Heat/cooling meters:

MULTICAL® 303
MULTICAL® 403
MULTICAL® 603
MULTICAL® 803

kamstrup

Facts
Advantages
Benefits

The meter is the absolute cornerstone of your network. It gives you data for billing and optimization.

Intelligent meters from Kamstrup have a proven long-term reliability and accuracy. They are packed with intelligent features that will help you save time and resources during the life time of your meter installation.

Choose the correct meter

This overview helps you to choose the meter that meets your needs and requirements.

	MULTICAL® 303	MULTICAL® 403	MULTICAL® 603	MULTICAL® 803
Heat meter approval (MID, EN1434)	DK-0200-MI004-045	DK-0200-MI004-037	DK-0200-MI004-040	DK-0200-MI004-042
Cooling meter approval (BEK-1178, EN1434)	TS 27.02 015	TS 27.02 009	TS 27.02 012	TS 27.02 013
Temperature range	2...180 °C			
Differential temperature	3...178 K			
Temperature of medium	2...130 °C			
Mains-supplied		24 VAC/VDC or 230 VAC		
Battery-powered	1 x A cell, 2 x A cells	1 x D cell, 2 x A-cells		2 x A cells [1]
Battery life [2]		Up to 16 years		Up to 6 years
Flow range	q_p 0.6...2.5 m³/h	q_p 0.6...15 m³/h	q_p 0.6...1,000 m³/h [3]	
Flow sensor cable length	1.5 m		2.5...100 m [4]	
Temperature sensor	2-wire, Pt500	2-wire, Pt500 or Pt100	2- or 4-wire, Pt500 or Pt100	4-wire, Pt500/100 auto
Temperature sensor cable length	1.5...3 m	1.5...10 m	1.5...100 m	
Protection class	Calculator IP65 Flow sensor IP68	Calculator IP54 Flow sensor IP68	Calculator IP65 ULTRAFLOW® IP65/IP67	
Integration mode (backup)	4...64 s		2...64 s	2 s (8 s)
Measuring unit	MWh – kWh – GJ		MWh – kWh – GJ – Gcal	
Module slots		1	2	4
Integrated Wireless M-Bus	✓			
Integrated M-Bus	✓		✓	
Data and analog modules		✓	✓	✓
M-Bus and Wireless M-Bus modules		✓	✓	✓
Industrial modules (Modbus, BACnet)		✓	✓	✓
Calculator and flow sensor can be separated			✓	✓
Connection with third-party flow sensors [5]			✓	✓
Backlit display			✓ (option)	✓
Mixed fluid compatible			✓ (option)	✓ (option)

1) Backup battery for operating basic meter functionality or basic meter functionality as well as communication on module slot 1.

2) The battery life depends on various factors such as integration and reading intervals.
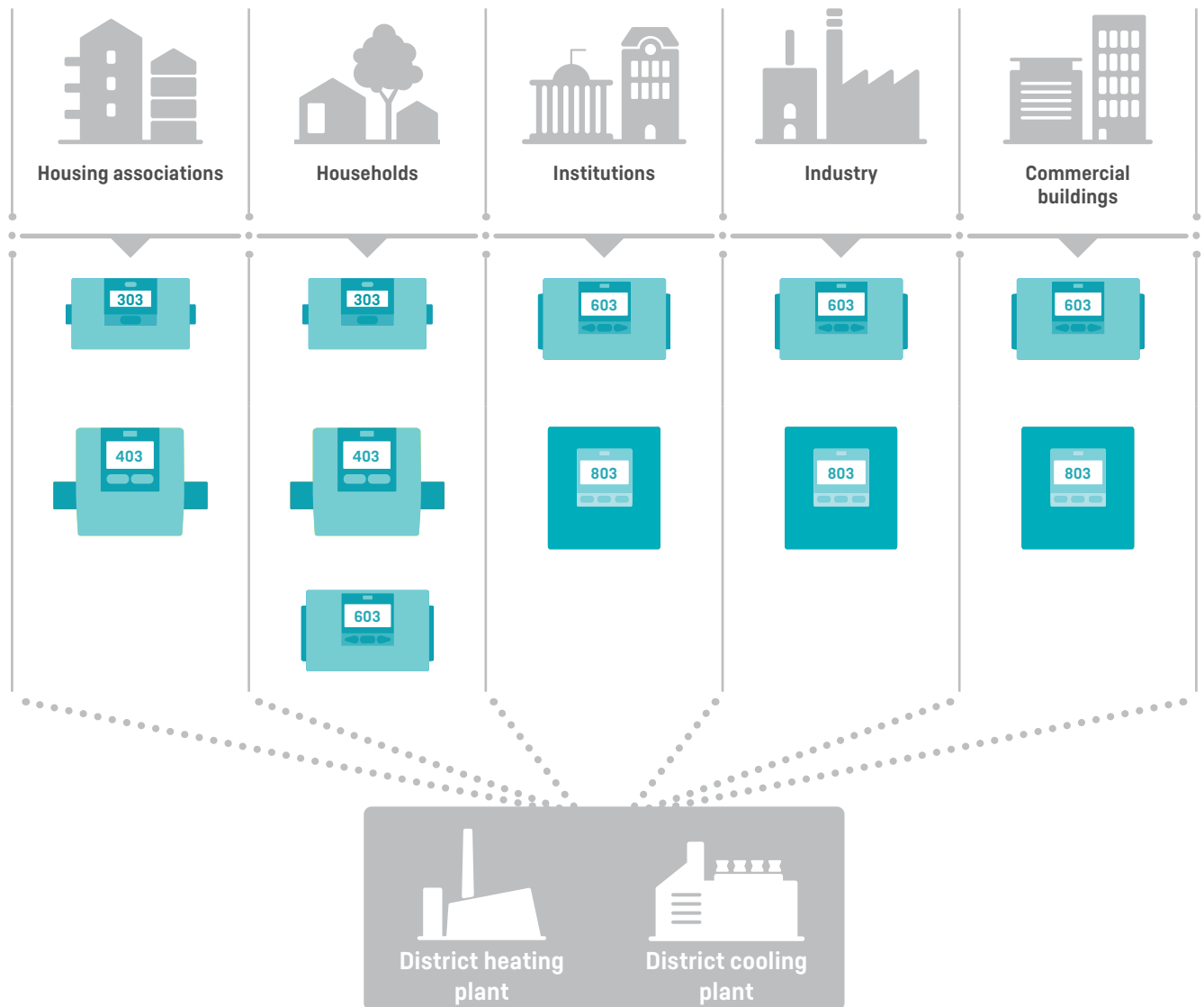
3) MULTICAL® 603 and 803 can be ordered with the Kamstrup ultrasonic flow sensors of the type ULTRAFLOW®.

