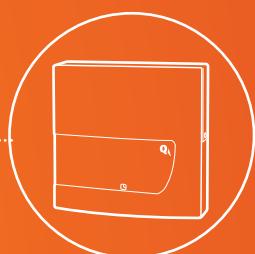




The QUNDIS product world

pioneering – precise – compatible



Innovation rooted in tradition.

The QUNDIS Group

For over 30 years now QUNDIS GmbH has been a pioneer in the development of systems for consumption data recording. Our products are focused decisively on the requirements of our customers. System solutions 'Made by QUNDIS' help to measure and analyse energy consumption and ensure responsible use of scarce resources.



Leading in Germany
and in Europe

Bringing together
the best

Open systems for
your future

In Germany the QUNDIS Group is a leading supplier of measuring devices and readout systems for consumption-based billing of water and heating costs. Our devices are now in operation within more than 30 countries, where they are installed in over 6 million residential units. Our customers include meter reading services and the housing industry.

QUNDIS was created in 2009 by a merger between the long-established companies of QVEDIS (previously Siemens) and KUNDO SystemTechnik. Our company is driven by our workforce of approx. 300 highly qualified specialists, who contribute the know-how and innovative skills which ensure our technological leadership on the market. In 2014 QUNDIS received the award of 'Top Innovator' at Germany's Mid-sized Company Summit. Its position among the leading three companies in Germany's TOP 100 confirms QUNDIS as one of the country's most innovative pioneers. At our manufacturing facility in Erfurt/Thuringia our cutting-edge production lines manufacture electronic heat cost allocators, heat meters, water meters, readout systems and communication modules in large quantities.

At QUNDIS our focus is on the recording, transmission and onward transfer of metering data. At QUNDIS our focus is on the recording, transmission and onward transfer of metering data. In the near future it will also be possible to integrate outside devices which support the OMS standard (e.g. smoke alarms, gas meters and other sensors) with the open system, providing you with greater flexibility and independence. In the near future the data will also be made available on a hosting platform (QSMP – QUNDIS smart metering platform) for use in the billing, analysis and monitoring of utility costs. This means that when it comes to pioneering energy management we're the right partner for you.

Energy savings up to 30 per cent* – thanks to QUNDIS technology.



QUNDIS system solutions are revolutionary, because they help you to save up to 30 per cent on your energy and heating costs. Our metering devices ensure transparency by regularly transmitting information on energy consumption.

As a result both tenants and landlords can monitor consumption at all times – and what's more, for each room individually. The facility management organisation receives all the data it needs for convenient evaluation and integration into utility cost billing. The result is an increase in cost consciousness and environmental awareness among all concerned.

A market leader for over 30 years in equipment for the accurate and reliable recording of water and heating consumption.

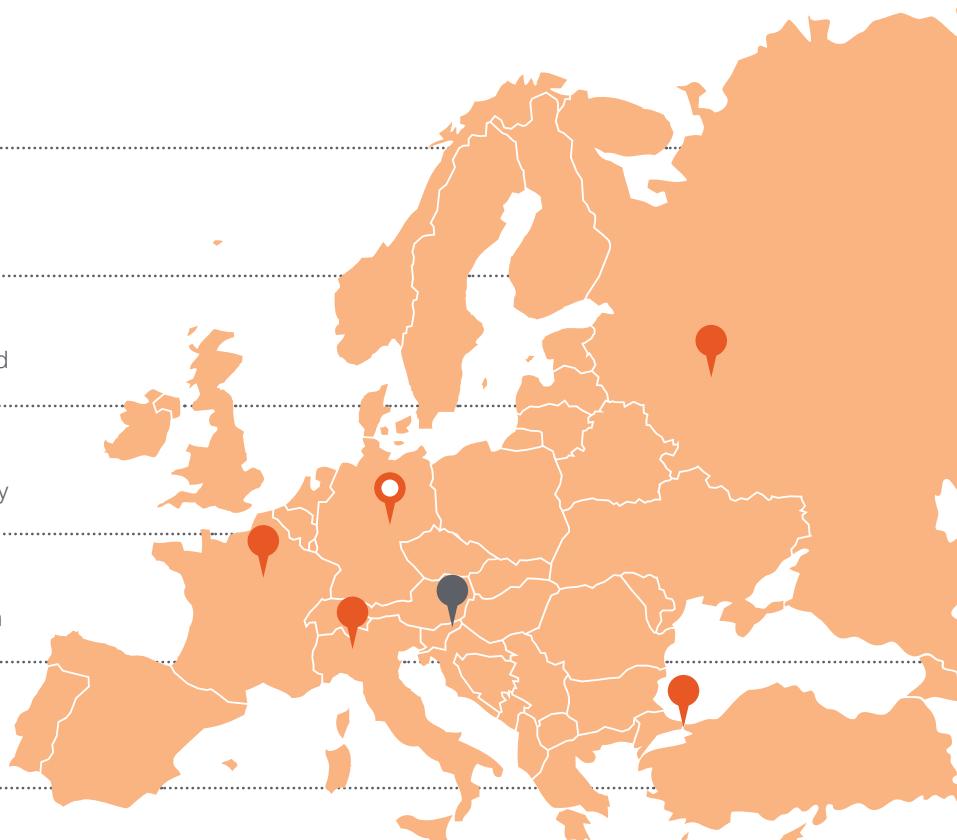
Operations
in over **30** countries

More than **6** million housing units equipped

70 million euros turnover/annually

10 per cent average annual growth

300 employees



- Production location
- Branches
- Development location

* Depending on the condition of the building and the scope of the technical measures applied.

