

MULTICAL® 603 and
MULTICAL® 803 with
ULTRAFLOW® 44
MULTICAL® 403

kamstrup

One cooling platform – countless possibilities

- Proven lifetime accuracy of meters
- Seamless integration with multiple communication modules
- Future-proof your cooling installation with full flexibility



Next-level flexibility

Quality, flexibility and scalability are key to ensuring that the metering solution you choose today also provides you with the right tools for the demands of the future.

Third generation platform

Kamstrup has developed a complete meter platform that gives you the ultimate flexibility. Our shared MULTICAL® platform for 403, 603 and 803 cooling meters allows you to easily upgrade rather than replace your meters as new possibilities and challenges occur. These upgrades can be done without interfering with legal registers and with no or minimal impact on meter readings and network management.

Geared for the future

The modularity of the MULTICAL® platform means that you are able to seamlessly add or switch communication modules to match your communication demands. With M-Bus the two way communication allows software download to either meter or communication module as well as providing the option of remote configuration. Meter data is always securely stored in the built-in data logger and can be read out through optical communication interface. The data logger is fully programmable and contain large amount of meter data on a yearly, monthly, daily, hourly and even minutely basis.

Along with the MULTICAL® series you get the benefits of accurate and robust flow sensors. Well known for their long term accuracy, low pressure loss and immunity to flow disturbances, flow sensor of MULTICAL® 403 and ULTRAFLOW® 44 now come with an IP68 classification. This means they are condense protected and ready for the toughest climate conditions.

In this way, you can effectively future-proof across your Kamstrup solution.



Cooling

Built to last – designed to perform

The third generation of Kamstrup's MULTICAL® cooling meters is based on a deep understanding of the challenges faced by cooling providers. Combined with decades of experience developing innovative ultrasonic technology and future-proof design, the result is high-quality meters with simple-to-use functionality, unrivalled accuracy and reliability.

Better operation optimisation

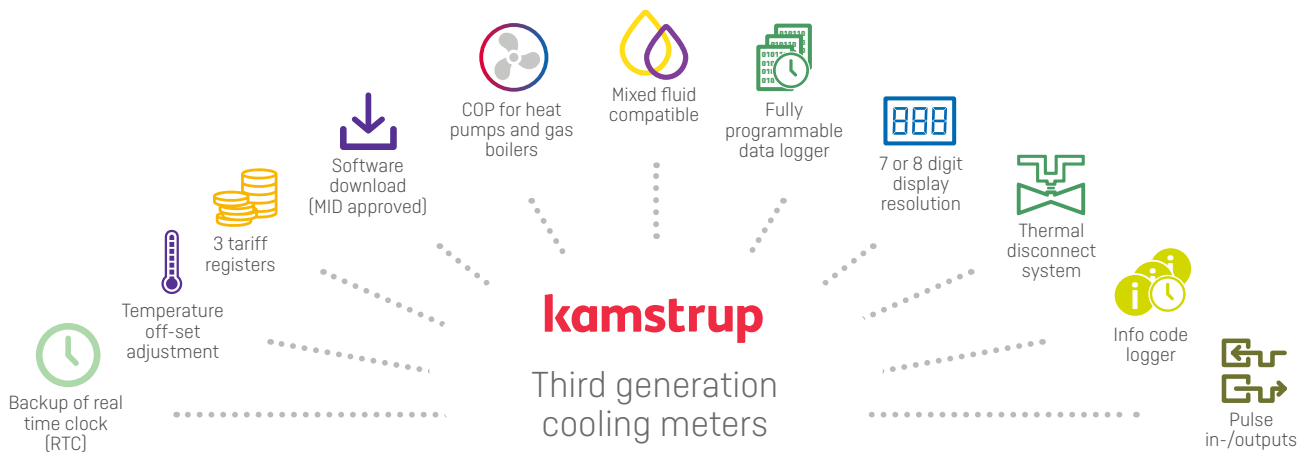
MULTICAL® 403, 603 and 803 offer full support for remote reading for billing and give you instant access to the information needed to analyse and optimise your distribution network. The **data loggers are fully programmable** to save yearly, monthly, daily, hourly and minute values. This lets you effectively analyse and diagnose your application for **faster identification of load profiles, errors and inconsistencies**.

MULTICAL® 403, 603 and 803 can be equipped with a wide range of advanced **communication modules**, e.g. Modbus, BACnet® or Wired M-Bus. The improved M-Bus allows fast and frequent data readouts without reducing the meter's battery lifetime.