4) The standard cable length is 2.5 m, 5 m and 10 m. Can be extended up to 30 m with cable extension box with extended flow info codes. Can also be extended up to 100 m with Pulse Transmitter, however without extended flow info codes.
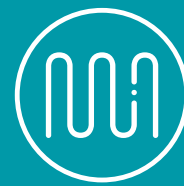
5) q_p 0.6...15,000 m³/h

Meters for all applications

We have exactly the meter you need, whether it be for the private villa, housing associations or industrial buildings.

Housing associations	Households	Institutions	Industry	Commercial buildings
303	303	603	603	603
403	403	803	803	803
	603			

District heating plant   **District cooling plant**

Built to last
– designed to perform

Kamstrup's thermal energy meters are based on innovative ultrasonic technology, a deep understanding of the challenges faced by utilities and decades of experience with designing and manufacturing high-quality heat and cooling meters with simple-to-use functionality, unrivalled accuracy and reliability.

Heat   Cooling

MULTICAL® 303

The residential all-rounder

Whether used in planning, in installations or for administrative purposes, MULTICAL® 303 is the only heat and cooling meter you will need.

The meter's design features ensure the most efficient operational use of any heat and cooling meter. Whether mounted horizontally, vertically or on walls, MULTICAL® 303 can be adjusted to perfectly fit its surroundings. The high protection class of the meter – IP65 for calculator and IP68 for flow sensor – makes it the leading and most efficient heat and cooling meter in its class.

Fact	Advantage	Benefit
Inlet/Outlet position	One meter to fit all installations as position, energy unit and much more can be configured on site	Low stockholding and easy planning
PN25 flow sensor approved to 130 °C	Ruggedized construction, also for high buildings and direct connected district heating	Highest flexibility without any extra effort or expense
Large dynamic range	It measures every thinkable consumption with a dynamic range of 1500:1 from start flow to saturation flow	Reduced loss of distributed energy
Low pressure loss	Reduced need for pump capacity as the pressure loss is below 0.1 bar	Reduced amount of electrical energy to the circulation pumps
Integrated and programmable data logger with minute logger	Information for the billing, energy and diagnostic efficiency	Faster troubleshooting and a better basis for efficient energy consulting
No transport restrictions on the batteries	The batteries are declared exempt from the dangerous goods regulations	Faster and more economical transportation
Improved integrated M-Bus	Configurable M-Bus and Wireless M-Bus	Future-proof – possibility of adapting datagrams to future requirements without having to exchange the meter
Small and compact	The meter can be turned and still remain within very little space (less than 60 mm from the pipe axis).	Best display readability in all applications and a minimum of time for installation

MULTICAL® 403

The front runner in energy metering

MULTICAL® 403 is an investment for the future. The meter is well equipped to meet the demands and challenges of today and tomorrow.

The meter is available with separate software download to either calculator or communication module to enable future upgrades as new possibilities and challenges occur without interfering with legal registers, meter readings or meter system management.

