

Heat Metering

MULTICAL[®]602 and ULTRAFLOW[®]54

Heat metering is an essential and popular way to monitor and save energy whilst allowing for a reliable way to charge for heat energy consumed in multi-tenanted offices and apartments. Versions for hot and chilled water are available.

In many cases it is not adequate just to monitor energy supplied by utility companies using primary meters only. Secondary metering offers valuable information that can be used to manage consumption, target potential energy savings and apportion accurate costs to the energy users.

This product offer is designed to operate effectively with all Schneider Electric Buildings BMS systems using communication with LON, M-BUS or just as pulse output.

The water flow meters in this product use the ultrasonic method to provide accuracy. Patented technology and no moving parts means these devices have very low maintenance requirements.



Heat Metering Features

The perfect operational solution



MULTICAL® 602



Flow Sensors ULTRAFLOW® 54 qp 1,5 to 100 m³/h



Flow Sensors ULTRAFLOW® qp 150 to 1000 m³/h

This product is comprised of three parts: A flow sensor (ULTRAFLOW® 54), a calculator (MULTICAL® 602), which is a housed intelligent electronic board, and a pair of matched temperature sensors.

The ULTRAFLOW® range comprises flow sensors that operate between 0.6 and 1000m³/h. ULTRAFLOW® can be used to accurately measure heat in all water based plant applications with flow temperatures between 15°C and 130°C (up to 150°C for DN150 and bigger sizes).

The measurement conversion is performed by a unique ASIC design, providing superior

functionality such as absolute time measurement and self diagnosis. The ULTRAFLOW® meter has a wide dynamic measuring range of 100:1 and a permanent overload capability of 2:1 as standard.

THE MULTICAL® 602 calculator is an advanced state of the art calculator used in conjunction with the ULTRAFLOW® range of flow sensors. Even at low temperature differences, the measuring and calculating accuracy is second to none.

The calculator displays instantaneous temperature, flow and energy readings as well as historic data that can be used as performance improvement data for your installations. Data is stored in memory and accumulated over periods of 1392 hours, 460 days, 36 months, and 15 years. Data and all aspects of the hardware can be made completely tamper proof.

All orders come complete with the selected flow meter that is pre-wired to a calculator and two temperature probes, as well as all pipe fittings. This makes product selection and ordering very straight forward. Schneider Electric heat meters are divided into two groups by size and construction type:

Heat Meters – qp 1,5 to 100 m³/h

The new ULTRAFLOW® 54 is made of high grade brass or stainless steel and contains less lead in line with increasingly demanding environmental standards. In time, all flanged flow meters will be supplied as stainless steel types. In order to ensure immunity from flow disturbances the DN15 - 20 utilises the single beam ultrasonic principle while meters in the range DN25 - 80 use the triangular beam principle. This technology enables the most precise measurements.

Heat Meters – 150 to 1000 m³/h

The measuring method used in these larger heat meters is the dual beam ultrasonic principle which ensures a very high accuracy and furthermore provides the flow meters with very high tolerance of flow disturbances. The signal converter located within the flow meter transmits calibrated pulses to the calculator.

European & International Standards

The MULTICAL® 602 and the ULTRAFLOW® 54 are approved for domestic and industrial applications (Class E1 and E2). One combination meets all installation requirements. These devices allow for billing as they are fully compliant with ISO 4064 / EN 61434 and the MID standard for heating measurements.

Heat Metering Specifications

High Demands Require High Standards

Memory

MULTICAL® 602 stores all consumption data for 1392 hours, 460 days, 36 months and 15 years. Analysis of these registers permits closer understanding of energy usage through troubleshooting, diagnostics and tamper detection.

Dual Interface

MULTICAL® 602 is able to perform data communication on two ports simultaneously, e.g. LONWORKS for Building Management Systems and M-Bus for billing purposes. This ensures ultimate data reliability at the lowest possible cost.

Tamper Protection

MULTICAL® 602 is equipped with an info event counter which reveals and registers all irregularities, among those tamper attempts in the shape of systematic cutoffs. Registration of error codes combined with compulsory sealing ensures high tamper protection.

Ultrasonics

More than 15 years of experience has proved that the ultrasonic principle is the most reliable one in the long term. The flow is measured using bidirectional ultrasonic technique based on the transit time method. Two ultrasonic transducers are used to send the sound signal both against and with the flow direction.

Accuracy

The unique temperature measuring circuit and precisely paired sensors guarantee accurate measurements, even at temperature differences below 1K. The long-term stability and accuracy of the flow meter are maintained even at flow rates twice the nominal flow rate.

Remote Reading

MULTICAL® 602 provides you with reliable remote reading options M-Bus, LONWORKS.

Billing

Accurate measurements aim at enhancing the consumers' confidence in the accuracy of billing. This leads to reduced consumer complaints as well as reduced revenue leakage. The perfect couple – MULTICAL® 602 and ULTRAFLOW® – informs you of accurate energy usage and provides you with trustworthy billing, any time.

Schneider Electric Field Devices

Our Ultrasonic Heat Solution – Your Ultrasonic partner

These heat meters are developed and produced by the world-leading supplier of energy meters, coupled with the systems know-how of Schneider Electric this combination has a world class, unrivaled performance for energy control and reduction.

Global Leader in Building IT

Schneider Electric's Buildings Business delivers more than solutions for HVAC, access control, video security management, lighting control & energy efficiency.

Our focused approach to building systems strips away layers of complexity to integrate multiple systems in a building to achieve enterprise wide facilities management.

This uses less energy, tightens security, speeds response times and maintains optimal environments for occupants AND saves you up to 36% on operating costs over time.