A world of possibilities.

QUNDIS solutions and products

With QUNDIS solutions and products you have the ideal equipment for all applications. Combined with the consistent compatibility of the individual modules the wide range of available product modifications and new developments ensures reliable operations – whatever your required configuration is. No matter what your requirements are – QUNDIS delivers more than just the right measuring devices – we supply complete solutions.



QAMR represents leading-edge technology for automatic meter reading. The data is collected by network nodes and transmitted automatically to the QSMP (QUNDIS smart metering

platform). In future it will also be possible to integrate devices from other manufacturers which support the OMS standard. The system is designed for a high level of data security and all con-

sumption and equipment data is available via open interfaces. **QAMR** is compatible with KNX, the European standard for home automation.



The **Q walk-by** system consists of metering devices which transmit the current consumption data at fast intervals and at a predetermined time. A mobile data

collector receives the wireless telegrams and then transmits them – after a plausibility check – to a selected end device via a Bluetooth interface. The software

programme on this device administers the incoming data and signals the status of recording to the meter reader.



QM-Bus is based on the "meter bus" standard, an industrial standard for the wired networking of devices, sensors and actuators. M-Bus is standardised Europe-wide in accordance

with DIN 1434 and EN 13757. As a result the QUNDIS **QM-Bus** devices can reliably be networked with one another. The outstanding features of QM-Bus are a high level of

flexibility and secure data transmission. Its application is especially recommended in buildings where the wireless transmission of data is less suitable because of the design of the building.



All devices in the **Q opto** series have a close-range optical interface (IrDA). With the IrDA interface data exchange is implemented across short distances by infrared light.

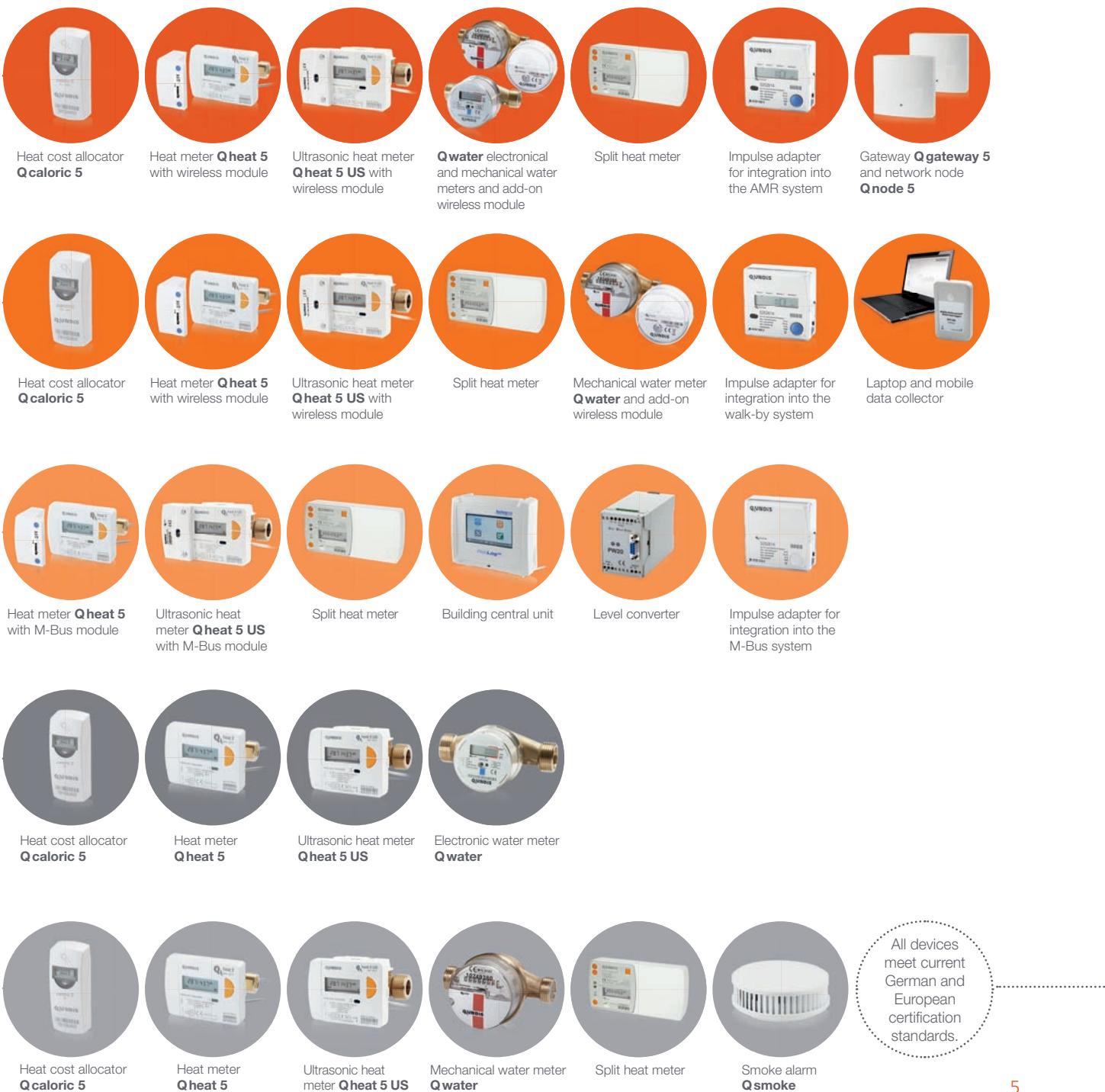
Q opto enables the reader to compare current consumption values with the previous year's data. Compared to Q basic no reading errors may occur during the readout of the data.



