VuLink® Data Logger and Telemetry

VULINK CELLULAR IS A GLOBAL TELEMETRY DEVICE THAT WILL CHANGE THE WAY YOU THINK ABOUT REMOTE MONITORING. OUR TURNKEY SOLUTION IS EASY TO SET UP, WORKS FROM ANYWHERE, AND DELIVERS LONG-LASTING POWER. SO, YOU NEVER HAVE TO WORRY ABOUT YOUR EQUIPMENT OR YOUR DATA.

ONE-PRESS SETUP

- VuLink autodetects any In-Situ device with one button press or scheduled report. Icons indicate battery life, instrument connection, network connection and HydroVu® connection.

EXPANDED COVERAGE

- VuLink Cellular is truly global, offering cellular coverage across multiple networks. Future proof your system for decades with 4G LTE Category M1/NB-IoT technology, while ensuring backwards compatibility with quad-band 2G coverage.

FREE GLOBAL CELLULAR DATA

- VuLink offers free cellular data for life, right out of the box, no set up required. See back for details.

IN-WELL MOUNTING

- Save time and money by installing VuLink inside a 2-inch/50-mm well with standard well caps and casings to keep it secure and hidden from view.

in-situ.com

EXTENDED LIFE

- VuLink offers two-to-five times the battery life of similar devices. M1 and NB-IoT offer extraordinary power savings. And at faster reporting rates, VuLink offers exponential savings – more than two years of battery life at 15-minute reporting intervals.
- Say good-bye to custom, expensive batteries – VuLink uses off-the-shelf alkaline and lithium D cell batteries.

Applications:

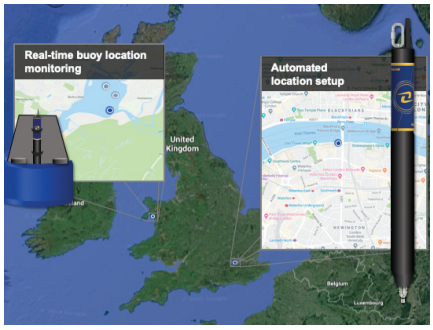
- CONTINUOUS GROUNDWATER MONITORING
- REMOTE SURFACE WATER MONITORING
- RIVER GAGING
- SALT WATER INTRUSION MONITORING
- STORMWATER MONITORING
- REMEDIATION
- WASTE MANAGEMENT
- IRRIGATION
- MINING WATER MANAGEMENT
- INDUSTRIAL AND MUNICIPAL

