston meters

### Gas Optimized Version

All gas diaphragm, rotary, and most turbine meters

Compatible with over 95% of installed meters

*Not compatible with solid state meters, ultra-sonic meters, Sensus Omni turbine water meters.*

## Data Communication Protocols

- **Modbus-RTU** via **USB**  
Full Duplex / Terminated
- **PULSE** via **Twisted Pair**  
Solid state relay: AC or DC. No polarity.  
Max Voltage: 24Volts DC and 17V RMS AC  
Max Current: 1ADC and 0.5A AC RMS  
Isolation voltage is 1kV RMS  
Device is a CPC 1020N

## Data Resolution

Detects and totals meter revolutions for the calculation of flow volume. Resolution is proportional to meter size.

Example	Resolutions
<b>Smaller Water Meter</b>	2.13 oz.
<b>Smaller Gas Meter</b>	0.11 ft <sup>3</sup>

## Data Rate

User programmable to any rate, ≥1 second

## Data Accuracy

Water: > 99%  
Natural Gas: > 97%

## Data Ownership

- Owned and directly controlled by the user
- Suitable for government or secure locations

## Installation Limits

- -20C to 40C
- Not for hazardous locations

### Remote Probe

- Indoor / Outdoor: water, burial submersible safe
- 2M, 7M, and 15M CAT6 cable
- User extendable to 200 ft

## Included Components

- Sensor Probe + Control Board
- Din Rail mounting brackets
- Clearance holes for Raspberry Pi integration
- USB Cord + USB Wall plug
- Probe to Meter security strap
- (1) indoor RJ45 Coupler
- Adhesive strain relief + zip tie
- CAT6 pigtail

## Power

- Consumption: Less than 45mA Max
- 5V via USB wall adaptor
- +5VDC via Terminal Block
- User can provide battery back-up in parallel via terminal strip.

## Certifications

### Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance

**Product: VV-102**

Responsible Party

Vata Verks Inc

28 School St. Arlington, MA 02476

info@vataverks.com

### FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

VataVerks reserves the right to alter product offerings and specifications at any time without notice and is not responsible for errors that may appear in this document.