Q basic covers devices which are read individually and directly by visual contact. The measuring results are recorded manually by the reader.

Our recommendation: when deciding whether **Q basic** is suitable for your facility, the time involved in classical on-site meter reading should be taken into account.

QUNDIS system solutions are based on the building block principle. The standardised interfaces and open-system architecture of our measuring devices enable you to equip the building in accordance with requirements, while offering simple integration of a wide range of supplementary services. For example, for the purpose of highly efficient energy management you can provide your customers with a display of their consumption over time.





Data management the smart way.

The cloud-based allround solution for consumption data recording.

If required you can supplement our QAMR remote reading system with the **Q SMP smart metering platform**. Q SMP is a cloud-based solution which enables convenient and flexible data processing and administration, accordingly making time-consuming mobile and IT administration unnecessary!



State-of-the-art data processing.

With our new development, the QSMP Smart Metering Platform, we implement the comprehensive management of all wireless data for the metering service provider. This includes SIM-card administration, activation, blocking and billing.

At predefined intervals status information and consumption data is made available to the metering service. The data is then available for individual processing, e.g. for the billing of heating or operating costs for purposes of analysis.

At all times you have full control of the data and can use it for advanced applications, e.g. on tenant portals and apps.

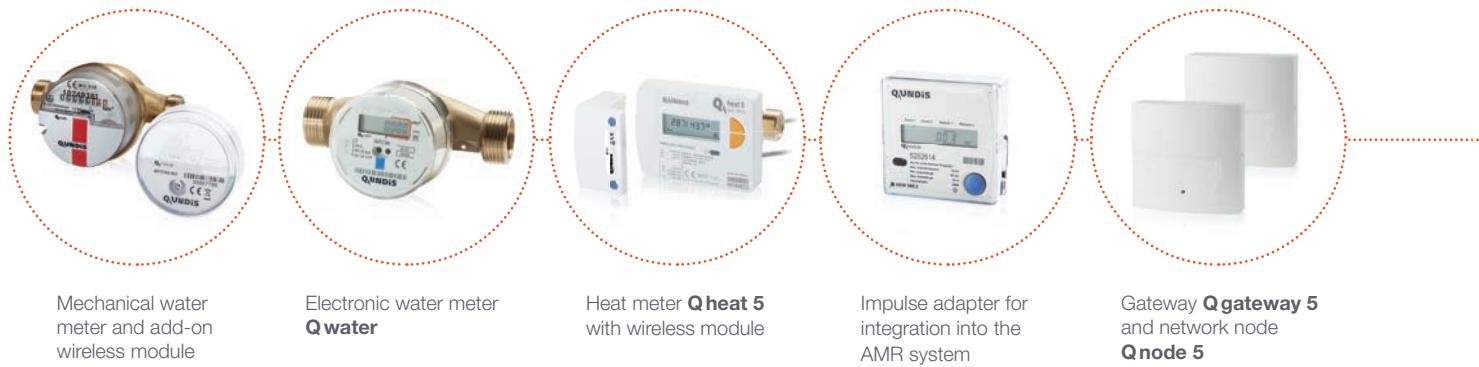
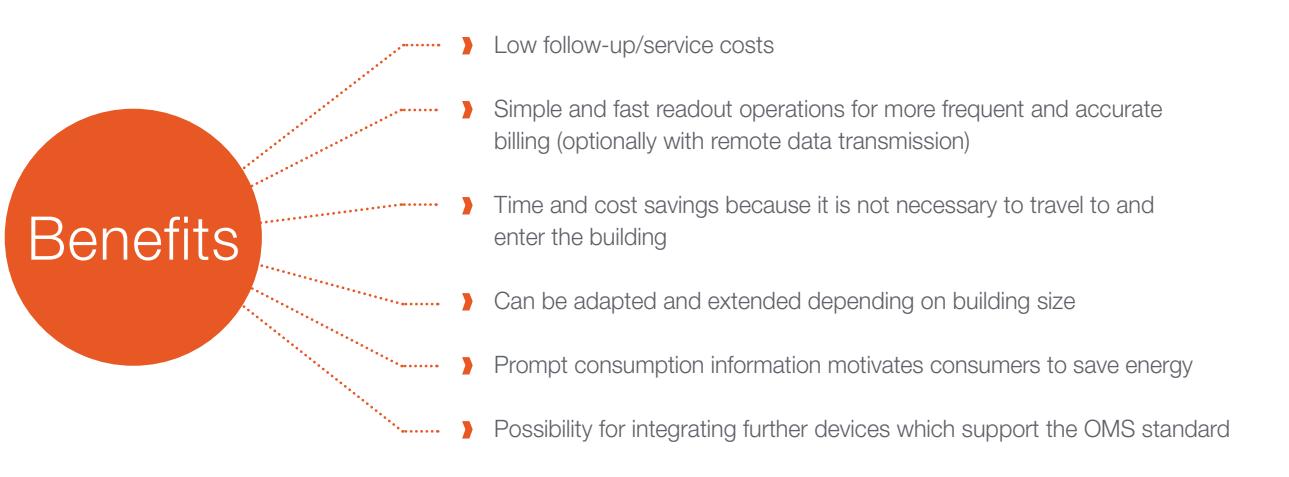


