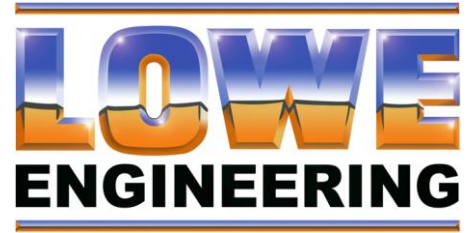




WWEMData

A fully integrated PC-based data acquisition and report generation package developed specifically for the complex requirements of wastewater and effluent monitoring and reporting.



WWEMData has been designed for maximum flexibility combined with ease of use, implemented via a hierarchical system of access control to the following levels:

- Application set-up *Project-specific assignment of measurements, alarms, status signals, acquisition parameters*
- Maintenance mode *On-line tools including built-in digital storage oscilloscope, assignable by software*
- Supervisor mode *Interpretation of legislation into report templates, set-up of all operator parameters, etc.*
- Operator mode *Real-time monitoring and report generation*
Operator access (with or without password) may be assigned to individual functions by the Supervisor

System

Operating system Windows® 7 Professional, Windows® Server 2008

Integrated data acquisition and report generation software written in-house by LOWE Engineering.

Hardwired signal I/O in all formats

RS485/RS232 data I/O via MODBUS RTU as master or slave.

Modbus data acquisition over Ethernet using MODBUS TCP

OPC client with direct read/write access to any networked OPC Server (including DCS systems)

Data security and backup

WWEMData runs automatically on power-up. A watchdog timer alerts DCS or SCADA of system failure.

Cost effective options include write-only archive on second hard drive, mirrored drives or RAID array.

Data stored in binary format – inaccessible to spreadsheet users, eliminating the possibility of tampering.

File access and security via the NTFS filing system (US Dept. of Defense security level C2).

Data handling

WWEMData maintains three rolling data archives of data, each widely configurable for frequency and archive length:

- Real-time data *typically written every 1-2s, over-written after 1 hour*
- Semi-historical data *typically written every 2-10s, over-written after 6 months*
- Main archive *typically written every 1min, over-written after 10 years – used for all report generation*

Time and date representation

All times are stored and displayed in UCT (=GMT). Internal representation uses the FILETIME structure, a 64-bit integer representing the number of 100ns intervals since 1/1/1601.

Report generation

“One-click” report generation to user-generated pre-defined report formats

Fully automatic report generation and printing with flexible options for date/time logic

Printer and printer set-up options stored with each auto-report

Custom reports on demand using pre-defined report formats or freely formatted by the user

Historical data display

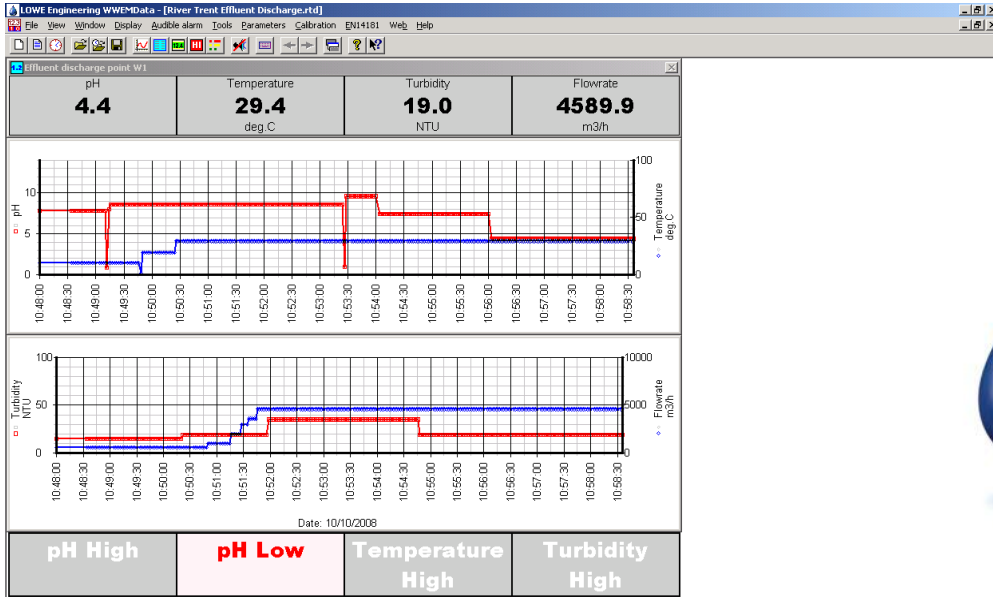
Powerful zoom feature for on-screen display of all semi-historical data over any interval up to 24 hours

Real-time display screens

Unlimited number of user-configurable displays with charts, tables, digital meters, annunciators for all real-time data.

Quality Assurance

Full EN14181 in readiness for water quality analysers meeting the new MCERTS standard.



Typical real-time display screen



Report Template Manager

Report Templates | Measurement Data | Digital status signals/Alarms | Data Reduction | WID Monthly Report

Report template: Monthly WID Template

Report period: Monthly

Measurement name:

- Average of pH 30min avgs over 24 Hours
- Average of Temperature 30min avgs over 24 Hours
- Average of Turbidity 30min avgs over 24 Hours
- Average of Flowrate 30min avgs over 24 Hours

Input data:

- 10 minute averages
- 1/2-hourly averages
- Hourly averages
- Other: 1 minute
- Treat negative values as zero

Table:

- Monthly Summary: 30 min average
- Maximum, Mean, Minimum, Total (Exceedances ELV1, Exceedances ELV2)
- Daily average: ELV1, ELV2, Total (Exceeds ELV1?, Exceeds ELV2?)

Chart:

| | M | L | C | ELV | Low Limit |
|----|--------------------------|-------------------------------------|-------------------------------------|-----|-------------------------------------|
| 1: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.5 | <input checked="" type="checkbox"/> |
| 2: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9.6 | <input type="checkbox"/> |
| 1: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5.5 | <input checked="" type="checkbox"/> |
| 2: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8.5 | <input type="checkbox"/> |

Buttons: OK, Cancel, Help

Setting-up a report template

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