

# ULTRASONIC ENERGY METER Serie IFX-04

## ENERGY METER IFX Serie 04 - All in one

### Application

Ultrasonic energy meter **IFX-M4-04** can be used for measurement of consumed heat energy and heating or cooling medium (or other fluid quantity) in closed or open loop heating and water consumption systems.

### Main features and advantages

- Energy meter **IFX-M4-04** can be used for heat and flow measurements in closed or open loop heat supply systems.
- Two flow measurement channels.
- Two pressure measurement channels.
- Two pulse inputs for additional flow sensors.
- Pre-programmed or measured pressure values may be used for energy calculation.
- Cold water temperature for open loop application can be measured, or pre-programmed temperature value can be used.
- Optional integrated regulation or alarm function.
- Internal data logger: for daily records – last 33 months, for hourly records – last 3,5 months.
- Power supply – from internal battery of more than 12 years or 230 V AC power source.
- Possibility to choose the list of indicated parameters.

Parameter	Value
Input pulse value	programmable
Input pulse type	active or passive
High voltage level for active pulses	2,5 ... 3,7 V
Low voltage level for active pulses	0 ... 0,7 V
Input resistance, when powered from internal battery	2 M $\Omega$
Input resistance, when powered from AC source	10 k $\Omega$

Available versions DN150 and DN200 flanged, non MID.

Connection type	Overall length mm	Flow-rate m <sup>3</sup> /h			Pressure losses $\Delta q_p$ at $q=q_p$ , MPa, not more, than
		$q_i$	$q_p$	$q_s$	
G 1¼ (DN25)	260	0,035	3,5	7	0,004
G 1¼ (DN32)	260	0,06	6	12	0,01
G2 (DN40)	300	0,1	10	20	0,01
DN50	270	0,15	15	30	0,012
DN65	300	0,25	25	50	0,02
DN80	350	0,4	40	80	0,018
DN100	350	0,6	60	120	0,018



Temperature measurement	
Number of measurement channels	1, 2 or 3
Temperature measurement limits	0 °C ... 180 °C
Temp. difference measurement limits	2 K ... 150 K
Type of temperature sensors (2 or 4 wires)	Pt500 (W1,385), 500II (W1,391) Pt1000 (W1,385), 1000II (W1,391)
Cable length between the calculator and each of the sensors: – four-wire connection scheme – two-wire connection scheme	10 m; 25 m; 50 m; 100 m 2,5 m; 5 m
Display resolutions for temperature and temperature difference	0,01 °C
Pressure measurement	
Number of pressure measurement channels	up to 2
Input current limits (programmable)	0 ... 5 mA, 0 ... 20 mA, 4 ... 20 mA
Lower/Upper pressure measurement limits (programmable)	0 ... 2500 kPa 100 ... 2500 kPa
Relative normalized pressure measurement error	not more than $\pm 0,25\%$ from the upper pressure measurement limit
Communication interfaces	
Optical communication interfaces	integrated, according to EN 61107 (IEC 1107)
Available types of plug-in interface modules	M-bus; M-bus/CL/RS232 and 2 pulse outputs; M-bus/CL/RS232 and 2 current outputs; RS232; RS485; Wireless 868 MHz
Power supply options	
Internal battery	3,6 V, battery lifetime - not less than 10 years
AC source supply	230 V, AC 50 Hz
General conditions	
Ambient temperature for the calculator	5 °C ... 55 °C
Environment class	C according to N1434
Protection class for the calculator	IP65
External dimensions of the calculator	159 × 142 × 52 mm