

MULTICAL® 302

kamstrup

## The Residential All-Rounder

- 360 degree value-creating energy measurement
- All-in-one quality solution for the entire residential sector
- Intuitive setting and configuration with a single button



# An all-rounder with specialized capabilities

## One solution for the housing industry

Whether used in planning, in installations, for administrative purposes or by measurement services, MULTICAL® 302 is the only heat and cooling meter you will need.

MULTICAL® 302 covers practically any application with its wide temperature range from 2 °C...150 °C, its total dynamic range up to 1:1600 from start to saturation, impressive 1:250 (qi:qp) and its pressure stage classification of PN16 and PN25.



## Versatile in any position

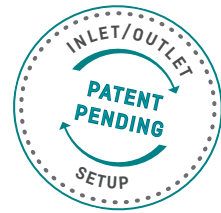
The meter's design features ensure the most efficient operational use of any heat and cooling meter. Whether mounted horizontally, vertically or on walls, MULTICAL® 302 can be adjusted to perfectly fit its surroundings. Its high protection class IP68 flow sensor makes MULTICAL® 302 the leading and best performing cooling meter in its class.

## Unrivelled eco-friendliness

MULTICAL® 302 is powered by Li-SOCl<sub>2</sub> batteries with 6-8 or 12-16 years service life. You will save resources as battery change is not mandatory during each calibration phase. The batteries' low lithium levels exempt the meter from being subject to regulations regarding transportation of hazardous materials. All MULTICAL® 302 components are furthermore designed with re-use and re-cycling in mind.



# Intuitive configuration with a single touch



1-USER

2-TECH

3-SETUP

4-TEST

## One-button operation for a job well done

Operating the MULTICAL® 302 is intuitive and easy. One button is all you need to quickly configure the system, whether as a user, for maintenance, as installer or for system tests. Simply set up all parameters required for safe operation in menu 3 – setup. The ability to handle inlet and outlet installation of the flow sensor, the flexible measuring unit and the remote reading possibility reveal the true flexibility of the MULTICAL® 302.

3-SETUP

OUTLET

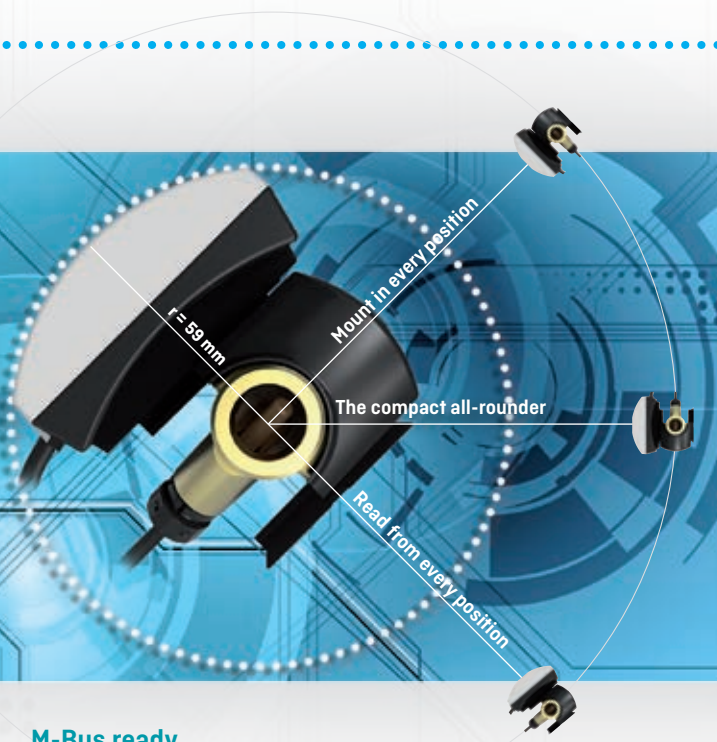
INLET

0014258  
kWh

RF ON

EndSETUP

OK



## M-Bus ready

Wired or wireless M-Bus is integrated in the meter for reliable remote data reading. With the easy-to-use USB Meter Reader Program reading the meter is easy whether done centrally or on the go.

