

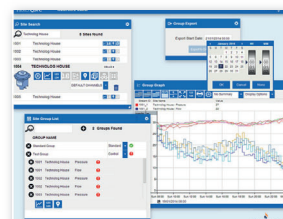
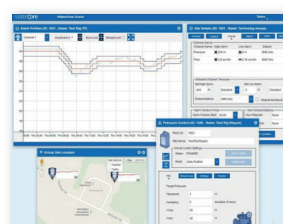
Cello 4S

A remote telemetry outstation delivering a scalable and versatile solution for reducing operating and capital costs.

Multiple site parameters are monitored, recorded and transmitted over 2G (SMS/GPRS), NB-IoT and LTE Cat M1 networks, providing a comprehensive multi-application solution for the Utilities and Industry.

Key Features

- Future ready. Support for LTE Cat M1 and NB-IoT leverages low power network capability for greater energy efficiency
- Flexible communication supporting either 2G / NB-IoT / LTE Cat M1 networks
- Physical build options for up to two pressure and eight user programmable digital or analogue inputs
- Two independent digital outputs configurable for external power control, alarm signalling or switching 12 Volt outputs for powering 4-20mA loops
- Proven bidirectional Cello communication with automatic gap filling ensuring high level data reliability and supporting remote product configuration
- Remote set-up, monitoring and control through locally deployed PMAC software or web based WaterCore platform
- Models available to facilitate closed loop control of pressure reducing valves, pressure sustaining valves and variable speed pumps
- Water temperature measurement
- Advanced channel profile and threshold alarms
- High frequency (100 Hz) pressure transient detection critical to extending asset life and network modelling
- Low power design. Support for external battery packs and DC supply
- Rugged, portable and waterproof to IP68



Technical Specifications

Standard Build Options

Inputs	2i - Configurable for up to two digital or analogue inputs 1P - One internal or external pressure transducer 1P2i - Configurable for one internal or external pressure transducer and up to two digital or analogue inputs 2P2i - Configurable for up to two internal or external pressure transducer and up to two digital or analogue inputs 1P7i - Configurable for one internal or external pressure transducer and up to seven digital or analogue inputs 8i - Configurable for up to eight digital or analogue inputs; supporting 12v flash powering
Pressure Sensors	1P, 1P2i, 2P2i & 1P7i options only Input range: 0 - 100 m, 0 - 200 m; 0 - 10 bar, 0 - 20 bar; 0 - 150 psi, 0 - 300 psi Programmable: +/- 0.5% or +/- 0.1% resolution F.S. - Supports average and statistical recording of pressure (min, max, mean, standard deviation) over logging interval
Outputs	1P7i & 8i options only: Two independent digital outputs for external power control and alarm signalling (0 & 3 volt levels, active low, 100k output impedance) or two individually switched 12 Volt outputs for powering 4-20mA loops

Standard Specification - Common to all Variants

Electrical Inputs	Configurable channel strategies: Voltage, event, tamper / status, count, frequency and encoder Digital: Pulses counted over, and recorded at, pre-set intervals. Tamper/status and event time supported Frequency input: Switch closures or logic pulses, maximum frequency 16 kHz, programmable sampling period Analogue: 0 - 2.5V, 0.01V resolution as standard, <1mV with 8 channel option
Modem	Integral antenna: Optional external antenna - Support for 2G, NB-IoT and LTE Cat M1 frequencies (subject to build option) SIM: User replaceable SIM card
Data Transmission	Type: 2G, NB-IoT and LTE Cat M1 networks (subject to build option) Interval: 1 min to 1 month at programmable date and time
Memory	Size: 512K volatile data storage, allocable between channels as required (max 64K per channel)
Clock	Type: Crystal controlled calendar clock with leap year adjustment - Option to synchronise clock to local network at regular intervals
Supply	- User replaceable Internal lithium battery pack, typical battery life > 5 years depending on mode of use - High capacity external lithium battery pack, user replaceable
Recording	Interval: Programmable between 1 second and 1 hour Data storage: Rotating store or store until full
Alarm Dial-Out	- Four threshold and profile alarms, independently configurable on each channel - Option to update data on alarm and more frequently thereafter
Environmental	Operating ambient temperature: -20°C to +60°C Ingress protection classification: IP68 (submersion at 1m depth for 48 hours)
Mechanical	Dimensions (mm): 149 x 146.5 (h) Weight: 0.750kg

