Brunata

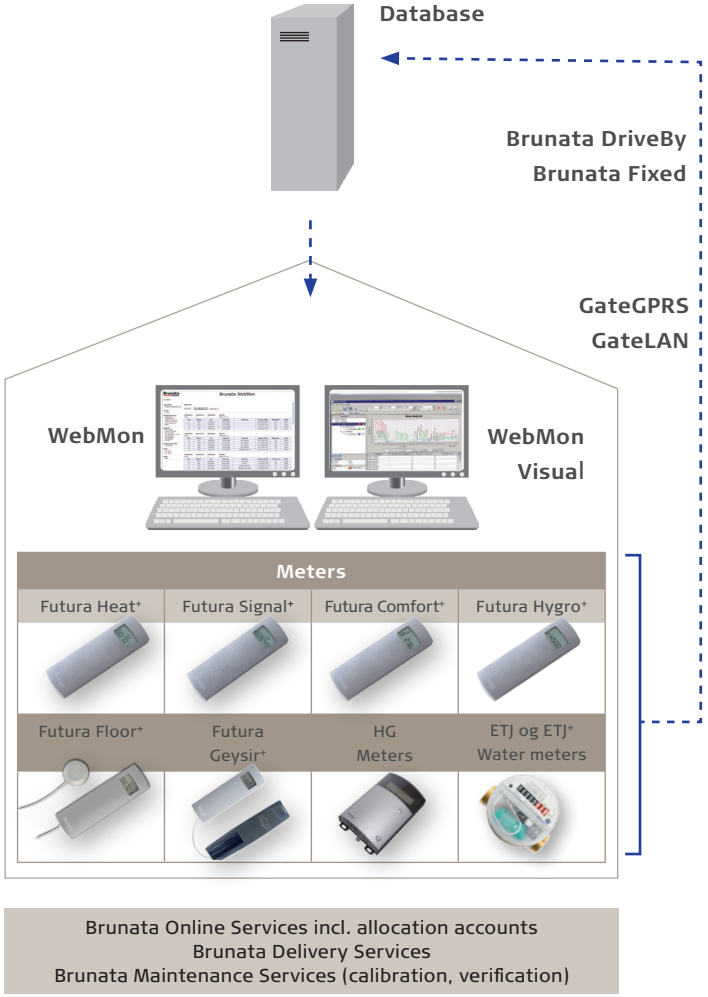
Optimising resources with
Danish metering solutions

Brunata
WMS

Brunata Solutions

BrunataNet

Brunata's remote radio-based reading systems are designed to meet various requirements in any type of building. It sends accurate and secure data from the meters to the end-user (see illustration to the right). Selected data are presented via WebMon and WebMon Visual and can be used for e.g. allocation accounts.



Brunata meters

- Electronic Futura+ with radio transmitters metering temperature, heat, water, energy, electricity and humidity
- Futura Signal+ - a universal pulse collector, which translates meter data from any meter type with a pulse output
- Energy meters and volume meters for the Distribution and Public Utility Sector

Brunata energy meters

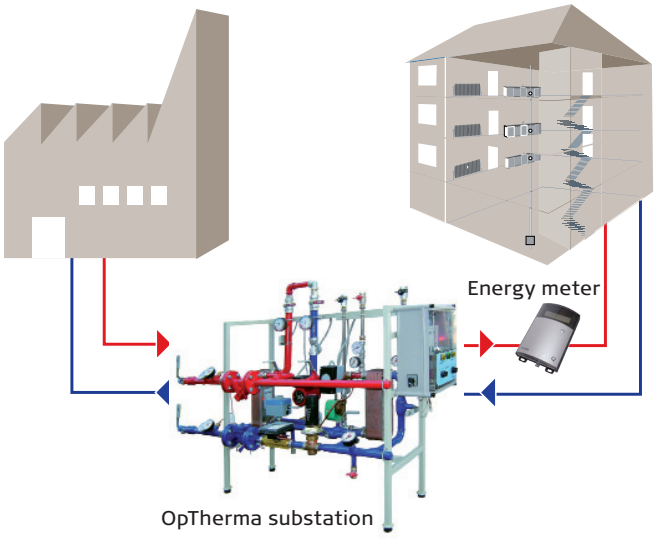
Records the heat consumption from a district heating plant. We offer a wide range from the smallest types in single households, up to the largest main meters in district heating plants.

Brunata data collection

There are three ways to collect data from the meters:

- Brunata DriveBy (a service car that passes by occasionally and reads the meters automatically)
- Brunata Fixed (the cable is connected to a GateGPRS box)
- Brunata Visit (a person reads the meters on location)

The Brunata systems can read any electronic meter.



Brunata OpTherma substations

Designed for providing heat and domestic hot water supply from district heating networks. They can be tailored to your need, meet the requirements of any heat supplier and offer lightweight and compact design to facilitate transportation and low cost installation.

Brunata Services

Brunata Services covers a wide range of (online) services within installation, accounting, meter control, maintenance, calibration and verification.

Brunata a/s Company Profile

Tradition of loyal customer relationships at Brunata

At Brunata, we attach great importance to developing a solid relationship with our customers and ensuring satisfaction with our solutions. We therefore have a strong tradition of stable, long-term customer relationships. We cover a broad range of customer groups in both the supply sector and the distribution sector:

- Individual users
- Home owners and letters
- Housing associations and cooperatives
- Commercial and industrial properties
- Public buildings and institutions
- Administrators (caretakers, lawyers)
- Consultants (engineers, architects)
- Developers
- Waterworks and district heating power plants
- Electricians
- Plummers

"We have got a tool for optimising operations simply by pressing a button."

Mogens Elmvang, Augustenborg, DK, 2007

"The service provided with regards to heat accounting and products by Brun-Pol Silesia is very accurate, reliable and always on time."

Katowicka Spoldzielnia, Warsaw, Poland, 2008

"As a tenant rep I chose Brunata Zagreb and did the right thing! I get high quality products, affordable prices, and no manipulative fees. And now, I save 45-48% on my heating bill!"

Mihael Jurkovic, Croatia, 2008

We are members of

ESCO - Energy Service COmpanies • EVVE – The Association for Energy Cost Allocation (European branch organisation) • DBDH – Danish Board of District Heating • CEN / TC171 – European Committee for Standardization / Technical Committee HCAs

Standards and memberships

Brunata is certified according to ISO 9001 and environmentally certified according to the rules in DS/EN ISO 14001

DS CERTIFICERING KVALITETSSTYRINGSSYSTEM OG MILJØLEDELSESSYSTEM DS/EN ISO 9001 DS/EN ISO 14001

Brunata a/s Company Profile

Where to find us...

Brunata:

- Bulgaria
- China
- Croatia
- Denmark
- Greece
- Hungary
- Italy
- Norway
- Poland
- Romania
- Russia
- Serbia
- Slovakia
- Slovenia
- Sweden
- Turkey

Brunata partners:

- Bosnia/Herzegovina
- Czech Republic
- Great Britain
- Estonia
- Latvia
- Lithuania
- Netherlands

Other markets with Brunata technology:

- Austria
- France
- Germany
- Spain
- Switzerland

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Brunata Futura+

Electronic heat cost allocator with genuine 2-sensor measurement

- Brunata Futura+ is developed for both low and high temperature systems
- Brunata Futura+ not only records the heat emitted by the radiator (plus heat), but also the heat supplied to the radiator from its surroundings (minus heat). This means that heat from the sun or a wood-burning stove is not recorded as consumption
- The easy-to-read display shows the consumption this year and last year in the form of icons
- Replaceable, environmentally friendly batteries
- Brunata Futura+ is supplied with a radio transmitter module for remote reading

Accurate measurement of heating

Brunata Futura+ is a heat cost allocator used to record the heat consumption in buildings where a number of consumers have to share the heating costs. In this way, the individual consumer's heating costs can be calculated and settled as a fair, consumption-dependent share of the total heating costs of the building.

Patented measurement concept

Brunata Futura+ applies genuine 2-sensor measurement. It means that two measurements are carried out continuously – of the radiator's surface temperature and of the room temperature respectively. The heat consumption is then regularly calculated on the basis of the difference between these two temperatures.

