



## Cellular Network Telemetry Systems

Quickly connect to remote monitoring stations by using cellular network technology. Economical, secure telemetry systems reduce data collection costs by providing real-time access to data, event notifications, and system status updates. Superior power supply management ensures long-lasting, independent operation at remote sites.

### Real-Time Data

- Easily integrate systems into HydroVu data services for real-time evaluation of site data and conditions.
- Receive automatic data log uploads to your email, FTP site, or other current data management platform at customized intervals.
- Never miss a data point. The system recognizes missed data and sends that data on the next transmission.

### Real-Time Decisions

- Integrate with HydroVu for up-to-date access to your data in the format you want, whenever and wherever you are, while simplifying the task of filtering the data for important results.
- Quickly respond to user-defined field events or to tampering. Automatic alarm notifications are sent to your email or phone via text message.
- Significantly reduce site visits. Receive system status updates, diagnose problems, and perform preventative and corrective maintenance from your office.

**Tube Systems:** For in-well deployments and low-profile installations, choose the battery-powered Tube 300R. For high-frequency sampling, choose the solar-powered Tube 300S.

**Cube Systems:** For sites that require multiple sensors, choose the battery-powered Cube 300R or the solar-powered Cube 300S. Connect up to five instruments to one Cube.

Both the Tube and Cube Systems offer data logging and transmission, and alarm notifications for parameter thresholds, instrument malfunction, and tampering detection.

### Real-Time Support

- Receive free, 24/7 technical support and online resources.
- Order instruments and accessories from the In-Situ website.
- Troubleshoot deployment issues by using an external mode.
- Duplicate logs on the data logger and the telemetry system for confidence in the most remote locations.

### Applications

- Long-term groundwater and surface-water monitoring
- Event notification-crest stage gages, flood warning system, storm surge, slope stability
- Mine dewatering and acid mine drainage
- Stormwater management
- Tide gaging

General	Tube 300R	Tube 300S	Cube 300R	Cube 300S
<b>Operating ranges</b>	Temp: -20-70° C (-4-158° F) Humidity: 95% max. n.c.	Temp: -20-70° C (-4-158° F) Humidity: 95% max. n.c.	Temp: -20-70° C (-4-158° F) Humidity: 95% max. n.c.	Temp: -20-70° C (-4-158° F) Humidity: 95% max. n.c.
<b>Diameter, maximum</b>	Tube: 5 cm (1.97 in.) Top cap: 5.1 cm (2.0 in.)	Tube: 7 cm (2.75 in.) Top cap: 7.5 cm (2.95 in.) (with solar panel)	NA	NA
<b>Dimensions</b>	Length: 48 cm (18.9 in.)	Length: 48 cm (18.9 in.)	20 x 18 x 8.5 cm (7.87 x 7.1 x 3.35 in.)	36 x 24 x 13 cm (14.2 x 9.4 x 5.1 in.)
<b>Weight with battery</b>	1730 g (3.81 lbs)	1670 g (3.68 lbs)	1345 g (2.965 lbs)	3100 g (6.83 lbs)
<b>Materials</b>	Stainless steel	Methacrylate, 5 mm thick	GW PLAST 75	GW PLAST 75
<b>Ratings</b>	IP68 (cannot operate submerged)	IP65	IP65	IP65
<b>Power</b> Internal Battery	Battery Lithium 10.8V / 19000 mAh	Solar panels integrated NiCd 7.2V / 1400 mAh	Battery Lithium 10.8V / 19000 mAh	Solar panels integrated NiCd 7.2V / 1400 mAh
<b>Connectors</b>	1 twist-lock connector	1 twist-lock connector	5 twist-lock connectors	5 twist-lock connectors
<b>Operation Time</b>	Up to 5 years when logging every 10 min. and uploading data 1/day	Solar panel power: Unlimited, depending on sunlight exposure and programmed activities	Up to 5 years when logging every 10 min. and uploading data 1/day	Solar panel power: Unlimited, depending on sunlight exposure and programmed activities
<b>Common Specs</b>				
<b>Sensor compatibility</b>	Aqua TROLL 100/200 Data Loggers; Aqua TROLL 400 Multiparameter Instrument; BaroTROLL Data Logger; Level TROLL 400/500/700/700H Data Loggers; TROLL 9500 Multiparameter Instrument; Rugged Troll 200; RDO Pro-X			
<b>Communication</b> Antenna	GSM quad band—850, 900, 1800, 1900 MHz (capable of GPRS, SMS, email, and FTP); 2G or 3G available SMA connector with stud antenna or optional external antenna for Tube 300R			
<b>Data access/storage</b> Data access Data storage Data format	Via email or FTP; via cable; and real-time via GSM/GPRS direct call or HydroVu data services SD Flash memory, 512 MB (not replaceable) CSV file			
<b>Programming</b> Programming mode Operation mode	Through ANT tool communication software, via cable, or remotely via landline or GSM modem Through communication software tool via direct connection to a PC or remotely through GSM modem or landline modem. 1. Up to 8 programmable events/day; data transmission; or SMS transmission 2. Automatic data logging (reading interval: 1 minute to 24 hours) 3. Alarm transmission (SMS) 4. Data logging and batch transmission of stored data. Connect up to 5 probes and log all available (includes data from internal barometric pressure sensor).			
<b>Interfaces</b> Serial Interfaces	RS232 or RS485 software selectable (with automatic RS232 switching when a PC connection is detected)			
<b>Alarm capability</b> Capacity Sources SMS limits	The unit can generate an alarm if tilted or disconnected; if exceeds critical temperature values or parameters threshold values; or if battery levels reach critical. Via SMS. 2 recipients Up to 8 alarm sources User Set or Programmable			
<b>Real-time clock/calendar</b>	Built-in			
<b>Sensors</b>	Built-in barometric pressure sensor included with non-vented systems, which automates barometric pressure compensation for non-vented water level sensors. Built-in temperature sensor			
<b>Warranty</b>	<b>1 year</b>			
<b>Notes</b>	* Refer to Alarms section in manual. Alarm sources: reset, temperature, tilt sensor, data send failure, low battery, probe reading out of range, tamper, log memory full or error, and probe reading error. Specifications subject to change without notice.			