Benefits

- Time and cost savings are generated by fast set-up, proactive maintenance and the OMS standard
- External operation and – optionally – external data hosting relieves the customer of the need for his own complex IT infrastructure
- Use of leading-edge technology, cooperation partner: IBM
- Permanent data availability thanks to modern transmission technology and independence of operating systems
- High data security created by decentral storage and hosted environment (banking security)
- Trouble-free use of metering devices from other manufacturers thanks to open transmission standard
- Complete organisation of the management of wireless data
- Consumers are motivated to save energy by prompt provision of consumption information

Supply of all consumption data – when and where you wish.

QAMR, the high-end system solution from QUNDIS, has now become even smarter. As usual it provides remote recording of all consumption data precisely and automatically, before making it available for individual and secure processing on the newly developed **QSMP smart metering platform**.



Intelligence which fascinates

QAMR provides automated meter reading for facilities of all sizes. The values are transmitted securely and reliably to the service provider using a GSM phone network or broadband cable. The data is available immediately for the invoicing of heating and operating costs as well as the display of statistics for the housing industry and consumption patterns.

QAMR automatically records consumption information at the required interval and transmits the data to the QUNDIS smart metering platform (QSMP).

Qnode 5 und Q gateway 5 set new benchmarks.

The **Qnode 5** network node is at the core of the QAMR system solutions, receiving the consumption data from the meters and distributing it within the network. The individual network nodes can provide all readout values by communicating with each other. Values are read out on-site by radio or by cable connection via any available node.

The **Q gateway 5** implements the remote readout within the building. The device is supplied ex-works with a SIM card, making any time-consuming SIM-card administration unnecessary. All the administrative and data recording operations of the gateway can be conveniently controlled via the web portal of the QSMP smart metering platform.





The mobile system that operates securely even in walk-by mode.

Qwalk-by operates without the need to enter flats or offices. Instead the meter reader receives the data simply, fast and securely in the publicly accessible areas of the building. Where installations are not too extensive the data can even be recorded from outside without having to enter the building. The benefits of **Qwalk-by**: for the metering service and the tenant there is no need to arrange an appointment or be present.



Meter reading the easy way

The **Q walk-by** system consists of metering devices which transmit current consumption data at fast intervals and at a predetermined time.

A mobile data collector receives the wireless telegrams and then transmits them – after a plausibility check – to a selected end device via a Bluetooth interface.

The software programme on this device administers the incoming data and signals the status of recording to the meter reader.

