In-Situ
YOUR EYES IN THE FIELD

VuLink Data Logger and Telemetry

VULINK IS A GLOBAL CELLULAR AND SATELLITE 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 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.
- VuLink is also the first in-well Iridium satellite device featuring customized data compression and low power usage to lengthen battery replacement cycles.

FREE GLOBAL CELLULAR DATA

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

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:

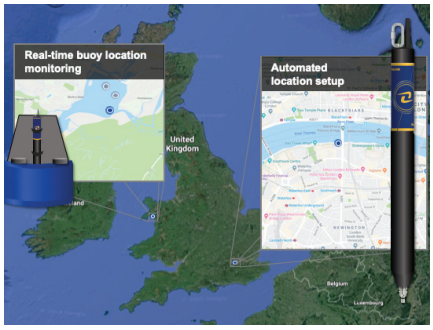
- CONTINUOUS GROUNDWATER MONITORING
- REMOTE SURFACE WATER MONITORING
- RIVER GAUGING
- SALT WATER INTRUSION MONITORING
- STORMWATER MONITORING
- REMEDIATION
- WASTE MANAGEMENT
- IRRIGATION
- MINING WATER MANAGEMENT
- INDUSTRIAL AND MUNICIPAL

www.in-situ.com

1-800-446-7488 (toll-free in U.S.A. and Canada)
1-970-498-1500 (U.S.A. and international)

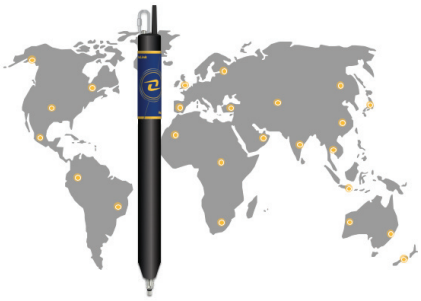
VuLink Data Logger

ELECTRICAL	CELLULAR	SATELLITE
BATTERY	3 x D cell (1.5V - 3.6V) 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*	Up to 3 years*
OPERATION TIME (24 hour reporting, Alkaline)	Up to 3 years*	Up to 1 year*
OPERATION TIME (hourly reporting, Li-Mno_2)	Up to 2 years*	Up to 6 months*
CLOCK ACCURACY	Less than 1 minute drift per year with ability to synchronize to network provided timefor accuracy +/- 1 second	
NETWORK COMMUNICATION	**CELLULAR**	**SATELLITE**
NETWORK TYPE	4G LTE Category M1 (LTE-M) / NB-IoT (Narrow Band) with 2G fallback	Iridium Short Burst Data
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)	N/A
PROTOCOLS	HTTPS (HydroVu), SMS (alarms)	HydroVu
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	Iridium Short Burst Data
ANTENNA	SMA-M connector	
GPS	Up to 3m accuracy, built-in antenna	
FILE FORMAT (non-HydroVu)	CSV	N/A
REMOTE SETUP	Supported	
MECHANICAL	**CELLULAR**	**SATELLITE**
DIAMETER	1.85 in / 47 mm	
LENGTH	19.1 in / 485 mm	
WEIGHT	2.2 lb / 1.0 kg (with included alkaline batteries and carabiner, excluding antenna)	
MATERIALS	Ryton (housing), PVC (battery cover), Titanium (Twistlock connector, eyebolt), 316 Stainless Steel (carabiner), Silicone (keypad cover), Brass (SMA antenna connector), Polycarbonate (label), Viton (O-rings)	
STORAGE TEMPERATURE	-20°C to 60°C	
OPERATING TEMPERATURE	-20°C to 50°C (Li-SOCl2/Li-MnO2), 5°C - 40°C (Alkaline)	
INGRESS PROTECTION	Device: IP68 System: Up to IP68 per antenna specification	
INSTRUMENT COMMUNICATION	**CELLULAR**	**SATELLITE**
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 (total maximum of 75mA provided to connected instruments at 16V)	
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	Total maximum of 75mA provided to connected instruments at 16V (intended typically to power a single instrument)	
SETUP	**CELLULAR**	**SATELLITE**
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**	



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 with HydroVu offers SSL encryption of your data, and VuLink can password protect all local connections to prevent backdoor access.



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.

www.in-situ.com

* Measured at a temperature of 23°C, LTE-M network connectivity, internally-powered instrument
** Free up to 1 transmission of 6 data points per day for life of instrument, additional plans can be purchased at hydrovu.com

1-800-446-7488 (toll-free in U.S.A. and Canada) • 1-970-498-1500 (U.S.A. and international)
221 East Lincoln Avenue, Fort Collins, CO 80524 USA