Secondary addressing and automatic baud rate specifications are also supported by the meter.

The wireless communication enables drive-by and network reading according to EN 13757 and OMS. Data transfer takes place with individual data encryption.

Via the optical interface, data can be restored 15 years back in time due to the meter's extensive memory capacity.







## The new MULTICAL® 302

### Anything but square

#### Perfect geometry – perfect for every use

The design of the MULTICAL® 302 is based on the perfect geometry of the circle. The simple, but ingenious shape of the meter provides valuable benefits in the installation phase as well as when reading the meter. Its shape, its performance and its ease of use make the MULTICAL® 302 a truly unique all-rounder!

#### Big technology in a compact package

With only a 59 mm radius and a depth of 83 mm, MULTICAL® 302 is big technology in a compact package. The meter can be mounted in small spaces, whether on the ceiling, just above the ground or in narrow shafts. A perfect installation angle is achieved in every instance, which ensures a simple and easy reading of the display.

#### Flexibility comes full circle

The MULTICAL® 302 can be configured and programmed onsite during installation. Only a few menu steps are required to set up the meter. Its simplicity of use and the broad measuring range make MULTICAL® 302 a one-of-a-kind flexible solution for anyone working in the housing industry.

## Kamstrup – thinking ahead on your behalf

Kamstrup was founded in 1946 on a notion that still runs in our company today. There is always a better solution! This embodies our motivation to stay at the very forefront of innovation, and this has made us a world-leading manufacturer of system solutions for energy and water metering. Through the expertise of our highly skilled employees, our state-of-the-art production facility and our valuable experience, we offer top-class partnerships with our customers and solutions based on credibility, responsibility and quality. In daily operations, we support our customers not only through continuous product development but also through the highest possible level of service from our sales offices and authorized dealerships in more than 60 countries worldwide.

This allows us to genuinely think ahead on your behalf.

## Think forward

#### Kamstrup A/S

Industrivej 28, Stilling  
DK-8660 Skanderborg  
T: +45 89 93 10 00  
F: +45 89 93 10 01  
info@kamstrup.com  
kamstrup.com

MULTICAL® 403  
MULTICAL® 603  
MULTICAL® 803

**kamstrup**

## One platform – countless possibilities

- Lower your costs with reduced stock levels
- Decrease your total lifetime investment
- Future-proof your heat and 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 heat, cooling and combined heat/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. The built-in two-way communication allows software download to either meter or communication module as well as remote configuration of meter and module. Furthermore, it is possible to read out the data logger without direct access to the installation.

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



Heat



Cooling

## Built to last – designed to perform

The third generation of Kamstrup's MULTICAL® heat and cooling meters is based on a deep understanding of the challenges faced by utilities. 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

