Case Study

Micronics Clamp-on Heat Meters Provide Cost-effective Solution to Improve Energy Monitoring and Efficiency for Luton Borough Council

Luton BC public authority has responsibility for public buildings and since Local Government Reorganisation, schools within its capture area.

The council's Principal Building Services Engineer is Mr John Evans.

Micronics UF 2000's have been supplied and installed for 40% less than alternative in-line meters at the local authority's sites to measure and monitor heat energy distribution from central boiler house installations. This is part of Luton BC's overall program for improved energy monitoring and efficiency across the Borough, however, the requirement is also specifically driven by the Councils need to comply with Part L2 of the Building Regulations when replacing or upgrading existing heating plant. These regulations specify that it is deemed reasonable to expect that at least 90% of the annual energy consumption be accounted for under the Regulation guidelines. The Building Regulations are applicable to all new and refurbished boiler house installations and since April 2001 compliance has been managed by Luton BC's Building Control department or delegated to a competent engineer or officer within the authority.

Micronics UF2000 Clamp-on, Ultrasonic Heat meters were chosen because they are non-invasive i.e. they can be installed without the need to cut into existing pipework.

The clear benefits are:

- Significantly lower installations costs (40% Less) than an alternative in–line meter installation!
- Less disruption than installing an alternative in-line meter.
- Avoidance of residual venting problems associated with system drain down.

A specific site example is Luton's Lea Manor Sports Centre and High School where four Micronics UF2000 Heat Meters are being used to monitor the four LPHW circuits fed from the central boiler house. The LPHW energy supplied for the School heating, Hot Water Services heating, Sports Centre heating and Pool heating are individually metered and the information is used to apportion the overall energy bill to the individual areas. In addition to billing the individual energy consumption information establishes individual ownership and accountability for the energy consumed by the individuals responsible for the School and Sports Centre, which encourages better energy management. The installation also provides valuable monitoring information for John Evans, as an increase in energy consumption for an area or specific plant against its target or benchmark would be clearly visible, prompting investigation and corrective action.

The system has been installed since the summer of 2003 and John is pleased with the results. He plans to roll out the application to other sites within the borough and he believes the opportunity for replication and contribution to good energy management in similar schemes across the UK should be extensive.

Government guidelines on the potential savings attainable from the effective use of metering and monitoring

Micronics Limited. Knaves Beech Business Centre, Davies Way, Loudwater, High Wycombe, Buckinghamshire, United Kingdom, HP10 9QR.
Telephone: +44 (0) 1628 810456 **Facsimilie:** +44 (0) 1628 531540 **E-mail:** sales@micronicsltd.co.uk **Web-site:** www.micronicsltd.co.uk

Ultraflow 2000

- Simple set-up menu.
- Current, pulse or set point outputs.
- High temp. Transducers-option.
- Energy meter version.

Electronics:- ABS housing with clear polycarbonate front panel waterproof and dustproof to IP66.
Temperature Range:- +5°C to + 60°C.
Keypad:- 16 key panel for set up, Diagnostics. Access password protected
Display: 2 x 16 LCD. Backlit.
Power Input:- 110/240VAC +/-10% 50/60Hz @ 50watts 24VDC +/- 10%, 6 watts.
Outputs:- Flow proportional 0/4 – 20mA Active opto isolated into 1000ohms. Bi-directional; 5v Pulse or set point relay. 5A- SPDT. Selectable rate and totaliser to 12 digits.

Transducers:- A, B, C or D sensors factory selected based on flow rate.
Range:- 0.5m/sec to 10m/sec.
Operating Temp. –20°C to +125°C Optional hi-temp to 175°C
Accuracy:- < +/- 3% of reading or +/- 0.02/sec whichever is the greater
Repeatability:- < +/- 1% with unchanged Transducer positions.

Micronics Limited. Knaves Beech Business Centre, Davies Way, Loudwater, High Wycombe, Buckinghamshire, United Kingdom, HP10 9QR.
Telephone: +44 (0) 1628 810456 **Facsimilie:** +44 (0) 1628 531540 **E-mail:** sales@micronicsltd.co.uk **Web-site:** www.micronicsltd.co.uk