Lower costs and higher ROI

The new and updated Kamstrup ultrasonic flow sensors for MULTICAL® 403, 603 and 803 have an **increased dynamic range** compared to their predecessors, but despite this, they have a **low pressure loss**, which means less pumping capacity is required. This reduces the consumption of the circulation pumps and limits the energy loss in the installation and ensures a larger return on investment.

The meters can be **battery powered** or **mains supplied** with 24 volt or 230 volt power, depending on your needs. No matter what solution you choose, the own consumption of the meters is extremely low. This lowers your operational costs as well as the total lifetime cost of each meter.



Though different, our third generation cooling meters share many of the same functionalities. This means that you reap the same benefits regardless of which meter is the right choice for you.

Compact and Split cooling meter solution

MULTICAL® 403 employs ultrasonic measuring technique, ASIC and microprocessor technology. A single-board construction comprises all calculating and flow measuring circuits. This makes the design compact and rational, and, in addition, exceptionally high measuring accuracy and reliability is obtained. In designing MULTICAL® 403 we have attached great importance to flexibility through programmable functions and plug-in modules in order to secure optimum use in a wide range of applications.

MULTICAL® 603 and 803 are an all-round calculators, suitable as a split cooling meter solution with 1 or 2 flow sensors and 2, 3 or even 4 temperature sensors. The calculators are intended for energy measurement in almost all types of thermal installations where water is used as the energy-conveying medium. In combination with the ULTRAFLOW® 44, MULTICAL® 603 and 803 offers a strong and flexible split cooling meter solution. Calculator and flow sensors are separate products that are sealed individually. Calculator and flow sensor can easily be separated for maintenance and service.

Choose the right meter

This overview will help you pick the meter that matches your needs and requirements.

MULTICAL® 403



MULTICAL® 603



MULTICAL® 803



Cooling meter approval [BEK-1178, EN1434]	TS 27.02 009	TS 27.02 012	TS 27.02 013
ULTRAFLOW® 44 approval	N/A	TS 27.02 014	
Temperature range – technical ability	0.0 °C		
Legal temperature range	2...180 °C		
Differential temperature	3...178 K		
Medium temperature	2...130 °C		
Mains powered	24 VAC/VDC or 230 VAC		
Battery powered – battery lifetime ¹⁾	1 x D-cell, 2 x A-cells – up to 16 years		– ²⁾
Flow range	q _p 0.6...15 m ³ /h	q _p 1.5...100 m ³ /h ³⁾	
Flow sensor cable length	1.5 m	2.5...100 m ⁴⁾	
Temperature sensor	2-wire, Pt500 or Pt100	2- or 4-wire, Pt500 or Pt100	4-wire, Pt500/100 auto
Temperature sensor cable length	1.5...10 m	1.5...100 m	
Protection class	Calculator IP54 Flow sensor IP68	Calculator IP65 ULTRAFLOW® 44 IP68	
Integration mode	4...64 s	2...64 s	2 s (8 s)
Measuring unit	MWh – kWh – GJ	MWh – kWh – GJ – Gcal	
Pressure loss flow sensor	Below 0.1 bar @ q _p except from q _p 15 m ³ /h with 0.14 bar @ q _p		
Dynamic range flow sensor	Most types approved with q _p :q _i = 250:1		
Insulation	Flow sensor can be insulated. Not the calculator and electronic box ⁵⁾ of ULTRAFLOW® 44.		
Modules	1 slot	2 slots	4 slots
Integrated wired M-Bus		✓	
Data and analog modules	✓	✓	✓
M-Bus modules (wired)	✓	✓	✓
Industrial modules [ModBus, BACnet]	✓	✓	✓
Separable calculator and flow sensors		✓	✓
Connection of third-party flow sensors ⁶⁾		✓	✓
Backlit display		✓ (option)	✓
Mixed fluid compatible		✓ (option)	✓ (option)

1) Battery lifetime depends on various factors, e.g. integration mode, readout interval.

2) MULTICAL® 803: only available as backup battery with up to 6 years of lifetime.

3) MULTICAL® 603 and 803 can be ordered with Kamstrup ultrasonic flow sensors series, ULTRAFLOW® 44.

4) Standard cable length for ULTRAFLOW® 44 is 10 m [q_p 1.5 and 2.5 m³/h also 2.5 m cable length] . Can be extended up to 30 m with Cable Extender Box with extended flow info codes. Can also be extended up to 100 m with Pulse Transmitter, however without extended flow info codes.

5) The electronic's box of ULTRAFLOW® 44 is separated from the meter housing and therefore there is no need to insulate it. This has the advantage that the type label remains visible outside the insulation.

6) q_p 0.6...15,000 m³/h

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