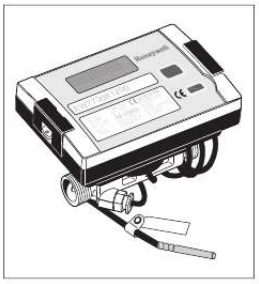
Honeywell

EW773 Series
Ultrasonic Hydronic Meters
FOR HEATING AND COOLING APPLICATIONS

PRODUCT DATA



Application

Static compact hydronic meter with electronic measurement based on the ultrasonic principle, consisting of electronic energy integrator, ultrasonic volume measuring component and temperature sensors.
Metering of hydronic heating and / or cooling energy in hydronic systems based on volume, supply and return temperature.
EW7730 models are suitable for energy metering of heating systems.
EW7731 models are suitable for energy metering of cooling and combined cooling and heating systems.

Features

- **MID approval**
- **First approval in Europe for ultrasonic heat meter with dynamic range of qi/qp m³/h 1:250 in class 2 (qp 1.5 / 2.5 / 6.0m³/h)**
- **Complete dynamic range ≥ 1:1,500**
- **12 years battery lifetime**
- **Meters up to qp 6 with patented free-beam principle and robust swirl-free flow around reflector made of stainless steel**
- **Meters qp10 and larger with direct beam principle**
- **Standard housing dimensions**
- **Can be used for heating (EW7730), cooling or both (EW7731)**
- **Available in nominal sizes from qp 0.6 up to 40m³/h**
- **Measuring accuracy meets the requirements of EN1434 class 2 and 3**
- **No calming leg required on inlet or outlet for sizes up to qp 0.6m³/h**
- **Power save mode**
- **Remote reading via M-Bus, RF, RS232 or optical interface**
- **Optional plug and play modules**
- **Individual tariff functions**
- **History memory for 24 months**
- **Extensive diagnostic displays**
- **Windows based HYDRO-SET parametrization software for optimum adaptation to the user's specific needs**

Design

Hydronic meters of the EW773 Series consist of:
- Electronic energy integrator with cable connection to the ultrasonic volume measuring component, supply and return temperature probe
- Ultrasonic volume measuring component with external threads according to ISO228 (DN15...DN25) or flanges (DN25...DN80)

Materials

- Housing of electronic energy integrator made of black and transparent plastic
- Housing of ultrasonic volume measuring component made of brass

Manual abstract:

Metering of hydronic heating and / or cooling energy in hydronic systems based on volume, supply and return temperature. EW7730 models are suitable for energy metering of heating systems. EW7731 models are suitable for energy metering of cooling and combined cooling and heating systems. EW 0 773 K12 00 3 /h 5m 3 /h .01 qi: 0 : 1.5m /h 3 qp 3m .130°C qs: 5....

@@O te -0 p DE rome r tem Hyd atmete ce: low 07 he . pla r: 20 6 Inst d.yea 0644 Pro : 340 5N : E1 ass ss: M1 cl m. @@temperature difference Min. @@The integrator housing can be mounted directly onto the volume measuring component or to the wall.

The meter can be conveniently read from a single line sevendigit display with units and symbols. A pushbutton provides user friendly control of the various display loops. All failures and faults are recorded automatically and displayed on the LCD screen. To protect the reading data, all relevant data is saved in a non-volatile memory (EEPROM). This memory saves the measured values, device parameters and types of error at regular intervals · Energy error · Volume error Module Combinations The following module combinations for data transmission are available ex works or for retrofitting in the field: Function modules · Pulse input module (2 inputs) · Pulse output module (2 outputs) · Pulse input module and pulse output module (1 input and 1 output) · Combined pulse in- and output module (2 inputs / 1 output) Communication modules · M-Bus · RS232 · RF Ultrasonic volume measuring component The ultrasonic technology of the volume measuring component permits very high measuring accuracy and can be used in the supply or return pipeline.

The volume measuring component meets the requirements of EN1434 / class 2 and 3. The standard cable length between the calculator and the volume measuring component is 1.5m for meters up to qp 6 and 2.5m for meters qp 10-40 (other cable lengths optionally on request). Supply voltage: Standard (12 year life) · Meters up to qp 6: lithium battery 3.0V DC · Meters qp 10-40: lithium battery 3.6V DC Optional (please enquire): · Meters up to qp 6: lithium battery 3.6V DC (16-year life) · Meters up to qp 25: mains unit 230V AC or 24V AC Accessories / Software The HYDRO-SET parametrization software based on the MBus is a convenient tool for handling the hydronic meter. It runs on Windows® 2000, and XP and is used for logs memories: · setting up for operation · reading out measured values · printing of meter logs · meter configuration Event Memory Events such as changes and faults are stored in a non-volatile memory with a capacity of up to 31 entries. The following events are recorded: · Checksum error · Temperature measurement error · Ultrasonic echo time measurement errors · Start and end of test mode Temperature sensors Pairs of Pt500 temperature sensors with 2-wire leads are used.