Fact	Advantage	Benefit
Inlet/Outlet position	One meter to fit all installations as position, energy unit and much more can be configured on site	Low stockholding and easy planning
Real-time clock backup	No need to set the clock after power failure	Lower service costs
Large dynamic range	It measures every thinkable consumption with a dynamic range of 1600:1 from saturation flow to start flow (250:1 from qp:qi)	Reduced loss of distributed energy
Low pressure loss	Reduced need for pump capacity as the pressure loss is below 0.1 bar	Reduced amount of electrical energy to the circulation pumps
Remotely read data logger	Information for billing and diagnostic efficiency can be remotely read	Faster troubleshooting and a better basis for efficient energy consulting
Improved M-Bus module	All M-Bus applications to be covered by just one configurable M-Bus module	Faster start-up, shorter reading intervals and configurable installation
Software download	Easy to update the calculator or module software either wired or wirelessly	Get the newest meter or module software without replacing the calculator or module
Small and compact	Easy to set the display to the optimum reading angle in installations with limited space.	Best display readability in all applications and a minimum of time for installation

MULTICAL® 603

Future-proof your installation with full flexibility

MULTICAL® 603 offers full support for remote reading of data loggers for billing purposes and gives 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® 603 can be equipped with a wide range of advanced communication modules, e.g. Wired or Wireless M-Bus. The improved M-Bus allows fast and frequent data readings without reducing the meter's battery life.

Fact	Advantage	Benefit
Autodetection of ULTRAFLOW®	The calculator automatically detects the connected ULTRAFLOW® and adapts meter factor and nominal flow accordingly	Low stockholding of calculator types and reduced risk of faulty meter factor
Three communication channels	Two module slots and the option for integrated wired M-Bus, for example for billing, management and BMS systems, respectively.	Easily integrates in all types of AMR and BMS systems, with three communication channels and a large range of communication modules
Very low power consumption	Up to 16 years of battery life with wireless M-Bus and two connected ULTRAFLOW®	Possibility of remote reading of a battery-supplied meter with leak detection
Faster integrations and higher resolution	Down to 2 seconds integrations and 7 or 8 digit high resolution values mean more accurate measurements	The accurate measurements means a better basis for more in-depth consumption analysis
Remotely read data logger	Information for billing of energy and diagnostic efficiency can be remotely read	Faster troubleshooting and better basis for efficient energy consulting
Improved M-Bus module	All M-Bus applications to be covered by just one configurable M-Bus module	Faster start-up, shorter reading intervals and configurable installation
Software download	Easy to update the calculator or module software either wired or wirelessly	Get the newest calculator or module software without replacing the calculator or module
User-friendly design	Easy configuration on site through the meter's three front keys and the backlit display	Save time and money with user-friendly on-site maintenance of the calculator

MULTICAL® 803

Heat and cooling metering for trade and industry

MULTICAL® 803 for heating and cooling is an all-in-one solution that meets the high requirements for advanced industrial measurement with accurate, stable energy meters with long life and many communication and remote reading functions.

With automatic detection of both the Pt-type of the temperature sensors and the meter factor of the connected ULTRAFLOW® units, it is only necessary to have one calculator in stock – MULTICAL® 803.

In addition, the meter ist IP65-approved and thus demonstrably resistant to dust and moisture.

Fact	Advantage	Benefit
Automatic temperature sensor detection	One meter for all installations as the meter automatically detects the Pt-type of the temperature sensors	Simpel purchase of meters and low stockholding
Autodetection of ULTRAFLOW®	The calculator automatically detects the connected ULTRAFLOW® and adapts meter factor and nominal flow accordingly	Low stockholding of calculator types and reduced risk of faulty meter factor
IP65 density	Robust design that can be installed in dusty and humid environments	Flexible mounting
6 years' backup battery	Both energy measurement and data communication continue during voltage failure	No risk of lost data
Four module slots	There is space for four individual modules in the meter	Optimal possibility to customize the data communication as needed
Extra large display with backlight	Easy to read - also from a distance	Can be installed in places without lighting
Approved for long cables	The meter meets the demand for flexible installation with cables up to 100 m for the flow sensor and temperature sensors	Possible to place the calculator in more convenient positions
Built-in 24 VDC auxiliary supply	No need to install external transformer	Simpel installation without the need for additional components

The digital value chain

You cannot optimize what you do not measure, but...

"If you want to exploit the full potential of intelligent energy measurement, you need the right tools to transform data into knowledge that you can act on."

Kamstrup's value chain includes everything from meters to communication solutions, software and analysis options.

Analysis

Data becomes knowledge
Presented in a clear manner and ready to be used as the basis for strong decision-making.

Software

Collection of meter data
Here, we begin to use the large quantities of exciting, raw data. Collected and grouped according to your wishes.

Communication

The "voice" of the meter
The meter's ability to communicate is crucial for the types of data - and the quality of the data - that you can retrieve.

Meter

Everything starts here
This is the whole foundation for getting new and critical knowledge about your network and users.

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