Brunata Futura+ not only measures the heat emitted by the radiator to the room (plus heat), but also the heat supplied to the radiator from the room, e.g. on a hot summer day (minus heat). The heat consumption is then calculated as the difference between plus heat and minus heat.

Accordingly, no consumption is recorded when the radiator is not receiving heat from the central heating system. Recording only takes place when there is a positive difference between plus heat and minus heat over a 24 hour period. The number of hours when the radiator is not in use is stored in the allocator's memory.

Brunata Futura+ can also be used to measure floor heating. See section "Technical data".

Measures correctly the whole year

Unlike other electronic heat cost allocators, Brunata Futura+ does not use its calendar function to raise the starting temperature when recording the heat consumption during the summer. That would mean that a significant part of the heat consumption would not be recorded, especially in the common low temperature systems, which have a low inlet temperature, and in central heating systems where the temperature is automatically reduced during the summer period.

Brunata Futura+ measures the heat consumption correctly 365 days a year – also in low temperature systems.

Data stored in the memory

Readings for the 1st and 15th of every month are stored in the allocator's memory. Altogether, data are stored for 52 log periods, corresponding to data for 26 months.

The following data are stored for each period:

- Current heat consumption
- Radiator temperature
- Room temperature

All temperatures are stored in Kelvin with a resolution of 0.1K.

Brunata is a 100 % Danish owned company. We have more than 85 years of experience within developing and producing heat cost allocators and heating accounts. We have a quality system fulfilling EN ISO 9001. Please contact us for further information on our products.

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Memory with advantages

One of the advantages of the memory function is that the allocator does not have to be read on a specific day in connection with removals.

If Brunata Futura+ is exposed to attempts at tampering or other damage, this is also recorded in the memory together with information on date and time.

The allocator recordings are checked in connection with the annual reading and when residents are moving in or out. The many stored measurements also make it possible to evaluate if exceptional energy consumption is caused by bad consumer habits, failures in the heating system or inadequate insulation of the building.

The annual heat consumption is stored in the allocator's memory for ten years.

Easy-to-read display

Brunata Futura+ is easy to read and it is not necessary to press any buttons. Brunata Futura+ shows the different recordings by turns alongside easy-to-understand icons.

Units

The heat consumption is measured in units, accumulated in a counter unit and shown as "Consumption this year" on the allocator's display. On the first day of a new heat accounting year, the measurement of "Consumption this year" automatically starts at zero.

Units last year

Last year's heat consumption is read precisely at the terminal date, stored in the memory and shown on the display as illustrated on the right. In this way, the consumers can keep an eye on their heat consumption and compare it with the consumption the preceding year. The consumption during the past ten years is stored in the allocator's internal memory.

Scale and control figure

When installed, each allocator is adjusted to the radiator capacity by means of a scale. This ensures that the heat consumption is measured correctly and is comparable with the consumption in other locations where Brunata Futura+ heat cost allocators are installed. In addition, the allocator is equipped with a control figure, which provides extra security for correct reading of the consumption.

Allocator no.

Each allocator has its own unique number. As a result, Brunata can always find details of consumption, installation location, etc.

Environmentally compatible with long life

Brunata Futura+ has a very long life, because its battery is replaceable.

Most other electronic heat cost allocators on the market are disposable. This means the entire allocator has to be replaced when the battery runs out.

Brunata Futura+ is developed for the future

All versions of Brunata Futura are supplied with a radio transmitter module for remote reading, so that the residents are not disturbed in connection with meter reading.

Technical data

Operating principle:
Electronic heat cost allocator with 2-sensor measurement. One sensor records the radiator surface temperature, the other records the room temperature.

Standards:
Danish type approval DS/EN 834
System designation TS 27. 21 027
The Danish type approval does not comprise measuring of floor heating.

Application area:
Ordinary types of 1 and 2 piped heating systems, including the so-called low temperature systems and buildings insulated post-construction.

Criterion of recording of consumption:

t_z-t_i › 0 °C	In conformity with DS/EN 834 item 5.3
+ and - heat (patented)	Only heat supplied to the radiator from the central heating system is measured as consumption
t_{min} = 20 °C	Measures correctly by very low temperatures
t_{room}	Range of measurement 0 °C - 105 °C
t_{rad}	Range of measurement 0 °C - 105 °C

Type designations:

E1	with external radiator temperature sensor t_{rad} Range of measurement 0 °C – 125 °C
E2	with external radiator and room temperature sensor t_{rad} Range of measurement 0 °C – 125 °C
K	with rear piece for convector
G	with floor heating temperature sensor

Transmission frequency
Brunata Futura+ sends a telegram every 2end – 4th hour.
Brunata Futura+ Ver2 sends a telegram every 2end minute.

Display: "Units", "Units last year", "Scale" and "Allocator no." are shown by turns.

Degree of protection of enclosures: IP42

Memory:
The last 52 measurements from the 1st and 15th day of the month (heat consumption, radiator and average room temperature). The cut-off date for heating accounts. Dated log of operation conditions and error conditions. Statistics of operation conditions (function modes) and annual consumption for the past ten years

Measures and weight:
Brunata Futura+: 131 x 39 x 19 mm, approx. 65 g

Battery:
The batteries are replaceable. All allocators are supplied fitted with battery for ten years' normal use + 1 year.

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Brunata

Brunata FuturaComfort+

Electronic comfort meter for measuring room temperature or exterior temperature

- Measures the current temperature via either internal sensor or remote sensor
- Shows the temperature in °C with one (1) decimal on the display
- The range of measurement at the standard setting is -25 °C to +100 °C (248.2 K to 373.2 K with a resolution of 0.1 K)
- Supplied with radio transmitter module for remote reading as standard, but can also be supplied without this module
- Carries out measurement every second minute

Data stored in the memory

Values for the 1st and 15th of every month are stored in the meter's memory. In total, data for 52 log periods are stored, corresponding to data for 26 months.

The following data are stored for each period:

- The average temperature for the current period
- The average temperature for the previous period
- The average temperature for the last 24 hours of the period
- The average temperature for the previous 24 hours of the period

All temperatures are stored in Kelvin with a resolution of 0.1 K.

With or without radio transmitter

FuturaComfort+ is supplied with a radio transmitter allowing remote reading as standard. When the meter is read remotely, the full development of the measured temperatures can be seen. However, the meter can also be supplied without radio transmitter. In that case, it is read by hand terminal, typically once a year.

Comfort measurement

Heating accounts can be based on comfort measurements in the following way:

The degree day figure G is calculated for every room in a building. For any given period, this is calculated as the difference between the average interior and exterior temperatures, multiplied by the number of days, d, i.e.

$G = (t_{int} - t_{ext}) * d$

The comfort figure K is calculated as K = G * A, where A is the room area.

The individual consumers' total comfort figures (the sum of the comfort figures for the rooms at the consumer's disposal) divided by the sum of all comfort figures for the building can now be used as a key for heat cost allocation.

Example: Assume that the consumer NN has three rooms at his disposal with the comfort figures K_1, K_2 and K_3, that the sum of comfort figures for the building is K_{total} and that the room heating cost for the building is B_{total}.

NN will then have to pay the following amount for his room heating:

$B_{NN} = ((K_1 + K_2 + K_3)/K_{total}) * B_{total}$

Brunata is a 100 % Danish owned company. We have more than 90 years of experience within developing and producing heat cost allocators and heating accounts. Brunata a/s has implemented a quality system in accordance with EN ISO 9001. Please contact us for further information on our products.

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Easy-to-read display

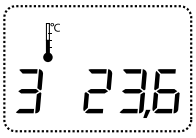
The comfort meter is easy to read. The following information is shown alternately in °C with one decimal on the display:

Meter number

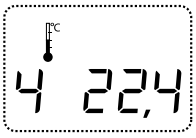
Display reading 1 shows the current temperature from the latest measurement

Display reading 2 shows the average temperature for the current 24 hours

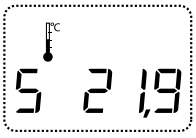
Display reading 3 shows the average temperature for the previous 24 hours



Display reading 4 shows the average temperature for the current fortnight



Display reading 5 shows the average temperature for the previous fortnight



Radio telegram

Meters with radio transmitter transmit a number of selected data at regular intervals:

- Meter number
- Current temperature from the latest measurement
- Average temperature for the previous 24 hours
- Average temperature for the current fortnight
- Average temperature for the previous fortnight

All temperatures are transmitted in Kelvin with a resolution of 0.1K.