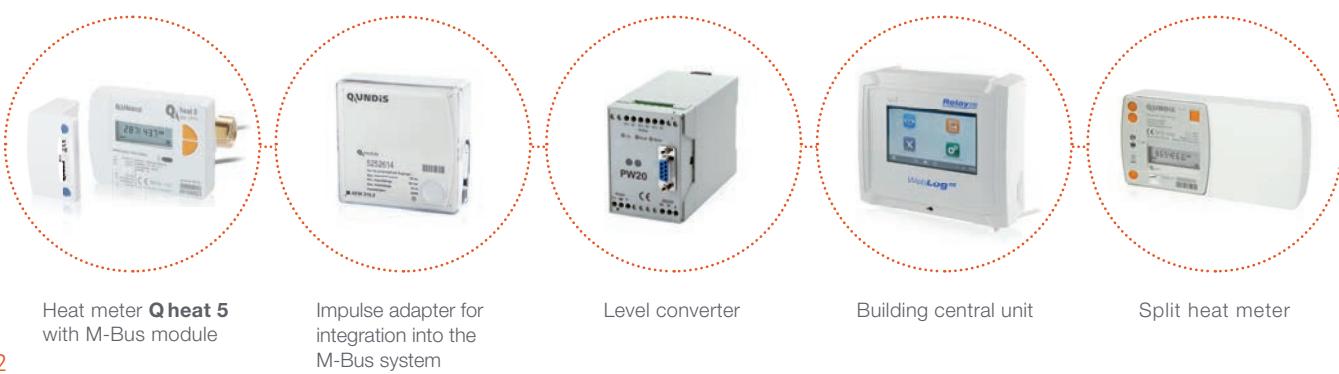
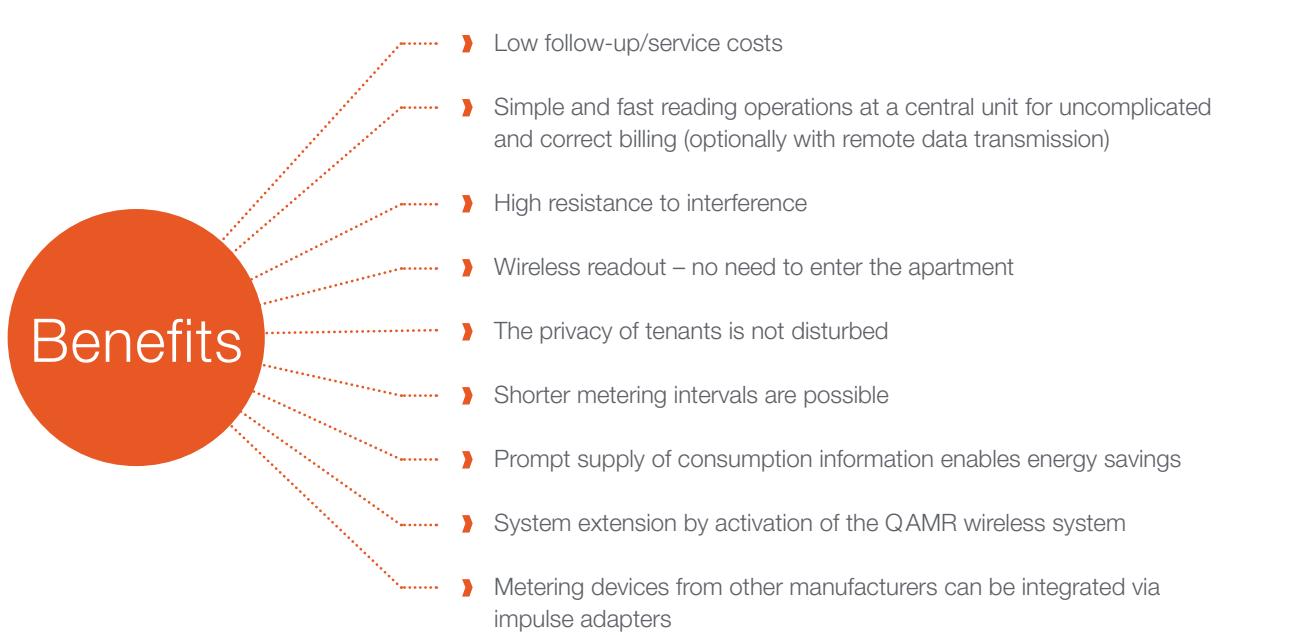
The metering service can then conveniently export the data and transfer it to its existing billing programme.

All devices are optimised for wireless transmission, thus providing more reliable and faster readout.



The wired system which bundles data streams.

QM-Bus is based on the "meter bus" standard, an industrial standard for the wired networking of devices, sensors and actuators. M-Bus is standardised Europe-wide in accordance with DIN 1434 and EN 13757. As a result the QUNDIS QM-Bus devices can reliably be networked with one another.



The breakdown-free cable network

The outstanding features of **QM-Bus** is a high level of flexibility and resistance to interference. M-Bus is normally applied in new buildings which enable the use of cables.

With this system all metering devices are connected via a 2-core bus cable to a central unit or a level converter. Centrally the meter readings can be read out electronically. With the relevant equipment the data can also be accessed remotely.

If a **QAMR** wireless system from QUNDIS is activated for the **QM-Bus** network, this enables the connection of additional metering devices from the **QAMR** system which communicate wirelessly, e.g. heat cost allocators.



