Cello

A Universal Solution for Remote Monitoring of Networks

TECHNOLOG

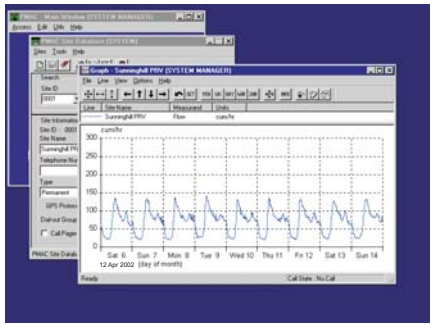
Cello is a new family of fully integrated wireless data loggers.

The nationwide GSM network is used to transfer recorded data and alarm messages to a host computer.

Housed in a rugged, waterproof enclosure, Cello is suitable for installation in underground chambers avoiding the inconvenience and expense of above ground kiosks.

- **Flow, pressure & flow and universal eight channel versions capable of flash powering external instrumentation**
- **Self powered for up to ten years**
- **Nationwide wireless coverage**
- **On-demand data retrieval option**
- **Compatible with Technolog's PMAC software**
- **Sophisticated profile alarm dial out regimes**
- **Signal strength survey mode**
- **Totally portable: no mains power or telephone line connections**

Comprehensive data analysis is provided by Technolog's Windows™- based PMAC software



TECHNOLOG

Engineering Solutions for the Utilities

Technolog can also provide a complete installation and maintenance service

Technical Specifications

TECHNOLOG

Pressure and Flow Cello

Inputs Channel 1 - absolute pressure Channel 2 - flow Channel 3 - flow

Pressure Inputs Input range 0-100 m or 0-200 m
Operating temperature range: +1°C to +20°C (water)
Accuracy/resolution: ±0.5% of range
Pressure port: standard quick-fit male probe

Flow Inputs Pulses counted over and recorded at preset intervals

Universal Cello

Inputs Number of channels: 8
Channel types: Voltage, event, state, count, frequency (independently selected on each channel)
Input impedance: >300 k
Input protection: Protected against reverse connection and over voltage
Voltage input: Range 0 to 2.5 volts, 0.01 volt accuracy and resolution
Event input: Switch closure or logic pulse, date and time of event stored, resolution 1 second or 10 seconds
State input: Switch closure or logic state
On state change, date, time and new state are stored, resolution 1 second or 10 seconds.
Count input: Switch closures or logic pulses, maximum rate Channel 1, 4, 5, 6, 7, 8 = 10 per second, Channel 2 and 3 = 45 per second
(Counted over and recorded at preset intervals). 16,000 maximum per logging interval
Frequency input: Switch closures or logic pulses, maximum frequency 16 kHz, programmable sampling period of 1 to 250 seconds, independent of recording rate. Resolution 0.01% maximum

Outputs 2 independent digital outputs for transducer power control and alarm signaling
(0 and 3 volt levels, active low, 100kW output impedance)
1 fixed output for "open collector" signal bias (3 volts, 33kW output impedance)

Universal Cello 4 - 20mA

Inputs Number of channels: 8
Channel types: 2 channels dedicated to 4-20mA (High or Low resolution) loops, remaining 6 channels specifications as per Universal Cello

Channels 2 & 3, 12 Volt self 'flash' powered, or 12 Volt loop powered.
Measurement accuracy: Dependent on the accuracy of external sensor equipment connected to the loop.
Logger accuracy: Better than +/- 0.1% full scale.
Logger resolution: Better than 0.02% (High resolution version); Better than 0.7% (Low resolution version).

Outputs 2 individually switched 12 Volt 'flash' power supplies for powering 4-20mA loops i.e. external sensors such as hydrostatic level transmitters

General Specifications

GSM Modem Frequency: 900 MHZ, 1800 MHz, 1900 Mhz
Integral antenna

Serial Port Type: Full duplex, asynchronous Data rate: 1200, 2400, 4800, 9600 bps

Memory Type: Solid state, non-volatile Size: 128K, allocatable between channels as required (max 64K/channel)

Clock Type: Crystal controlled calendar clock with leap year adjustment
Accuracy: 100 seconds per month maximum error over operating temperature range
Synchronisation: Option to synchronise clock to GSM network

Supply Type: Internally powered by a replaceable lithium cell
Life: Typical battery life 10 years depending on mode of use
Internal back up cell maintains logging and local communications when main battery pack is discharged

Recording Recording interval: Programmable between 1 second and 1 hours
Data storage: Rotating store, or store until full

Alarm Dial-Out High/low alarms independently programmable on each channel. Continuous, time window and profile modes of operation. Option to update data more frequently after an alarm

Environmental Operating temperature: -20°C to +50°C Protection classification: IP68, submersible to 1 metre

Connectors Military specification, conforming to MIL-C-26482

Mechanical Dimensions: 191 x 140 x 150 Weight: 1 kg

For further information contact:

Technolog Limited
Ravenstor Road
Wirksworth
Matlock
Derbyshire DE4 4FY
United Kingdom

Tel: +44 (0)1629 823611
Fax: +44 (0)1629 824283

E-mail: technolog@technolog.com
Internet: www.technolog.com