Replaceable batteries

FuturaComfort+ is supplied with a replaceable lithium battery. The meter can be set to different transmission frequencies. With a telegram transmission frequency of every 30 minutes, the expected life of the battery is over ten years.

Technical information

Minimum distance from radio transmitter:	1 m
Size and weight:	131 x 39 x 19 mm, approx. 65 g
Battery:	Replaceable lithium battery with an expected life of at least ten years at telegram transmission intervals of 30 minutes.
Transmission frequency	Brunata FuturaComfort+ sends a telegram every 15th minute. Brunata FuturaComfort+ Ver2 sends a telegram every 2end minute.

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Brunata

Brunata FuturaHygro+

Electronic humidity sensor measuring humidity and room temperature

- Measures the current temperature and humidity via internal sensor.
- Shows the temperature in °C with one decimal on the display.
- Shows the humidity in % RH with one decimal on the display.
- The allocator's range of measurement is 0 °C to +55 °C (273.2 K to 328.2 K) and 0 % to 100 % RH (without condensation).
- Carries out measurements every second minute.
- Sends a telegram every hour.
- Supplied with radio transmitter module for remote reading as standard.
- Easy to read display.
- Replaceable environmentally compatible battery. After 10 years of use the battery can be replaced, without changing the allocator.

Data stored in the memory

Values for the 1st and 15th of every month are stored in the meter's memory. In total, data for 52 log periods are stored, corresponding to data for 26 months.

The following data are stored for each period:

- The last fortnight's average temperature and humidity.
- Number of measurements in mode 1: The number or registrations during a fourth night the humidity went below 60 % RH (RH<60 %).
- Number of measurements in mode 2: the number or registrations during a fourth night the humidity was between 60% and 70 % RH (60 % < RH < 70 %).
- Number of measurements in mode 3: the number or registrations during a fourth night the humidity was between 70% and 80 % RH (70 % < RH < 80 %).
- Number of measurements in mode 4: the number or registrations during a fourth night the humidity was above 80 % RH (RH > 80 %).

All temperatures are stored in Kelvin with a resolution of 0.1 K and all humidity measurements are stored in % RH with a resolution of 0,4 % RH.

Humidity measurements

FuturaHygro+ is using a measuring principal which is based on kapacitive measurements of the airs relative humidity. Alongside with measurements of the relative humidity measurements of the temperature the room temperature is also measured. These two measurements give at precise indication of the airs relative humidity. I is not necessary to calibrate FuturaHygro+ which means that you never have to take the allocator down.

With or without radio transmitter

Supplied with a radio transmitter allowing remote reading as standard. When the meter is read remotely, the full development of the measured temperatures can be seen. However, the meter can also be supplied without radio transmitter.

Brunata is a 100 % Danish owned company. We have more than 90 years of experience within developing and producing heat cost allocators and heating accounts. Brunata a/s has implemented a quality system in accordance with EN ISO 9001. Please contact us for further information on our products.

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Easy-to-read display

FuturaHygro+ is easy to read and it is not necessary to press any buttons. Brunata FuturaHygro+ shows the different recordings by turns alongside easy-to-understand icons.

Display reading 1
Shows the current temperature from the resent measurement

Display reading 2
Shows the current humidity from the resent measurement

Display reading 4
Shows the allocator's number. Each allocator has its own unique number. As a result, Brunata can always find details of installation location

Radio telegram

Every hour a telegram is send from the allocator. Several information are included in the telegram, such as:

- Meter number
- Current temperature from the resent measurement
- Current relative humidity from the resent measurement
- Average temperature for the previous 24 hours
- Average relative humidity for previous 24 hours
- Average temperature for the previous fortnight
- Average humidity for the previous fortnight

All temperatures are transmitted in Kelvin with a resolution of 0.1K, and humidity in % RH with a resulution of 0,4 % RH.

Replaceable batteries

FuturaHygro+ is supplied with a replaceable lithium battery. The allocator can be set to different transmission frequencies. With a telegram transmission frequency of a sent telegram every hour the battery will have a durability of 10 years (+ one year backup).

Technical information

Operating principle	Electronic humidity and temperature allocator in the same unit, thus more precise measurements of the temperature and the humidity are achieved this way. These measurements can be used in order to see if there might be at problem with too high humidity.
Application area	In buildings where you want to monitor the humidity e.g. in basements, apartments or new constructions, where you suspect there might be a problem with humidity, and therefore want to monitor the indoor climate.
Placement	FuturaHygro+ must always be placed on an inner wall. If the allocator is placed on an outer wall it might result in imprecise measurements. Further more the allocator must be placed at least 2 m from a radiator, wood burning-stove etc. FuturaHygro+ must not be placed in direct sunlight.
Transmission frequency	Brunata FuturaHygro+ sends a telegram every hour. Brunata FuturaHygro+ ver2 sends a telegram every 2nd minute.
Protocol	Brunata FuturaHygro+ use BrunataNet protocol Brunata FuturaHygro+ ver2 use BrunataNet ver2 protocol
Memory	The last 52 measurements from the 1st and 15th day of the month.
Measures and weight	FuturaHygro+ :131 x 39 x 19 mm, approx.65 g.
Battery	Replaceable lithium battery with an expected life of at least ten years.

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Brunata

Brunata FuturaSignal+ vers. 3.7

The pulse counter is used for collecting simple measurement signals from various consumption meters, such as water meters, electricity meters, heat meters etc.

Characteristics

- Easy to install and read
- Available with radio transmitter RS-485
- Stand-alone remote counter for meters with pulse output
- The log function ensures correct data when a flat is vacated
- Easy to read display with easy to understand icons
- Replaceable lithium batteries
- Moisture proof model available
- Pre-programmed model available

Components

The pulse counter consists of two main components:

- A cabinet containing the pulse counting device itself (supplied with a 3 metre cable)
- A connection box to which the cables from the consumption meters are connected

Installation

FuturaSignal+ is applicable in systems transferring data to the BrunataNet system. In this case the pulse counter is part of the total recording of consumption in a building. The network ensures an early warning in cases of abnormal consumption or error functions.

Network

The pulse counter is applicable in systems transferring data to the BrunataNet system. In this case the pulse counter is part of the total recording of consumption in a building. The network ensures an early warning in cases of abnormal consumption or error functions.

Stand-alone remote counter

For meters to which access is difficult FuturaSignal+ can be used as a stand-alone remote counter. A handheld computer ensures a safe and quick reading.

Programming

The pulse counter must be programmed to comply with the consumption meters connected. Normally, programming is carried out during the installation by means of a handheld computer. However, ordering a pre-programmed pulse counter is also possible.

Data stored in the memory

Values for the 1st and 15th of every month are stored in the meter's memory. In total, data for 52 log periods are stored, corresponding to data for 26 months.

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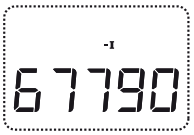
Easy-to-read display

FuturaSignal+ is easy to read and it is not necessary to press any buttons. FuturaSignal+ shows the different recordings by turns alongside easy-to-understand icons. The display alternates between meter no. and consumption (max 4 channels). Please see illustration below.

Channel 1
Meter no.



Channel 1
Consumption

Channel 2
Meter no.

Channel 2
Consumption

Channel 3
Meter no.

Channel 3
Consumption

Channel 4
Meter no.

Channel 4
Consumption

Meter no. comprises the four unique channel numbers of the pulse counter

Environmentally compatible with long life

FuturaSignal+ is supplied with a replaceable lithium battery. However, because the meter can be set to different transmission frequencies, the life span of the battery varies. With a telegram transmission frequency of every 30 minutes, the expected life span of the battery is over ten years.

Technical data

Operating principle: Collecting signals from various consumption meters, such as water meters, electricity meters, heat meters etc.