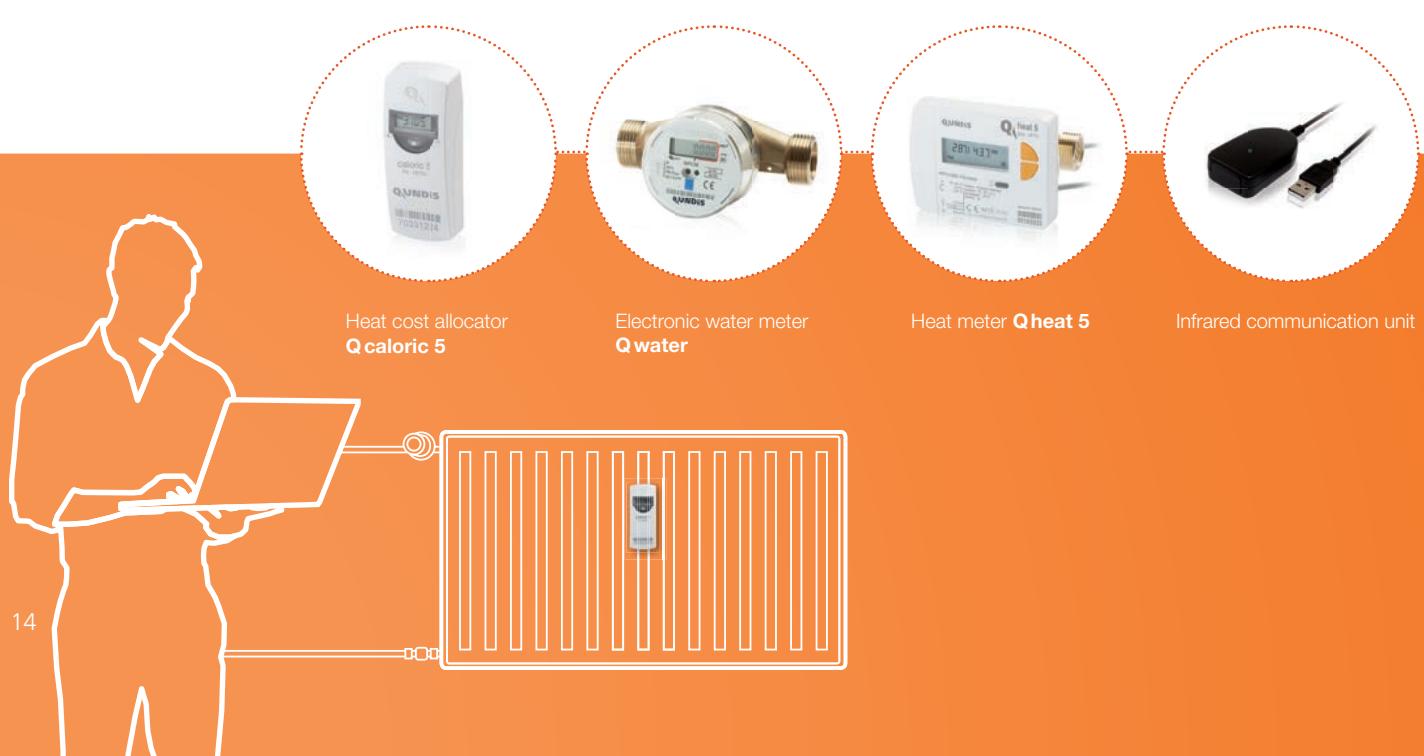
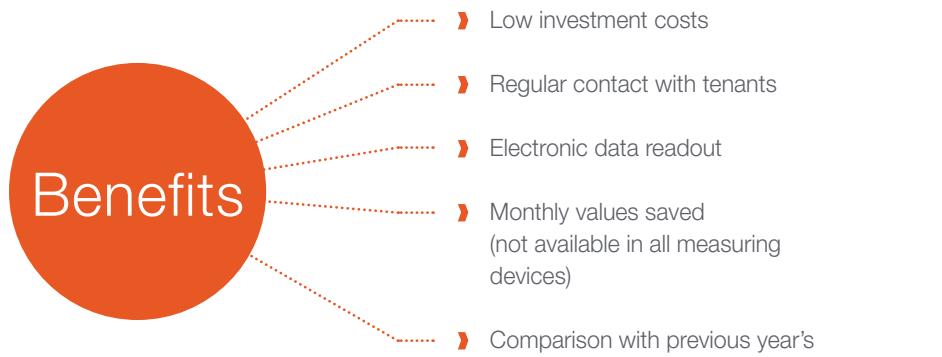


The electronic system which simply measures automatically.

Q opto combines simplified, electronic meter reading operations with personal contact with the tenant. With **Q opto**, too, consumption data is read out regularly and directly within the apartment. The use of dedicated equipment and software makes reading operations simple and convenient.

The advanced solution.

Q opto provides more data than Q basic. For example, the meter reader has the possibility of making an on-site comparison between current data and that of the year before. In addition monthly values saved on the device can be accessed.





The on-site system which can be relied on.

With **Qbasic** launching the recording of consumption data is child's play – and as precise and reliable as customers have come to expect from QUNDIS.

Qbasic is ideal for operations in buildings which do not require complex data evaluations or especially fast meter reading processes.

The classical solution.

With **Qbasic** launching the recording of consumption data is child's play – and as precise and reliable as customers have come to expect from QUNDIS. **Qbasic** is ideal for operations in buildings which do not require complex data evaluations or especially fast meter reading processes.

Benefits

- » Low investment costs
- » Regular contact with tenants
- » Display of meter reading with check digit in the case of electronic devices



