Multical® 803

Calculator

Your benefits

- Ultrasonic technology:
  Long-term stable energy measurement with maximum measurement accuracy
- Large illuminated display:
  Easy to read
- Built-in 24 V DC auxiliary power supply
  No external transformer installation required
- Auto Detect function:
  Automatically detects ULTRAFLOW® and sensor type
- Comprehensive data logger:
  Instant access to information for analysis and optimization purposes
- Option cards for various functions:
  - Affordable base unit
  - Additional functions can be added later
- CH refrigeration certification (METAS) incl. initial calibration:
  Approved for use in commercial transactions

Applications

- Energy measurements for district heating supplies
- Heat and/or cooling consumption measurement in building services engineering
- Arithmetic unit for local or remote reading
- Leakage and pipe burst monitoring in district heating systems

Properties

- Electronic calculator
- LCD display, resolution 7 or 8 digits, with backlighting
- Non-volatile EEPROM memory
- 4 module slots for option cards
- 6 years battery backup
- Pt 500 temperature sensor, 2-/4-wire technology
- Standard EN 1434
- Mains supply 230 V AC
- IP65 protection
- Impulsions de sortie énergie + volume
- Can be combined with the following volume measuring elements: ULTRAFLOW®, impeller meter with reed pulse generator and magnetic-inductive meter
- Type testing/approval: Heat: Conformity with European Measuring Instruments Directive (MID) / Cold: CH approval (METAS) incl. initial calibration

Options

- Mixed fluid version (803-M) available on request
- Option cards for
  - M-Bus / 2 water meter inputs
  - M-Bus / 2 pulse outputs energy + volume
  - Radio OMS T1, 868 MHz
  - 2 active analog outputs 0/4...20 mA (mains power supply required)
  - LonWorks, TP/FT-10 / 2 water meter inputs (high-power power supply required)
  - BACnet MS/TP (RS485) + 2 water meter inputs (mains power supply required)
  - Modbus RTU (RS485) + 2 water meter inputs (mains power supply required)
  - Modbus TCP-IP / 2 water meter inputs (high-power power supply required)
  - BACnet IP + 2 water meter inputs (high-power power supply required)
  - LoRaWAN int./ext. antenna

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Technical data

Performance data for the MULTICAL® 803 calculator	
Temperature measurement range	2 to 180 °C
Temperature difference measuring range	3 to 170 K
Temperature resolution on display	0,01 °C
LCD resolution	7 or 8 digits with a digit height of 10 mm
Resolution of the display	0'000,0001 / 00'000,001 / 000'000,01 / 0'000'001,0 (in kWh/MWh)
Energy display unit	MWh
Display unit Power	m^3
Display unit Volume	l/h
Display unit Flow rate	kWh
Standardprogrammierung GWF für Impulswertigkeit von Volumenmessteil mit Reed-Impulsgeber	1 pulse = 2,5 liters
Protection class	IP65
Environmental class	A and C according to EN 1434
Ambient temperature	+5 to +55 °C (non-condensing)
Storage temperature	-20 to +60 °C
Display unit for consumption meters 1+2	m^3
Weight	approx. 1.15 kg

Power supply	
Power supply	230 V AC +15/-30%, 50/60 Hz
Power consumption	7 W for powering 4 communication modules
Battery backup [1)]	3.65 V DC, 2 x AA lithium battery
Backup period	Up to 6 years (without maintenance), replaceable
Replacement interval	10 years under normal operating conditions
Data logger (EEPROM)	1400 hours, 460 days, 36 months, 20 years, 280 info codes (last 50 can be read on display) à l'écran)
Clock / Calendar	Clock, calendar, leap year compensation, key date

1] The use of data modules, frequent data communication, and high ambient temperatures reduce battery life.

Flow measurement	ULTRAFLOW®	Reed switch	24 V active pulses
EN 1434 Impulse class	IC	IB	IA
Pulse input	680 kΩ Pullup jusqu'à 3,6 V	680 kΩ Pullup jusqu'à 3,6 V	120 mA à 24 V
Pulse ON	0,4 V en 1 ms	‹ 0,4 V en › 300 ms	<4 V pour > 3 ms
Pulse OFF	2,5 V en 4 ms	› 2,5 V en › 100 ms	> 12 V pour > 4 ms
Pulse frequency	‹128 Hz	‹ 1 Hz	‹128 Hz
Electrical insulation	Non	Non	2 kV
Maximum cable length	10 m	10 m	100 m
Temperature sensor	Pt 500, 4-wire technology / glycol = Pt 500, 2-wire technology		

Technical data Option cards	
Pulse inputs water meter	
Pulse input	680 kΩ Pullup jusqu'à 3,6 V
Pulse ON	‹ 0,4 V pour › 500 ms
Pulse OFF	› 2,5 V pour › 500 ms
Frequency	‹ 1 Hz
Electrical insulation	Non
Maximum cable length	25 m
Pulse outputs	
Pulse output type	Opto FET
External voltage	1... 48 V DC/V AC
Current	50 mA
Residual voltage	RON ⩽ 40 Ω
Electrical insulation	2 kV
Maximum cable length	25 m

Dimension diagram