Display:

Type:	LCD, 25mm x 16mm
No. of digits:	5 digits
Decimals:	0, 1 or 2
Information:	´Consumption', 'Meter no.' alternately

Transmitter:

Frequency:	433MHz
Modulation:	FSK
Transmission frequency:	Programmable Min. once every 24 hours and for each counter increment.
Receiver:	BrunataNet RS-485

Log:

No. of log measurements:	52
Log period:	15 days
Log data:	Counter reading, overflow
Other log information:	Errors

Pulse entries:

No. of entries (channels):	4 channels
Meters per entries:	1
Signal type:	"S01" or Reed
Max. frequency:	16.67 Hz
Min. pulse lenght:	28 msec
Entry scale:	Programmable
Connection:	Screw terminals

Battery:

Connection:	Plug
Battery type:	Lithium 3.0V
Battery size:	½ AA, 2/3 AA, 1/1 AA
Life span:	Min. 10 years + one year backup

Type designations:

Entries	Item no.
4 reed	45-0000-B
1 S01 & 3 reed*	45-0020-B
2 S01 & 2 reed	45-0040-B
3 S01 & 1 reed	45-0060-B
4 S01	45-0080-B

*Standard, in stock

Transmission frequency: Brunata FuturaSignal+ sends a telegram every 2end – 4th hour. Brunata FuturaSignal+ Vers2 sends a telegram every 2end minute.

Dimensions:

Measures and weight:	Futura+ cabinet	135 x 37 x 18 mm, 80 g.
	Connection box	66 x 66 x 20 mm, 41 g.

Further information:
Information on connection of consumption meters:
Please see Technical Information "Pulse Accumulator 02-38"

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Brunata

Brunata Sensus single-jet water meter type ETJ for utility water

Single-jet impeller meter used for measuring hot and cold utility water and prepared for communication module.

Characteristics

- Single-jet utility water meter
- Easy to read mechanical counter (can be rotated 360°)
- Nickel-plated measuring chamber
- Measures cold water up to 30 °C
- Measures hot water up to 90 °C
- Reading in cubic metres with three decimals
- Can be installed either horizontally or vertically (see details on the reverse)
- EU approval class B (horizontal installation)

Further information

Brunata water meter ETJ is a single-jet impeller meter in a dry-running design with roller counter. To minimise damage caused by impurities or lime in the water, the meter is designed to provide maximum protection of shafts and bearings.

Brunata ETJ is prepared for incorporation of communication module with radio transmitter.

The meter can be installed either horizontally or vertically. The counter should not face downwards, but the meter can be rotated 360° for easier reading.

Accessories

Fitting pipe: stainless, brass or galvanised
Water meter joining G¾B x ½"
Joining with ball valve G¾B x ½"
Joining with ball valve and dirt filter ¾" x ½"
Non-return valve for filter ball valve
Installation kit for replacement of larger meter

Type	Article no.
Cold-water meter G¾B x 80 mm, max. 30 °C	
ETJ-K	19-7920-H
Hot-water meter G¾B x 80 mm, max. 90 °C	
ETJ-V	19-7921-H
Cold-water meter, G¾B x 110 mm, max. 30 °C	
ETJ-K	19-7922-H
Hot-water meter, G¾B x 110 mm, max 90 °C	
ETJ-V	19-7923-H

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UK-QB 10.1112/16.08.2007

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Technical data

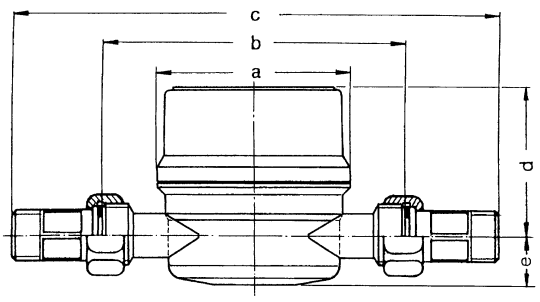
Type				ETJ horizontal installation	ETJ vertical installation
Nominal flow rate		q_n	m³/h	1.5	1.5
Maximum flow rate	briefly	q_{max}	m³/h	3.0	3.0
Transition flow rate		q_t	l/h	120	150
Minimum flow rate		q_{min}	l/h	30	60
Start flow rate for new meter		q_{start}	l/h	approx. 8.5	approx. 15
EU accuracy class	Horizontal installation			B	-
	Vertical installation			-	A
Measuring accuracy	Verification limits	q_{min}-q_t		± 5 %	
		q_t-q_{max}		± 2 %	
Max. temperature	Cold-water meter	Class B		30 °C	
	Hot-water meter	Class B		90 °C	
Pressure class				PN10	
Head loss at q_{max}		Δp	kPa	10	
Approval no.	Cold-water meter	40 °C		D 78 / 6.131.107	
Approval no.	Hot-water meter	90 °C		D 86 / 6.331.78	
Pulse output	Passive reed switch	Litres/pulse		10	

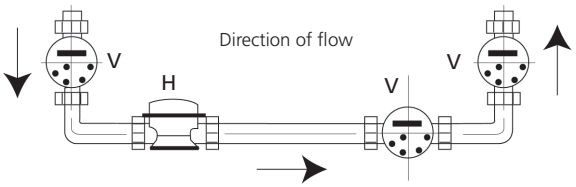
Dimensions

Type			ETJ		
Nominal connection		mm	15	15	15
	a	mm		70	
Length	b	mm	80	110	130
Length with joining	c	mm	159	189	209
Height	d	mm		60	
Height	e	mm		17,5	
Connecting thread	Meter	inches	G¾B	G¾B	G¾B
	Coupling	inches	R½	R½	R½
Installation position			horizontal or vertical		

Please note: The meter is supplied without joining, which must be ordered separately.

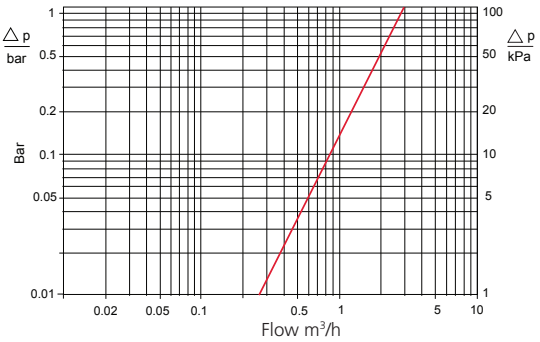
Dimensional outline





Correct installation options
H = Horizontal installation
V = Vertical Installation

Head loss graph



Please note that Brunata makes reservations against operation faults due to lime build-up and blocking of the water meter. Brunata recommends installing a filter ball valve before the meter.

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Brunata ClickOnWater+

Electronic radio transmitter unit for Brunata Sensus single-jet water meter type ETJ for utility water

- Brunata ClickOnWater+ is a radio transmitter module which can be used on a Brunata Sensus single-jet water meter type ETJ.
- Easy click-on system.
- Can be installed on either new water meters or meters which already are installed.
- Stores data from the three latest 14-days periods. (in litre)
- Sends a telegram every third hour.

Brunata ClickOnWater+ can be installed onto these types op Brunata Sensus single-jet water meters

Type	Plumbing no.	Item no.
ETJ-K	48 4566 002	19-7920-H
ETJ-V	48 4595 002	19-7921-H
ETJ-K		19-7922-H
EJT-V		19-7923-H

Data stored in the memory

Readings from the 1st and 15th of every month are stored in the allocator's memory. Altogether, data for 52 log periods are stored in the memory, corresponding to data for 26 months.

Memory with advantage

The following data are stored for each period:

- Current periods water consumption
- Previous periods water consumption

All water consumption is stored in litres with a resolution of 1,0 l.

The annual consumption is stored in the memory for 6 years.

If Brunata ClickOnWater+ is exposed to attempts at tampering or other damage, this is also recorded in the memory together with information on date and time.

Brunata ClickOnWater+ is developed for the future

Radiosendermodulet kan indgå i Brunata' webbaserede overvågningssystem WebMon Visual, hvor man grafisk kan følge vandforbruget nøje. Vandmåleren sender via Brunata ClickOnWater+ modulet data til en radiomodtager, der via GSM/GPRS nettet overfører data til Brunata's Server. Brunata ClickOnWater+ Indgår derved som en del af en total registrering af ejendommens forbrug. Netværket giver mulighed for en tidlig varsling om usædvanlig vandforbrug eller fejlfunktioner i systemet.