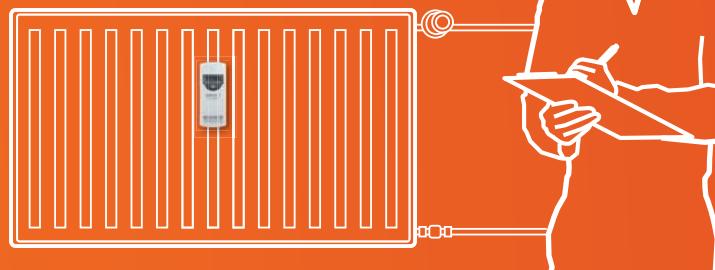
Heat cost allocator
Qcaloric 5

Electronic water meter
Qwater

Heat meter **Qheat 5**

Split heat meter

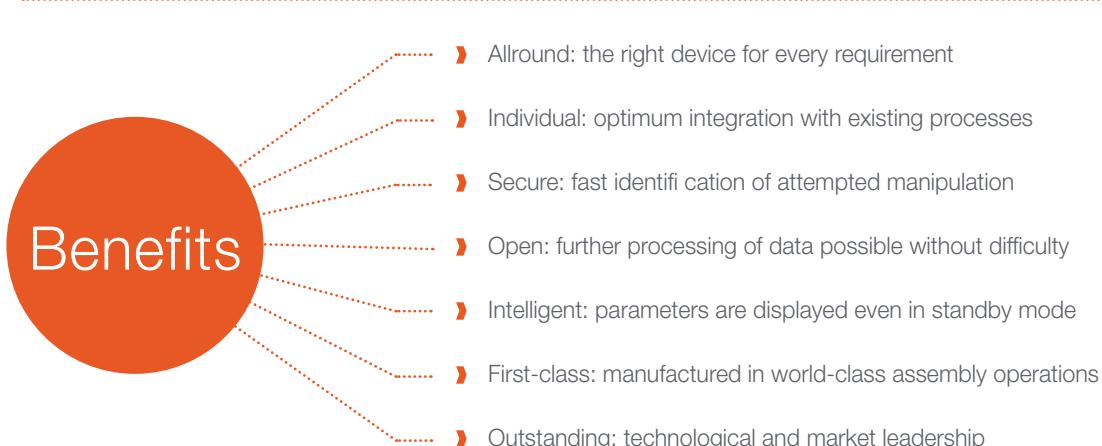
Smoke alarm
Qsmoke





Our heat cost allocator. Efficiency combined with reliability.

The electronic heat cost allocators of our **Qcaloric 5** product family are fitted to a radiator and precisely record the amount of heat consumed before saving the data.



New from
September 2015:
the wireless-optimised
Qcaloric 5.5 with
significantly greater
coverage and readout
flexibility!

This technology makes us market leaders, and our customers become innovative service providers.

Our heat cost allocators incorporate cutting-edge technology based on millions of devices applied successfully. Thanks to high-performance lithium batteries they will perform reliably for a 10-year operating period.

The **Q caloric 5** product generation offers you an all-round programme of heat allocators and accessories which are all a perfect match for

each other. It covers both single-sensor and dual-sensor devices, as well as devices with remote sensor applications.

While single-sensor devices assume a fixed room temperature, dual-sensor models differentiate between 'real' radiator warmth and other sources of heat such as sunshine. The room temperature and radiator surface temperature

are recorded separately. This also makes them suitable for heating installations with extremely low system temperatures.

Both types of device can display and save various types of data. These readings include the cumulative value up to a specific day, or the current value.





QUNDIS heat meters. Setting new benchmarks in versatility and function.

Our heat meters are the perfect system components for measuring and recording heat consumption in heating systems where heat is generated centrally. Because of their compact dimensions, simple operation and wide range of applications the **Qheat 5** model series is ideal for standard commercial underfloor heating systems, radiator systems and warm water separation.



Qheat 5: tried-and-tested, reliable, system-compatible

Here the IrDA interface is standard. AMR, walk-by wireless or M-Bus have an optional interface to enable fitting of external modules. An integrated communication system is being planned.

For special applications we have equipped **Qheat 5** with a fast measuring cycle. And a newly-developed seal with serial number ensures increased security.

Qheat 5 US: innovative, high- precision, compact

Thanks to its patented, innovative ultrasonic measuring process it is the ideal solution wherever especially precise and reliable long-term metering is essential. In addition, high-quality materials prevent wear and tear and the build-up of deposits.

Its uniquely compact design height enables installation even where space is extremely limited and provides an unrestricted choice of location. Of course the **Qheat 5 US** can be integrated with the entire QUNDIS system environment via a range of communication modules.

Split heat meters: for large volumes and high temperatures

They consist of an electronic calculating unit, a volume meter and temperature sensors. Unbeatable for large volume flows and high temperature loads!

Depending on the volume which is pumped, the measuring unit takes the form of an impeller wheel, single jet, multi-jet or Woltman sensor or ultrasonic version. Connection with the pipe system is by means of a threaded or flanged connector.

Benefits

- Seamless: for a wide range of flow sizes
- Communicative: IrDA interface on board, integration with wireless and M-Bus system possible at any time
- Versatile: available as a heat meter or combined heat/cold meter (only Qheat 5)
- Fast: 12-second cycle for ultrasonic measuring and 36 seconds for the basic version
- Secure: seal with serial number replaces the 'Selflock' (clip) seal
- Flexible: for pure service water circuits and for various water and glycol mixtures





Water meters by QUNDIS. Simply measuring everything that flows.

Our **Qwater** product series provides you with water meters which are applied as system modules for measuring the consumption of hot and cold water. During production the metering devices are tested for functional capability and accuracy in accordance with the applicable directives and norms (European metering instrument directive – MID – and the European Economic Community).



Measuring capsule or screw-type meters: the choice is yours

Our water meter portfolio covers both screw-type and capsule-type meters. Depending on the type of meter and installation material used, they can be mounted on-wall or in-wall directly in the water pipe.

The flow is measured by a dynamic measuring principle. In the case of mechanical water meters a counter indicates the cumulative consumption. With electronic water meters the data is shown on display.

Our wireless modules – meter reading the convenient way

If required all mechanical water meters prepared for wireless operation can be fitted with add-on wireless modules. These transmit the recorded counting impulses to the QUNDIS Q walk-by or QAMR systems.

As a result it is no longer necessary to enter the apartment and record reading values manually. Transmission failures to the billing system are also virtually excluded. Readout can be implemented with or without stationary data collectors, in or outside of the building and even at the metering service's own office.

