Multi-purpose data logger

The **Tadpole GSM/GPRS data logger** is the latest addition to our exisiting range of robust telemetry solutions manufactured by **Isodaq Technology,** a division of Hydro-Logic Ltd. All our products are desgined for water and environmental monitoring applications where systems are operated at remote sites often in hostile environments. **Tadpole** is an environmentally sealed battery-powered logger which stores values in memory and transmits data at intervals or on alarm activation via GPRS to a telemetry server. Battery options include alkaline and lithium packs providing upto 7yrs life (strong signal; daily data transfers).

Typical real-time monitoring applications include:-
* Rainfall intensity monitoring with alarms
* Wind profiling or weather monitoring
* Water level in rivers, lakes and boreholes
* Water quality monitoring
* Flood and pollution warning

Rapid deployment at remote sites

Tadpole connects to a wide range of single input digital or analogue sensors or multi-parameter SDI-12 sensors – the ideal multi-purpose device for hydrometric applications. **Tadpole** also offers savings for ease of deployment at low cost inside rain-gauges, small enclosures or slotting inside 50mm piezometers.

Model D (IP65) for enclosures or recording rain-gauges
• Designed in collaboration with Casella Measurements
• Seperate telemetry logger unit with external battery options
• Choice of GSM/GPRS antennae fits inside/outside enclosure

Model S (IP68) for 50mm piezometers or riverside tubes
• Hangs inside 50mm tube and sits on metal cable hanger
• Interchangeable 64Ahr battery pack with IP68 connector
• Range of breather and lockable well cap accessories

Digital & Analogue sensor inputs

Status, event/frequency, 4-20mA or SDI-12 options

Rain-gauges:-
Casella Tipping-bucket gauge
Environmental Measurements gauge
MPS weighing principle gauge (SDI-12)

Wind-speed and direction:-
Gill Instruments Windsonic (SDI-12)

Mini-weather stations:-
Gill Instruments MetPak (SDI-12)
Vaisala WXT520 (SDI-12)

Depth pressure transmitters:-
Impress Sensors, 4-20mA or SDI-12 with T.
In Situ Inc depth, temp, EC (SDI-12)

Water quality probes:-
Ponsel single or multi-parameter probes
In Situ multi-parameter probe (SDI-12)
Aquaread single or multi-parameter probes

Tadpole GSM/GPRS telemetry logger
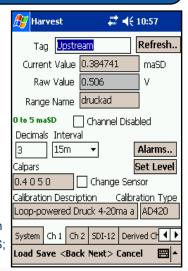
Key features & benefits

- Ultra-low powered data logger with on-board GSM/GPRS modem ideal for remote site data capture
- Digital or Analogue inputs plus SDI-12 Multi-parameter sensors supported
- Choice of IP65 or IP68 environmentally sealed models for different applications
- Single-input connection for up-to 8 channel logging
- Rapid deployment for fitting inside 50mm piezometer tubes or inside many tipping-bucket rain-gauges
- Field replaceable battery packs with range of alkaline, lithium packs plus external 12V lead-acid option
- End-to-end dial-out button to test comms during installation; GSM signal survey kit also available
- SIM card accessible via removable cap
- Alarm functions with upto 4 set-points per channel including storm intensity; hysteresis function

Control & telemetry software options

Options for logger control and automatic data capture:-

- **Harvest Windows** - licence-free for configuration and on-site data collection using portable or tablet PC
- **Pocket Harvest** - for Windows Mobile PDAs including ruggedised Juniper Archer PDA
- **IDQTel Windows software** - auto-polling scheduled data collection and alarm forwarding for small networks
- **Timeview Telemetry Virtual Appliance Server** - auto-polling scheduled data collection and alarm forwarding for large networks
- **Timeview Telemetry Web-service** - secure web-site data hosting, graphics display and file download application, with automatic data collection/alarm forwarding option via GPRS; annual subs, service or licenced software

Detailed technical specification

Digital Input
- 2s event timing resolution
- 65000 event count
- 650Hz max frequency
- On/off status
- 10K internal pull-up resistor

Analogue Input
- 4-20mA current loop and loop powered
- Resolution - 16bit A-D converter
- Accuracy - 0.1%

SDI-12 Input
- 8 Channels
- Up to 8 sensor addresses

Storage Capacity
- 29768 16-bit readings
- Up to 8 channels, logged or derived

Logging Intervals & Strategies
- Cardinal point interval
  10s, 30s, 1m, 2m, 5m, 15m, 30m
  1h, 2h, 3h, 4h, 6h, 8h, 12h.
- Event times (e.g time of tip)
- Frequency pulse count per interval

NB—All channels set independently.

Battery options
- Lithium: 16Ah, 1xD cell in holder OR 64Ahr, 4xD cell sealed pack OR 64Ahr, 4xD cell wrapped pack
- Alkaline: 16Ah, 4 x D cell wrapped pack
- 6v or 12V external lead-acid battery

Power Output
- Switched 12V
- 120mA output current
- Configurable sensor warm-up

Communications
- Local RS232 to PC serial or USB
- Internal GSM/GPRS modem (800/900/1800/1900Mhz)
- SIM card accessible via removable cap
- External socket with choice of antenna
- GPRS fixed address option
- Modbus ASCII protocols OR DNP3 protocols for SCADA integration

Enclosure & environment
- Encapsulated board with moulded plastic end caps all sealed to IP68
- Model S IP68 standard
- Model D IP65 standard
- Operating limits—- 40 to +70 deg. C 0-100% relative humidity
- Model S— 4-pin Hirschmann socket with input plug supplied
- Model D— 6 x 4.8x0.8mm spade connectors (2 are for battery, 4 are for sensor connections)

Dimensions
- Diameter - 48mm
- Length Model D - 160mm excluding fitted antenna
- Lenght Model S - 215mm excluding fitted antenna