Radio telegram

Brunata ClickOnWater+ transmits a number of selected data:

- The periods water consumption
- Last periods water consumption.
- Status.
- Meter number.

Eco-friendly battery

Brunata ClickOnWater+ is supplied with a replaceable lithium battery. With a transmission frequency of a telegram every second minute it has a durability of 6 years.

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UK-QB 10.1113/19.01.2009

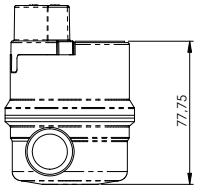
Technical information

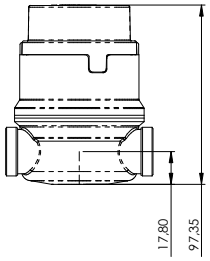
Transmitter:

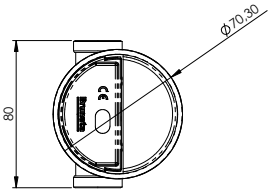
Frequency:	433MHz
Modulation:	FSK
Transmission frequency:	Brunata ClickOnWater⁺ sends as min. a telegram once every 3rd hour. Brunata ClickOnWater⁺ ver2 sends a telegram every 2nd minute. Notice that in order to receive telegrams from Brunata ClickOnWater⁺ it is important that the receiver is the correct type.
Receiver:	BrunataNet RS-485 for Brunata ClickOnWater⁺ or BrunataNet RS-485 ver2 for Brunata ClickOnWater⁺ ver2.
Density	IP52

Dimensions:

Measures and weight:	36,17 x 62,12 mm. and weight ca. 62 g.
Battery	2/3 AA lithium battery with a durability of 6 years.







Brunata DriveBy
BrunataNet

– mobile meter reading

EASY TO PRINT

Brunata

Brunata DriveBy – For people who do not want to waste half a working day waiting for the meter reader's visit

Currently, most heat cost allocators are read manually by a visiting meter reader. This method usually requires the resident to be at home during the visit, which can be very inconvenient.

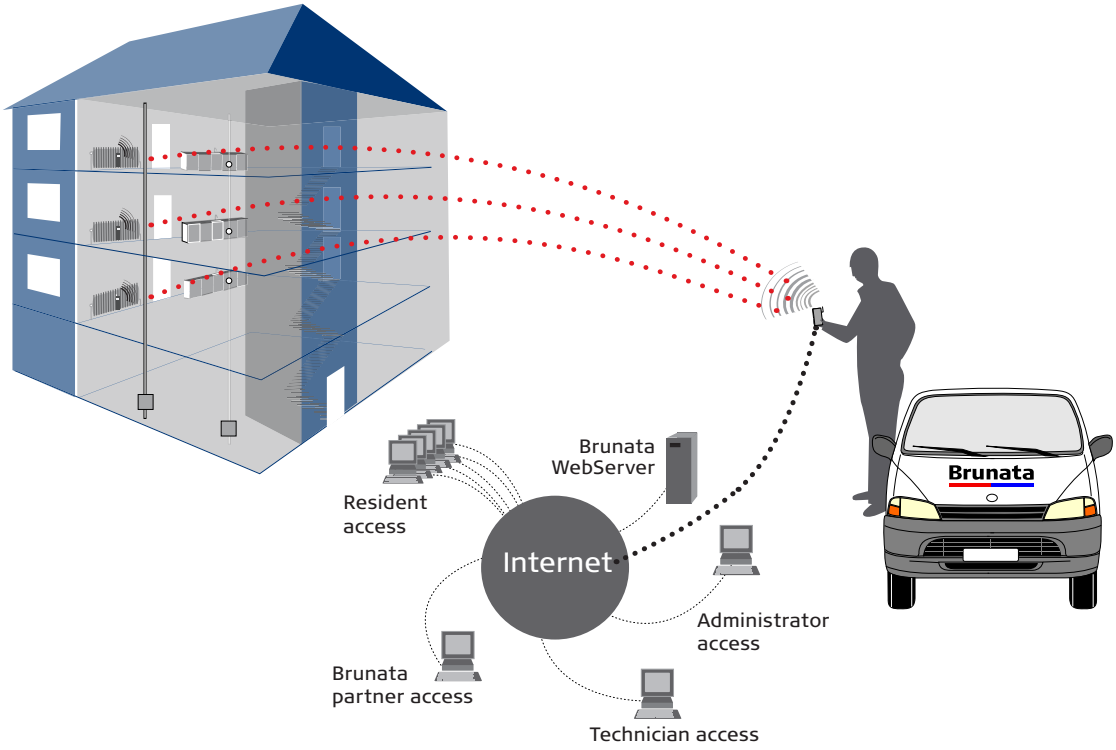
To avoid wasting valuable working or leisure time, Brunata has developed a flexible mobile solution, which meets the requirements at a very reasonable price. The solution is wireless and simple.

How does Brunata DriveBy work?

Brunata DriveBy reads every meter type in the Brunata Futura⁺ family, as they are all supplied with radio transmitter. Immediately after the end of the accounting year, a Brunata employee reads the meters using a DriveBy Receiver. The meters automatically send account data, which are received by the DriveBy Receiver. At the end of the reading, the data are transferred directly to Brunata's accounts programme.

Brunata can then quickly and effectively prepare the allocation accounts.

The system can be used at any time, but in most cases it is only used in connection with the annual reading.



Brunata DriveBy – a flexible and simple solution

A service technician from Brunata reads the meters using a DriveBy Receiver. All the meters in the property are quickly read and the allocation accounts can be prepared.

UK-QB 10.1334A4/22.12.2008

Many advantages for resident, caretaker and administrator

- No need for caretaker or administrator to collect residents' keys
- Access only required to staircases
- No need to visit the individual flats
- No loss of valuable working or leisure time
- Simultaneous reading of all meters
- Minimal risk of manual reading errors
- Easy to administer for caretaker/janitor/property official

Brunata DriveBy is the ideal solution for people who want the annual allocation accounts prepared easily and smoothly. However, Brunata DriveBy can easily be upgraded to a more stationary system, which reads meters at intervals down to a few minutes.

This allows online operation optimisation, continuous monitoring of the humidity level in the building or calculation of the energy efficiency based on measurements.

Many possibilities!

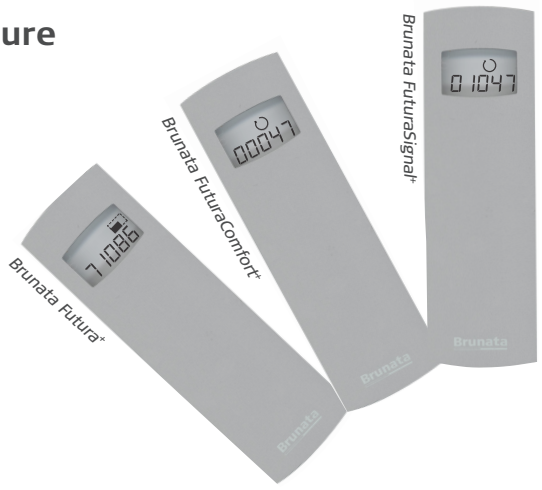
Currently, most people focus on heat and water consumption, but in fact all pulse-emitting meters can be integrated in the system.

All electronic consumption meters with radio transmitter or pulse emission can be connected to a system with a Brunata DriveBy solution:

- Brunata Futura⁺ electronic heat cost allocator with radio transmitter
- Brunata FuturaGeysir⁺ electronic hot water cost allocator with radio transmitter
- Brunata FuturaComfort⁺ electronic radio-based comfort meter for measuring room temperature or outside temperature
- Brunata FuturaSignal⁺ electronic pulse collector with radio transmitter
- Brunata FuturaFloor⁺ electronic heat cost allocator with radio transmitter for horizontal surfaces (underfloor heating)

Brunata DriveBy – a step into the future

With Brunata DriveBy, you are ready for the future. Once Brunata Futura heat cost allocators have been installed, you just need to install a network, which automatically receives and sends data to Brunata, where they are processed and saved in WebMon daily. Here you can monitor consumption on a daily basis and make direct comparisons with the consumption in similar flats. You can also see a consumption prognosis, how on account payments match the actual consumption and much more.