Benefits

- Open: standardised interfaces
- Precise: certified metering and testing facilities guarantee accurate measurement
- Mature: fully automatic or flexibly part-automated production for peak quality
- Flexible: depending on requirements an upgrade or system change is no problem



New addition to our product range: the Pyrexx PX-1 smoke alarm

The Pyrexx PX-1 is among the leading products on the smoke alarm market and combines innovative electronics with a comprehensive range of functions, minimum size, maximum reliability and prize-winning design. The integrated lithium battery provides a lifespan of 12 years.



- Warranty: 12 years and battery life 12 years (lithium)
- Tested: DIN EN 14604/TÜV-KRIWAN/ROHS
- Bi-sensor processor technology (smoke and heat alarm)
- Flexible application: kitchens included
- Wide coverage: 20–60 m²
- Top-quality appearance: design award nominated
- Closed system (battery removal not possible)
- Ease of use: large and user-friendly test/stop button
- Simple fitting without drilling thanks to magnet adhesive gel pad



The premium-quality smoke alarm with long life battery

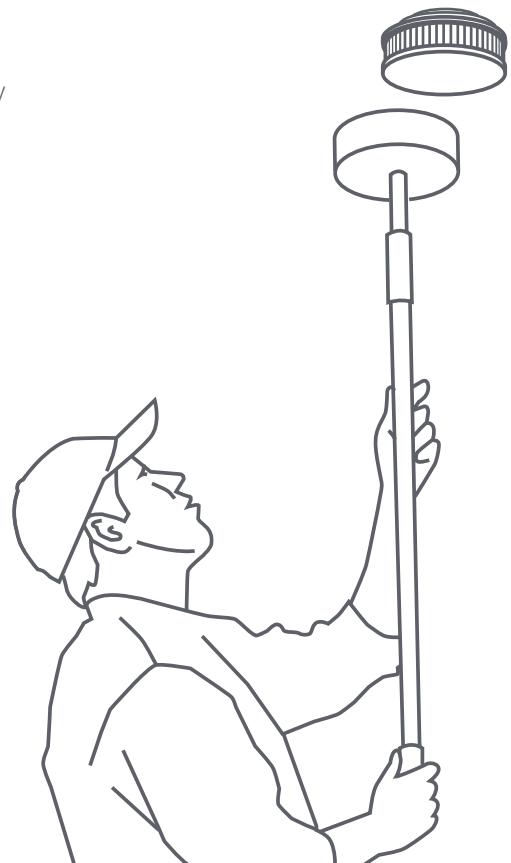
Conventional smoke alarms with their simple photo-electric smoke chamber alone are unable to differentiate among manifestations of heat, which means that a high concentration of smoke immediately triggers the alarm. In the Pyrexx PX-1 we have coupled the photoelectric smoke detection function with a heat detector. This enables a detailed evaluation of the temperature data in combination with the smoke formation, thus ensuring more precise information about the actual status in the recording chamber of

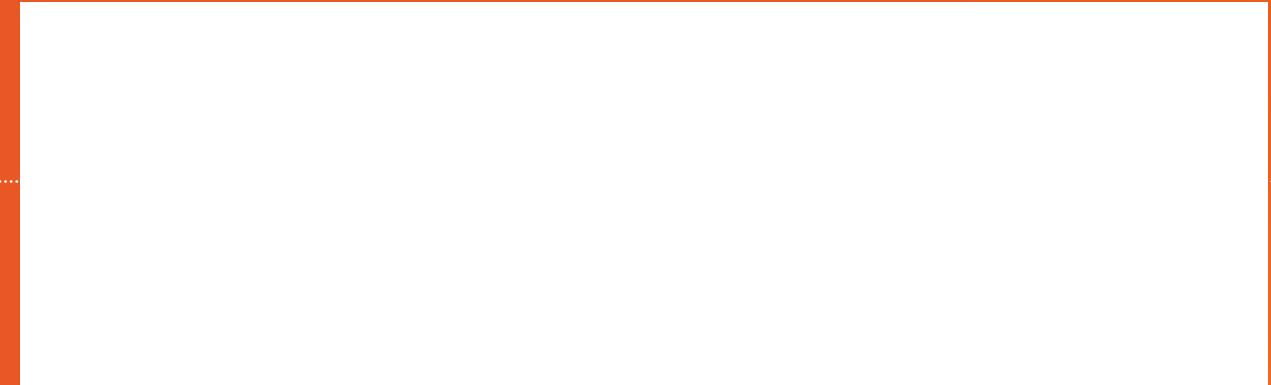
the smoke alarm. As a result there are fewer false alarms – to the benefit of your customers and of course your own.

The modern magnetic adhesive gel pad enables the Pyrexx PX-1 smoke alarm to be attached to the ceiling simply and fast without drilling or other time-consuming installation work. Fitting the smoke alarms requires only approx. 5 minutes per apartment. The device can also be installed by screw fitting, without any disadvantage to maintenance work.

Thanks to its condensation barriers the device can also be fitted in the kitchen. No alarm is generated in response to rising steam.

Support for the devices is implemented as usual by our support team. The QUNDIS support staff are trained in the use and installation of the product.





✉ QUNDIS GmbH

Sonnentor 2
99098 Erfurt/Germany
📞 +49 361 26 280-0
📠 +49 361 26 280-175
✉ info@qundis.com

www.qundis.com



Made in Germany.

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