VuLink Data Logger

ELECTRICAL	
BATTERY	3 x D cell (1.5 V - 3.6 V) Alkaline / Li-$SOCl_2$ [Lithium Thionyl Chloride] / Li-MnO_2 [Lithium Manganese Dioxide] supported. **Li-MnO_2 [Lithium Manganese Dioxide] recommended for best performance**
OPERATION TIME (24 hour reporting, Li-MnO_2)	Up to 12 years*
OPERATION TIME (24 hour reporting, Alkaline)	Up to 3 years*
OPERATION TIME (hourly reporting, Li-MnO_2)	Up to 2 years*
CLOCK ACCURACY	Less than 1 minute drift per year with ability to synchronize to network provided time for accuracy +/- 1 second
NETWORK COMMUNICATION	
NETWORK TYPE	4G LTE Category M1 (LTE-M) / NB-IoT (Narrow Band) with 2G fallback
BANDS	**LTE Global -** B1(2100), B2(1900), B3(1800), B4(AWS1700), B5(850), B8(900), B12(700), B13(700), B18(800), B19(800), B20(800), B28(700) **Verizon -** B4(AWS1700), B13(700) **2G Quadband -** B2(1900), B3(1800), B5(850), B8(900)
PROTOCOLS	HTTPS (HydroVu), FTP, SMS (alarms)
DATA PROVIDER	Built-in free** global roaming (see Network List Addendum for details: in-situ.com/VuLinkNetworks), additional single 4FF slot for 3rd party SIM support
ANTENNA	SMA-M connector
GPS	Up to 3 m accuracy, built-in antenna
FILE FORMAT (non-HydroVu)	CSV
REMOTE SETUP	Supported
MECHANICAL	
DIAMETER	47 mm (1.85 in)
LENGTH	485 mm (19.1 in)
WEIGHT	1.0 kg (2.2 lb) (with included alkaline batteries and carabiner, excluding antenna)
MATERIALS	Polyphenylene Sulfide (housing), Polyvinyl Chloride (battery cover), Titanium (Twistlock connector, ring, eyebolt), 316 Stainless Steel (carabiner), Silicone (keypad cover), Brass (SMA antenna connector), Polycarbonate (label), FKM Fluoroelastomer (O-rings)
STORAGE TEMPERATURE	-20° C to 60° C (-4° F to 140° F)
OPERATING TEMPERATURE	-20° C to 50° C (-4° F to 122° F) (Li-SOCl2/Li-MnO2), 5° C to 40° C (41° F to 104° F) (Alkaline)
INGRESS PROTECTION	Device: IP68 System: Up to IP68 per antenna specification
INSTRUMENT COMMUNICATION	
PROTOCOLS	Modbus over RS-485, Pulse low/high frequencies (max 40 kHz)
CONNECTORS	1 In-Situ Twistlock (supports multiple instruments via Rugged Cable Splitter, TROLL Net Hub, or Load-Bearing Universal Adapter)
SIMULTANEOUS CONNECTIONS	Up to 8 instruments (please refer to power limits below)
VENTING	Built-in on all models, no desiccant required
BAROMETRIC COMPENSATION	Built-in on all models for automatic compensation of non-vented level readings
BAROMETER ACCURACY	+/- 1 hPa
ALARMS	Configurable based on instrument readings and device parameters, second reading/reporting schedule available when in alarm state
POWER	Li-MnO_2: Total maximum of 300 mA provided to connected instruments at 16 V Other battery types: Total maximum of 75 mA provided to connected instruments at 16 V (typically intended to power a single instrument)
SETUP	
WIRELESS SETUP	Supported via Bluetooth Low Energy
LOGGING RATE	1 minute to 7 days
TRANSMISSION RATE	5 minutes to 7 days
MEMORY	512 MB (soldered to circuit board)
WARRANTY	**2 YEAR**

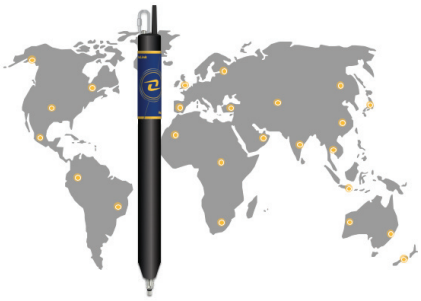
* Measured at a temperature of 23° C (73° F), LTE-M network connectivity, internally-powered instrument

** Free up to 1 transmission of 24 data points per day for life of instrument, additional plans can be purchased at hydrovu.com



Continuous GPS – HydroVu uses VuLink's GPS to automatically locate and mark devices on maps, syncing devices and locations, increasing data quality, and making it easier to track free-floating buoys.

Encrypted Connections – VuLink and HydroVu offer SSL encryption of your data.



Free Global Cellular Data – VuLink and HydroVu offer free data up to 1 transmission for 24 data points per day. Additional plans can be purchased at Hydrovu.com. No more worrying about provisioning SIM cards and checking multiple systems for data usage. VuLink works with all LTE networks that support LTE-M1/NB-IoT. For a complete list visit in-situ.com/VuLinkNetworks.

Expanded Connectivity – VuLink also can read high frequency and low frequency pulse inputs, configured in VuSitu. And the device's new **Load-Bearing Universal Adapter** can connect to anything.

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