UK-QB 10.1334A4/22.12.2008

Reading and report products

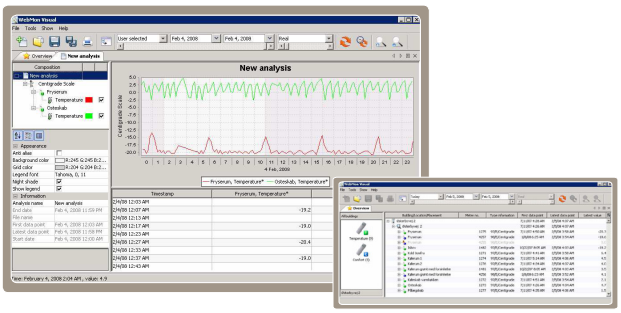
Brunata WebMon

WebMon, which is a part of the BrunataNet system, gives you an overview of the consumption. WebMon is a web-based programme for presentation of data, which are read remotely. The browser-based software enables you to view and print the information available in the BrunataNet system. Connected to a building's installation with meters, WebMon can present all the gathered data.

Brunata WebMon Visual

WebMon Visual is an extra module to WebMon with graphical presentation of current WebMon data in a clear way.

The system is especially well suited to presentation of data for both conditions and consumption in a building. The data are collected with short or long intervals. In this way graphs showing consumption on a 24 hour or an hourly basis can be generated.



Brunata WebMon Visual Mobile

In connection with field work, a handy case is provided with the necessary equipment for logging data, which are sent via the GSM network to Brunata's database and presented via the internet in WebMon Visual.

The mobile laboratory is based on the Brunata Futura+ meter family with radio transmitter for logging data from heat cost allocators, temperature loggers and humidity meters.

Brunata DriveBy

Please, see pages 2-3 of this brochure.

Brunata Visit

A majority of meters are still being read by Brunata service employees visiting the individual consumers. Brunata's employee carries an electronic hand terminal, which is used to read all types of meter.

Brunata WebArchive

WebArchive is a web-based archive containing heating bills and lists of how the consumption is distributed as a fair, consumption-dependent share of the total heating costs of the building. The information is saved for back years.

Do you utilise your resources sufficiently?

Brunata can help you to check the energy efficiency!

UK-QB 10.1334A4/22.12.2008

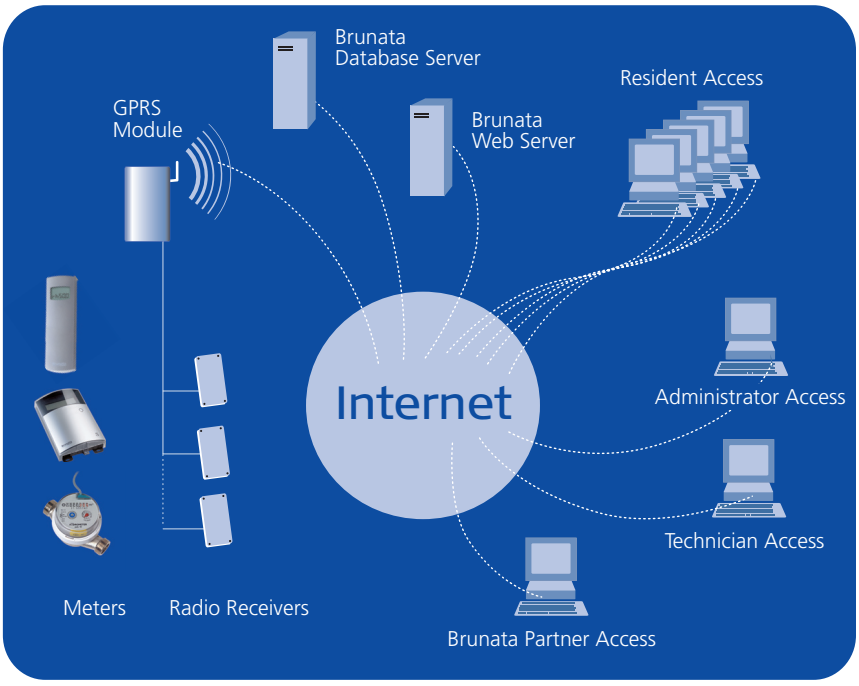
BrunataNet

BrunataNet is the collective name for Brunata's remote reading systems, which consist of two standard systems: A partially cabled system and a purely radio-based system. They are both designed to meet the various requirements in both small and large buildings. The solution is therefore tailored to the individual building. With WebMon, WebMon Visual and WebMon Visual Mobile, BrunataNet constitutes a complete remote reading system for collecting meter data and presenting them to the interested parties.

BrunataNet ensures accurate and secure transfer of meter data from consumption meters to Brunata's Oracle server. Selected data can be accessed here and used for e.g. allocation accounts or WebMon presentation.

System description

All consumption meters, such as humidity, water, energy, electricity and gas meters, can be connected to the system provided they have pulse output. Heat cost allocators from Brunata are read directly. Meter data are radio transmitted wirelessly from the meters to strategically placed receivers. In a partially cabled system, the information is transferred via a RS485 network to a centrally placed controller box or GPRS module. Depending on the circumstances, the controller box is connected to the internet, GSM or an accessible telephone socket. Data are transferred through these to Brunata's database server.



System overview with GPRS module

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UK-QB 10.1334A4/22.12.2008

BrunataNet RS485 FM_vers2 Radio Receiver

The FM radio receiver is used in BrunataNet RS485 metering systems which incorporate meters with transmitter modules. Positioning of the receiver must take account of transmitting and receiving conditions. The number of receivers must also conform to the transmitting and receiving conditions within the individual installations. Typical locations are stairways or attics.

Communication with metering system

Protocol:	B-bus, Brunata protocol
Cable type:	2 x 2-core, twisted pair, diam. 0.6 mm
Cable length (max.):	1200 m
Connection to:	RS485 data bus
LED indicator:	Displays green for OK, red for busy.

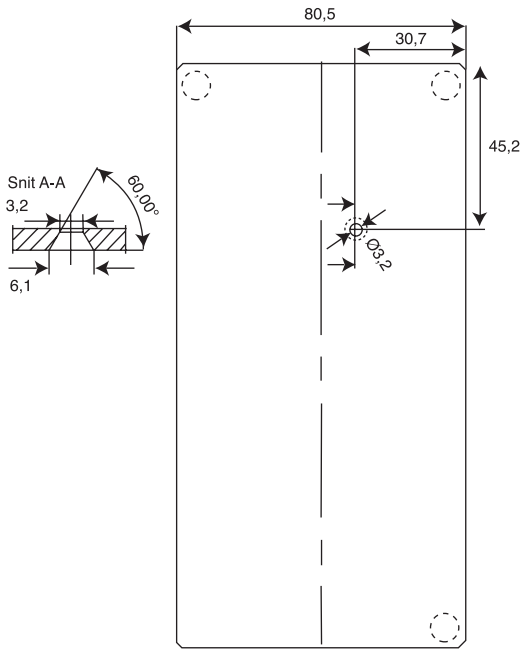
Communication med RF

Bus type:	IMR-2
Protocol:	B-bus, Brunata protocol for RF
Frequency:	433.92 MHz
Modulation type:	FSK (FM)
Range:	Up to 50 m depending on local conditions

Power supply

Power supplied from:	Network cable
Supply voltage:	12-30 V
Power consumption (max.):	50 mA

Manufacturer:	Brunata a/s
Designation:	Radio receiver
Type:	RM/RS485/FM_vers2
Year designed:	2008
Base:	80 x 160 x 57mm



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BrunataNet BoxGPRS (GPRS/RS485) – DriveBy

A GPRS box is used in connection with remote reading of meters with radio transmitters or receivers in a Brunata RS485-network. The GPRS box sends the data to Brunata WebMon database via a GPRS connection. The GPRS box can be used where there is GSM-network coverage and where the GSM-network can run GPRS.