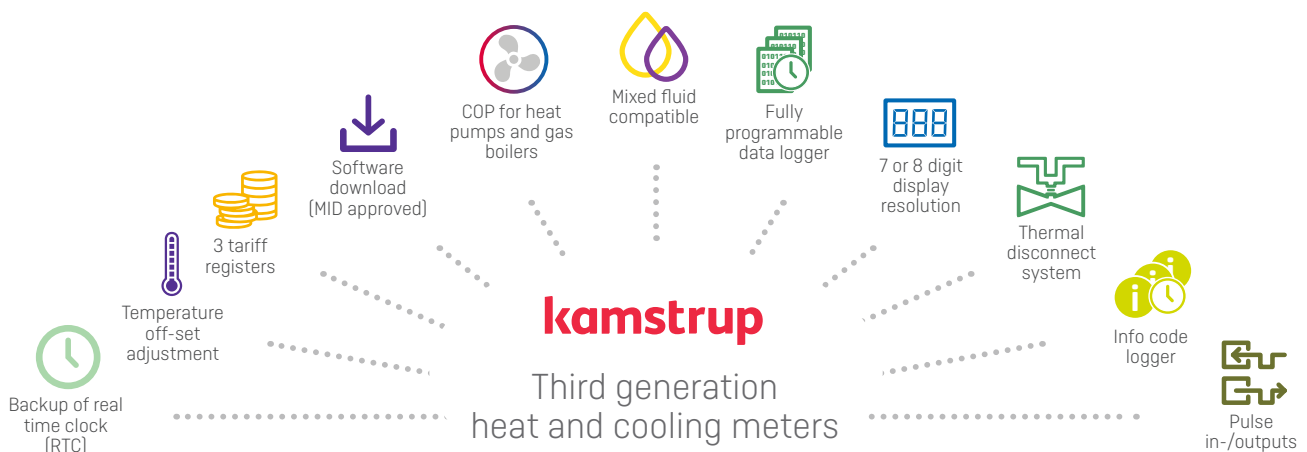
MULTICAL® 403, 603 and 803 offer full support for remote reading for billing and give you instant access to the information needed to analyse and optimise your distribution network. The **data loggers are fully programmable** to save yearly, monthly, daily, hourly and minute values. This lets you effectively 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. Wired or Wireless 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 – all of which lowers the total lifetime cost of the meters and ensures a larger return on investment.

The meters can be powered with **mains** or **battery supply** 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 heat and 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.

## Low stockholding and easy installation

MULTICAL® 403, 603 and 803 are suited for many different applications and settings including energy unit and inlet/outlet position of the flow sensor, and much more can be individually configured on-site using the front keys. This allows you to keep a low stock, be more cost-effective and save resources previously spent on planning.

One screwdriver is all you need for mounting a third generation MULTICAL® meter. The design and high quality of the meter means that it is virtually maintenance-free while reconfiguration or service is easily completed due to the simple setup. Therefore, the time and cost spent on installations and maintenance are lower than ever before.

# Choose the right meter

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

**MULTICAL® 403****MULTICAL® 603****MULTICAL® 803**

Heat meter approval [MID, EN1434]	DK-0200-MI004-037	DK-0200-MI004-040	DK-0200-MI004-042
Cooling meter approval [BEK-1178, EN1434]	TS 27.02 009	TS 27.02 012	TS 27.02 013
Temperature range	2...180 °C		
Differential temperature	3...178 K		
Medium temperature	2...130 °C		
Mains supplied	24 VAC/VDC or 230 VAC		
Battery supplied	1 x D-cell, 2 x A-cells		2 x A-cells
Battery lifetime <sup>1)</sup>	Up to 16 years		Up to 6 years
Flow range	q <sub>p</sub> 0.6...15 m <sup>3</sup> /h	q <sub>p</sub> 0.6...1000 m <sup>3</sup> /h <sup>2)</sup>	
Flow sensor cable length	1.5 m	2.5...100 m <sup>3)</sup>	
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® IP65/IP67	
Integration mode	4...64 s	2...64 s	2 s (8 s)
Measuring unit	MWh – kWh – GJ	MWh – kWh – GJ – Gcal	
Modules	1 slot	2 slots	4 slots
Integrated wired M-Bus		✓	
Data and analog modules	✓	✓	✓
M-Bus modules (wired and wireless)	✓	✓	✓
Industrial modules (ModBus, BACnet)	✓	✓	✓
Separable calculator and flow sensors		✓	✓
Connection of third-party flow sensors <sup>4)</sup>		✓	✓
Backlit display		✓ [option]	✓
Mixed fluid compatible		✓ [option]	✓ [option]

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

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

3) Standard cable lengths are 2.5 m, 5 m and 10 m. 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.

4) q<sub>p</sub> 0.6...15,000 m<sup>3</sup>/h

## Think forward

### Kamstrup A/S

Industrivej 28, Stilling  
DK-8660 Skanderborg  
T: +45 89 93 10 00  
F: +45 89 93 10 01  
info@kamstrup.com  
kamstrup.com