VATA VERKS
water and gas intelligence for buildings

Non-Invasive, Whole-Building
Water Data Acquisition   **VV – 102 – XX – W**
Gas Data Acquisition   **VV – 102 – XX – G**

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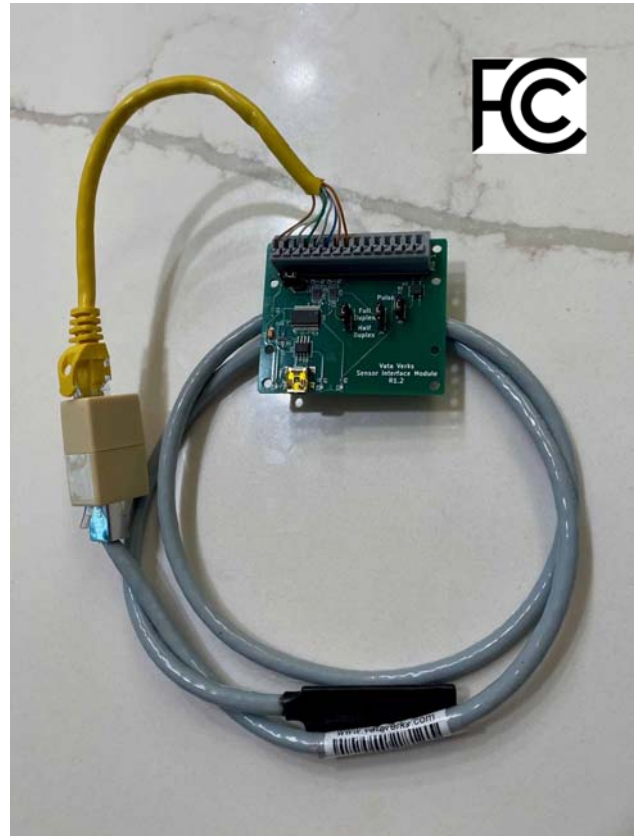**Without disruption to metering, plumbing, tenants, or your project.**

VV-102

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
- ESG, LEED and other efficiency reporting
- 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
- No plumber or utility involvement
- Burial-safe, water-proof probe
- Auto calibrate / Auto track / Auto re-calibrate
- Low profile / inconspicuous
- Compatible with all meter sizes
- Compatible with >95% of installed utility meters
- High data Granularity and Resolution
- Subscription Free

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VV – 102
DATA SHEET
Pulse and Modbus RTU

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 regional regulations.

Plumbed utilities, Water and Natural Gas are not like other tracked variables.
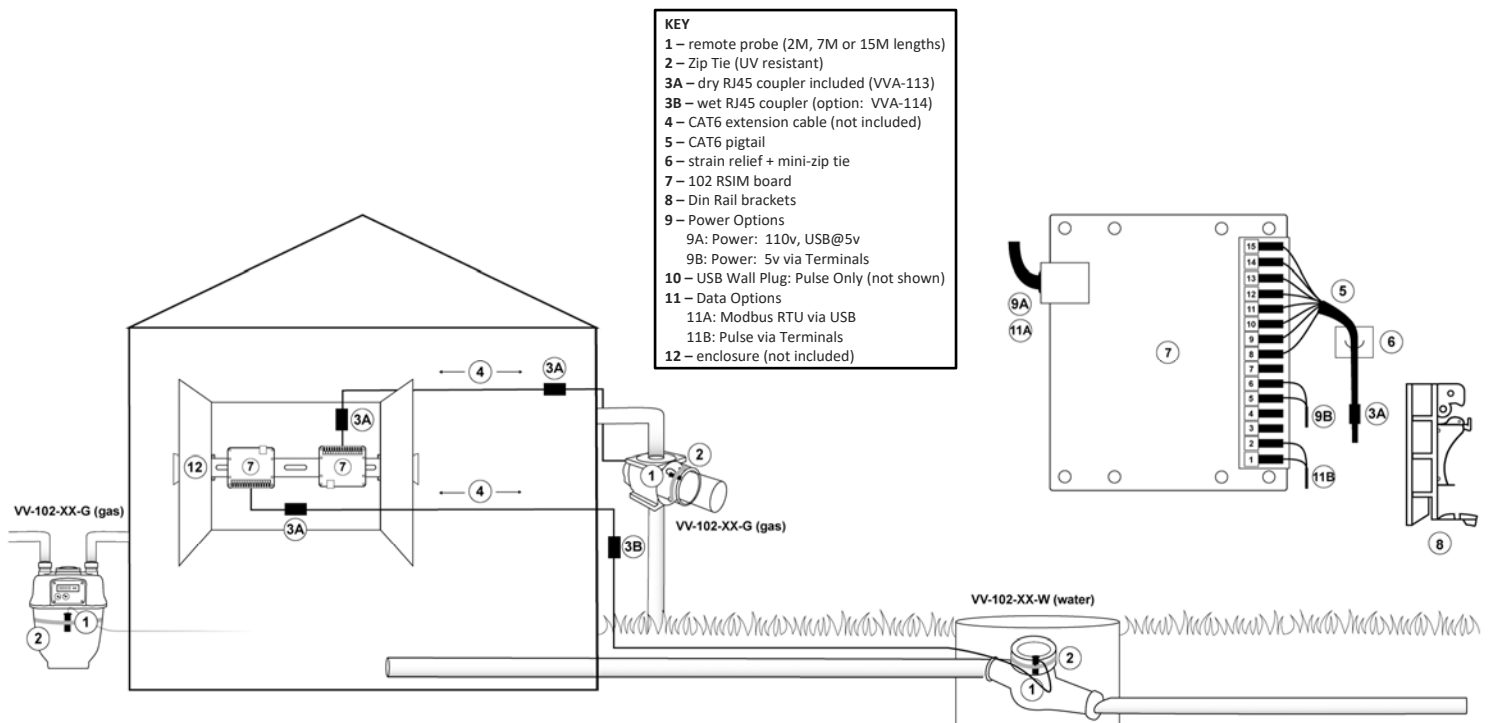
Until now usage tracking cost thousands in plumbers and disruption to building operations, off-hour installation, and weeks or months delay.