Manufacturer data

Manufacturer	Brunata a/s
Label	BrunataNet BoxGPRS (GPRS/RS485)
Type	Data collection unit
Function	Data tranferral with GPRS via GSM-net
Frequency	Quad Band: GSM 580/900/1800/1900 MHZ
Weight	250 g
Mechanical measurements	82 mm x 162 mm x 55 mm
Mounting	4 interior mounting holes
Degree of tightness	IP51

Environment for the GPRS-box

Stockroom temperature	-20 °C to 55 °C
Operation temperature	0 °C to 45 °C.
Humidity	Max 90 % RH

Battery (concerns only part numbers 44-0284-A and 44-0263-A)

Type:	Rechargeable NI-MH battery with build-in short circuit fuse
Volatge:	4,8V
Kapacity	4,5Ah
Operation time:	Ca. 4 days

Electrical (concerns only part numbers 44-0285-A and 44-0262-A)

Connecting voltage	AC 100-240 V
Frequency	50-60Hz
Storage temperature	-20 °C to 85 °C
Operation temperature	0 °C to 30 °C at 100 % strain 0 °C to 45 °C at 75 % strain
Humidity	Max 95 % RH

The product is in accordance with the following standards

EU directive

The GSM module is in accordance with the following directive and harmonised standards:

- FCC Part 15 Subpart B, Class A
- EN55022, Class A
- EN55024
- EN61000-3-2,3
- UL60950
- CAN/CSA C22.2 No. 60950
- EN60950

BrunataNet BoxGPRS can be ordered with following system components:

Part number	Product name
75-2234-H	Radio receiver ver1*
44-0301-B	Radio receiver ver2*
44-0522-B	Assemble box*
04-6021-C	Battery*
44-0275-B	Battery charger*
44-0474-C	External power supply**
44-0260-C	Brunata RS485 net-cable med fire conductors in the colours red, black, green and yellow**

* To this variant of the GPRS box there can not be connected additional receivers.

** To this variant of the GPRS box there can be connected additional 19 receivers in a RS485 network.

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UK-QB 10.1040/19.01.2009

BrunataNet BoxLAN

BrunataNet BoxLAN is a data collection unit which can retrieve data either from Brunata's RM485FM receiver linked via a RS-485 network or data from meters which are connected via an Mbus-network. These data will with a certain intervals be sent to a server in Brunata via the Internet. If the BrunataNet BoxLAN loos the connection to the Internet the data will be saved locally in the BrunataNet BoxLAN until it is reconnected to the Internet. If the BrunataNet BoxLAN is connected to the Internet behind a firewall no special configuration of the firewall is required. The firmware can be updated via the Internet.

Manufacturer data

Manufacturer	Brunata a/s
Label	LAN data controller
Type	Data collection unit
Function	Sends data to Brunata's server via Internettet
Weight	1100 g
Mechanical measurements	254 mm x 173 mm x 111 mm
Mounting	4 interior mounting holes
Degree of tightness	IP51

Electrical

Connecting voltage	90-264VAC (120-370VDC)
Frequency	47-63Hz
Electricity consumption	0,4A max at 230VAC
Socket protection	Internal 3,15A fuse in null and phase
Network disconnector	None
Net conductor	2 m

Ethernet

IP address	Assigned by the DHCP server
Gateways through which data is send	1140 - 1149

Environment

Stockroom temperature	-20 °C to 85 °C
Operation temperature	0 °C to 55 °C.
Humidity	Max 95 % RH.

The product is in accordance with the following standards

EU directive

The power supply is in accordance with the following EU directives and harmonisation standards:
73/23/EEC (Low voltage directive).
2004/108/EC (EMC directive).
EU declaration of conformity:

EMC:	Immunity	EN61000-6-2 (industry),
	Emission	EN61000-6-3 (residence)
LVD	EN61010-1	

The LAN data controlleren be bought in the following versions:

Version/ part number	Net/Protocol	Beskrivelse
BrunataRS485net 44-0660-A	RS485BUS Brunata RS485net	This version contains a RS485 repeater with 5 outlets where up to 40 RM485FM radio receivers can be connected. With a repeater-box additional 20 receivers can be connected (max 60 receivers)
Mbus type 1 44-0661-A	Mbus Mbus	This version contains a Mbus master where up to 40 Mbus meters can be connected.
Mbus type 2 44-0662-A	RS485BUS Mbus	20 HG meters can be connected to this version. The HG meter must have installed a RS485 communication card. Or it can be used together with an external Mbus master with RS485 outlet.
Mbus type 3 44-0663-A	RS232 Mbus	This version is used together with an external Mbus master with RS232 outlet.
Mbus type 4 44-0664-A	TTL outlet Mbus	This version is used together with an external Mbus master with a galvanic outlet (optocoupler).

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UK-QB 10.1041/10.10.2008

Brunata WebMon
BrunataNet

– automatic meter reading

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Brunata

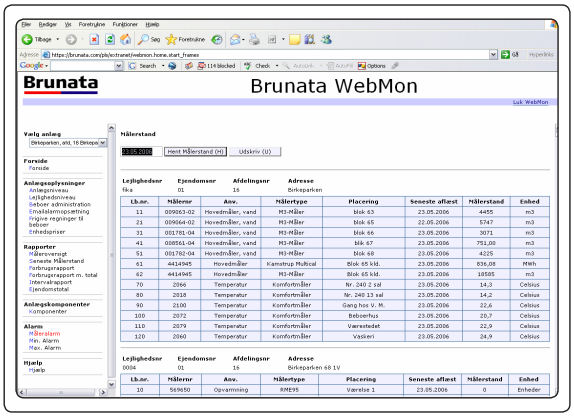
Brunata WebMon

BrunataNet

WebMon provides an overview of your consumption

WebMon is a web-based programme for presentation of remote read data and an internet-based service developed by Brunata a/s.

The browser-based software enables you to view and print out the information available in a BrunataNet system. When WebMon is connected to an installation in a building, it includes all information about the relevant system.



The user-friendly web-based programme WebMon makes it easy to obtain consumption information in a BrunataNet system

Access to the data readings

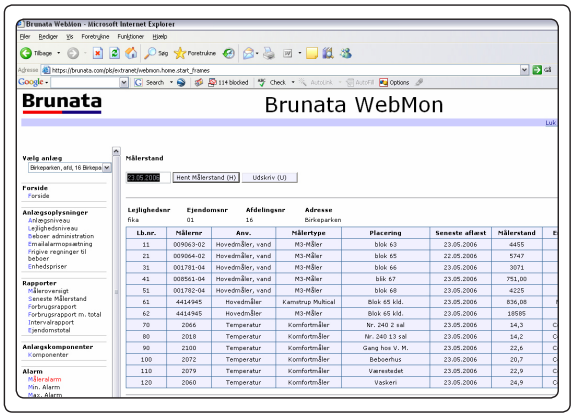
In principle, everyone can be given access to all data, but as the requirements differ, the system is divided into two different levels:

I. Administrators (works managers, caretakers, etc.), who need an overview of all meters and resource consumption in a building.

II. Residents and users, who need access to parts of the system so that they can monitor their own consumption and assess it in relation to the consumption by other users.

Advantages for administrators

1. Great operating security. All data are held on a server at Brunata and backed up regularly. As a result, there is no risk of data loss.
2. Easy access to data with browser-based software, which can be accessed from any PC with internet access. This applies anywhere in the world, at any time, as long as the username and password are entered correctly.
3. The option of monitoring the development in a building in key areas, which influence the daily operation and administration of the building.
4. A good overview of the system, e.g. information about the meter types included in the system, the number of meters and their condition.
5. Easy and effective handling of enquiries about the consumption, as data are always available.
6. Central readings for residents moving out and the option of printing welcome letters with username and password for residents moving in.
7. A general overview of the entire building with specific information about every single flat.
8. The option of receiving email alarms in the case of unlikely consumption changes or if the consumption exceeds the payment on account.