Interfaces The EW773 Series is equipped as standard with a ZVEI optical interface with the M-Bus protocol as per EN1434. @@The meter has two slots for plug and play modules. @@@@A special data cable is required for this purpose. The RF module communicates a list of predefined data records. This can be edited by the HYDRO-SET software. Pulse Input Two additional pulse inputs are available. @@Also two accounting days are available for both inputs. @@@@@@@@@@@@@@@@Apart from the energy a timebased tariff can also be programmed. @@Limit types Type T T LIMIT 1 .. . 190 °C 1 ... 190 °C 1 . .. 255 kW 100 ...

@@@@Some pictures in the loops can be deactivated separately. @@values for power and flow rate based on consumption time, which are stored in the EEPROM. The integration intervals are adjustable to 6, 15, 30 or 60 minutes. Default setting is 60 minutes. The main loop with the current data, e.g. for energy, volume and flow rate, is programmed as default setting. In the standard setting loop No. 5 (tariff loop) is not active. Fig.

1. Loop overview EN0H-2600GE25 R0809 4 Honeywell Subject to change EW773 SERIES ULTRASONIC HYDRONIC METERS Table 3. Display Contents Loop ,,1" Sequence 1.1 1.2 1.3 Main loop 1.4 1.5 1.6 1.7 1. 8[OFF] 1.9 1.10 1.11[OFF] 1.12[OFF] 1. 13[OFF] 1.14[OFF] Window 1 Accumulated energy Volume Flow rate Power Forward temperature Difference temperature Operating hours Monthly peak power Error code Display test Tariff energy 1 Tariff energy 2 'In 1' 'In 2' Window 2 Window 3 Return temperatur Date Pulse input counter 1 Pulse input counter 2 Window 2 Accounting date 1 energy Accounting date 1 previous year energy Accounting date 1 in the future Accounting date 2 energy Accounting date 2 previous year energy Accounting date 2 in the future Window 2 Secundary address Primary address Date max. flow rate Date max. power Window 3 [OFF] Window 4 Accounting date 1 volume ‚Accd 1' Accounting date 1 ‚Accd 1' previous year volume Loop ,,2" Sequence Window 1 2.1 Accounting date 1 2. 2 Accounting date 1 previous year Accoun2.3 ‚Accd 1' ting date loop 2.4 Accounting date 2 2.5 Accounting date 2 previous year 2.6 ‚Accd 2&#0ium temperature is as follows: · 130°C when horizontally mounted and electronics (black enclosure) turned sideways for sizes qp=0.6...2.5m³/h, or · 150°C when horizontally mounted and electronics turned sideways for sizes qp=3.

5...40m³/h · 120°C when horizontally mounted and electronics turned upwards · 120°C when vertically mounted · In any case the energy counter must be separated from the volume measuring unit if the medium temperature exceeds 90°C" · The energy calculator can be installed on the meter or separate from the meter. · The volume measuring component and the energy calculator of meters up to qp6 are connected by a permanently fixed cable with a length of 1.5m. · The cable between the the volume measuring component and the energy calculator of meters qp10 and larger has to be installed, wiring instructions see below. · During measurement the meter must be completely filled with water. EN0H-2600GE25 R0809 6 Fig. 2. Wiring Honeywell Subject to change EW773 SERIES ULTRASONIC HYDRONIC METERS Dimensions 150 50 B R G H L L1 L Fig. 3. Dimensions qp=0.6.. .10m3/h h d D F Fig. 4. Dimensions qp=15.. .40m3/h NOTE: All dimensions in mm unless stated otherwise. Table 4. Dimensions Nominal size DN size Body length Overall length with fittings Height of pipe axis to top of electronics Height of pipe axis to bottom of valve housing Body thread Fitting thread (accessory) Flange diameter Flange dimension Bolt circle diameter Weight NOTE: L [mm] L1 [mm] H [mm] h [mm] qp [m3/h] 0.6/1.0/1.5 15 110 190 78 14.5 2.5 20 130 230 80 18 25 260 380 84.5 23 84.

5 3.5 25 260 25 260 380 84.5 23 84.5 90 91 91 91 6.0 32 260 10 40 300 15 50 270 25 65 300 40 80 300 G [inch] R [inch] D [mm] F [mm] d [mm] [kg] G3/4B R1/2 G1B R3/4 G1 1/4B Flanged G1 1/4B Flanged Flanged Flanged Flanged Flanged R1 114 100 85 R1 139 125 100 1.

5 4.8 148 138 110 7.0 163 147 125 8.5 184 170 145 10.8 198 188 160 12.
6 0.76 0.85 1.5 3.5 Threaded tailpieces are not supplied with the heat meter Honeywell Subject to change 7 EN0H-2600GE25 R0809 EW773 SERIES ULTRASONIC HYDRONIC METERS Ordering Information Table 5.
@@EW7730 OS-No. @@5. @@6. Pressure drop diagram EN0H-2600GE25 R0809 10 Honeywell Subject to change EW773 SERIES ULTRASONIC HYDRONIC METERS Honeywell Subject to change 11 EN0H-2600GE25 R0809 EW773 SERIES ULTRASONIC HYDRONIC METERS Environmental and Combustion Control Honeywell GmbH Hardhofweg 74821 Mosbach, Germany Phone: +49 (6261) 810 Fax: +49 (6261) 81393 www.honeywell.com EN0H-2600GE25 R0809 August 2009 © 2009 Honeywell International Inc. Subject to change without notice Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland or its authorized representative. .