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 and off-hour installation.
The sensor simply straps to the side of the Water or Natural Gas meter and resolves 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.

KEY
1 – remote probe (2M, 7M or 15M lengths)
2 – Zip Tie (UV resistant)
3A – dry RJ45 coupler included (VVA-113)
3B – wet RJ45 coupler (option: VVA-114)
4 – CAT6 extension cable (not included)
5 – CAT6 pigtail
6 – strain relief + mini-zip tie
7 – 102 RSIM board
8 – Din Rail brackets
9 – Power Options
   9A: Power: 110v, USB@5v
   9B: Power: 5v via Terminals
10 – USB Wall Plug: Pulse Only (not shown)
11 – Data Options
   11A: Modbus RTU via USB
   11B: Pulse via Terminals
12 – enclosure (not included)

VV-102-XX-G (gas)

VV-102-XX-G (gas)

VV-102-XX-W (water)

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DATA SHEET
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Meter Compatibility

Water Optimized Models

Virtually all* positive displacement, compound, multi + single-jet, piston utility meters

Gas Optimized Models

Virtually all diaphragm, rotary, and turbine utility meters

Compatible with over 95% of installed utility meters
Not compatible with solid state meters, ultra-sonic meters
*For Sensus Omni water meters, see models VV-210, 230.

Data Communication Protocols

- **Pulse Features**
  - Pulse K-factor: 1 Rev min   (default = 1.0)
  - Pulse Width: 10 – 100 msec   (default = 50)
  - Pulses over Max rate are accrued until flow slows

- **Pulse Specification**
  - 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
  - Pulse Terminals: AWG 16 - 24

- **Modus-RTU Specifications**
  - Full Duplex / Terminated

Typical Data Accuracy*

- Water: > 99%
- Natural Gas: > 97%

*Maximum accuracy when k-factor field measured

Data Ownership

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

Sensors are used to acquire Water / Gas utility meter flow data.
Vata Verks assumes no liability for their use beyond cost of repair or replacement within warranty period. See Warranty for full details.

Included Components / Limits

Full Kit
  - -20C to 40C
  - Not for hazardous locations
- Sensor Probe
  - Indoor / Outdoor: water, burial, submersible safe
  - 2M, 7M or 15M long direct burial CAT6 AWG 23, RJ45 terminated, Pin out T568B User extendable to 60M / 200 ft Max
  - CAT6 pigtail
  - (1) indoor RJ45 Coupler
- 102 RSIM Board   (65mm x 56mm)
  - Dry Location: Typically, probe is extended so board mounts in communication enclosure.
  - Din Rail brackets
  - Clearance holes for Raspberry Pi integration
- 36" USB to mini-USB power & programming cord
  - 110v USB Wall plug
- Zip ties (2) for meter strapping
- Adhesive strain relief + mini-zip tie

Power

- Consumption: Less than 45mA Max
- Standard Power
  - 110v
  - USB@5v
  - 5v DC with AWG 16 - 24
- Optional Power
  - 12v / 24v: Accessory AC-108
  - 110v + Battery backup: Accessory AC-107

Certifications

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.