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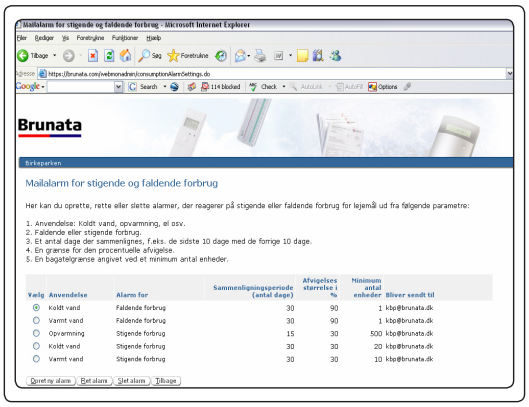
Brunata WebMon

BrunataNet



Advantages for residents

1. The consumption of the flat and the individual meters (accumulated/total) for a given period with a detailed consumption report.
2. The option of monitoring the consumption day by day without having to remember to read the meter at regular intervals.
3. E.g. current status for a particular meter or an overall report with daily consumption status for the meters in the flat.
4. The option of receiving a prognosis of your consumption and an assessment of whether your payment on account is adequate.
5. The option of seeing the building's consumption during the past five years.
6. The option of comparing your consumption with that in similar flats, to give you an idea of how your consumption compares with the average consumption.
7. Heating bills saved in an archive.

Easy access

WebMon is internet-based. You only need internet access with a browser (Microsoft Internet Explorer or Mozilla Firefox). In practice, this means that everyone can access WebMon from any PC. You access WebMon through Brunata's webpage www.brunata.com

Clear consumption overviews

WebMon offers clear consumption overviews for those who prefer to see their consumption in bar charts and table.

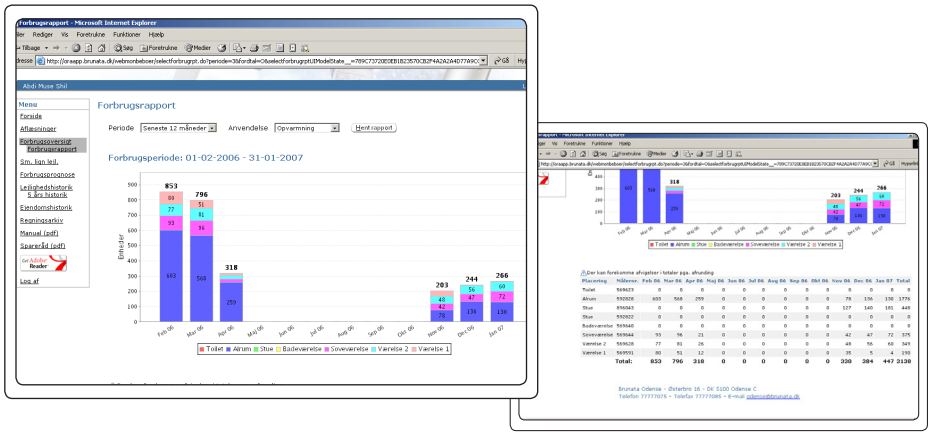
The overview shows the consumption for the individual meters on top of each others, so that the bar shows the total consumption in a given month.

Each colour represents the consumption on a meter.

A colour palette below the bars explains, which meter you are looking at and where it is located.

In case you want to see your consumption in table form, this is provided underneath the columns.

The table shows the consumption on the individual meters, e.g. per month and for the whole year.



UK-QB 10.1331A4/22.12.2008

Reading and report products

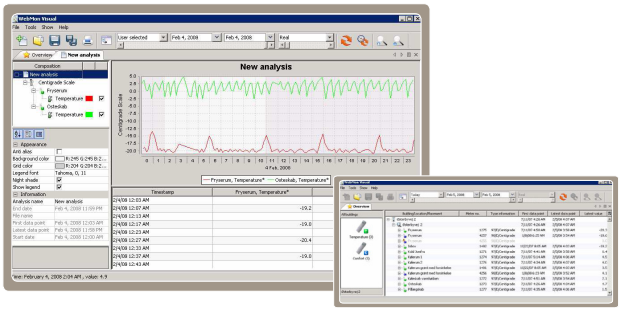
Brunata WebMon

Please, see pages 2-3 of this brochure.

Brunata WebMon Visual

WebMon Visual is an extra module to WebMon with graphical presentation of current WebMon data in a clear way.

The system is especially well suited to presentation of data for both conditions and consumption in a building. The data are collected with short or long intervals. In this way graphs showing consumption on a 24 hour or an hourly basis can be generated.



Brunata WebMon Visual Mobile

In connection with field work, a handy case is provided with the necessary equipment for logging data, which are sent via the GSM network to Brunata's database and presented via the internet in WebMon Visual.

The mobile laboratory is based on the Brunata Futura+ meter family with radio transmitter for logging data from heat cost allocators, temperature loggers and humidity meters.

Brunata DriveBy

Today, most heat cost allocators are read manually by a visiting meter reader. This method usually requires the resident to be at home at the time of the visit. To avoid inconvenience Brunata has developed a solution, which is flexible, mobile and meets the requirements at a very reasonable price. The solution is wireless and simple.

Brunata Visit

A majority of meters are still being read by Brunata service employees visiting the individual consumers. Brunata's employee carries an electronic hand terminal, which is used to read all types of meter.

Brunata WebArchive

WebArchive is a web-based archive containing heating bills and lists of how the consumption is distributed as a fair, consumption-dependent share of the total heating costs of the building. The information is saved for back years.

UK-QB 10.1331A4/22.12.2008

BrunataNet

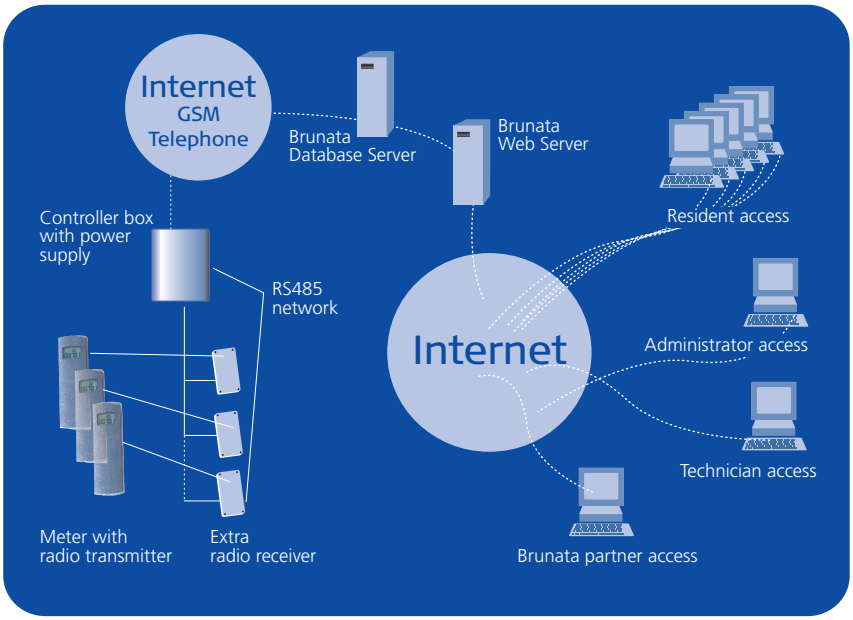
BrunataNet is the collective name for Brunata's remote reading systems, which consist of two standard systems: A partially cabled system and a purely radio-based system. They are both designed to meet the various requirements in both small and large buildings. The solution is therefore tailored to the individual building. With WebMon, WebMon Visual and WebMon Visual Mobile, BrunataNet constitutes a complete remote reading system for collecting meter data and presenting them to the interested parties.

BrunataNet ensures accurate and secure transfer of meter data from consumption meters to Brunata's Oracle server. Selected data can be accessed here and used for e.g. allocation accounts or WebMon presentation.

System description

All consumption meters, such as humidity meters, water meters, energy meters, electricity and gas meters, can be connected to the system provided they have pulse output. Meter data are radio transmitted from the meters to strategically placed receivers. In a partially cabled system, the information is transferred via a RS485-network to a centrally placed controller box. Depending on the circumstances, the controller box is connected to the Internet, the GSM/GPRS-grid or an accessible telephone socket. Data are transferred through these to Brunata's database server.

System overview



Brunata

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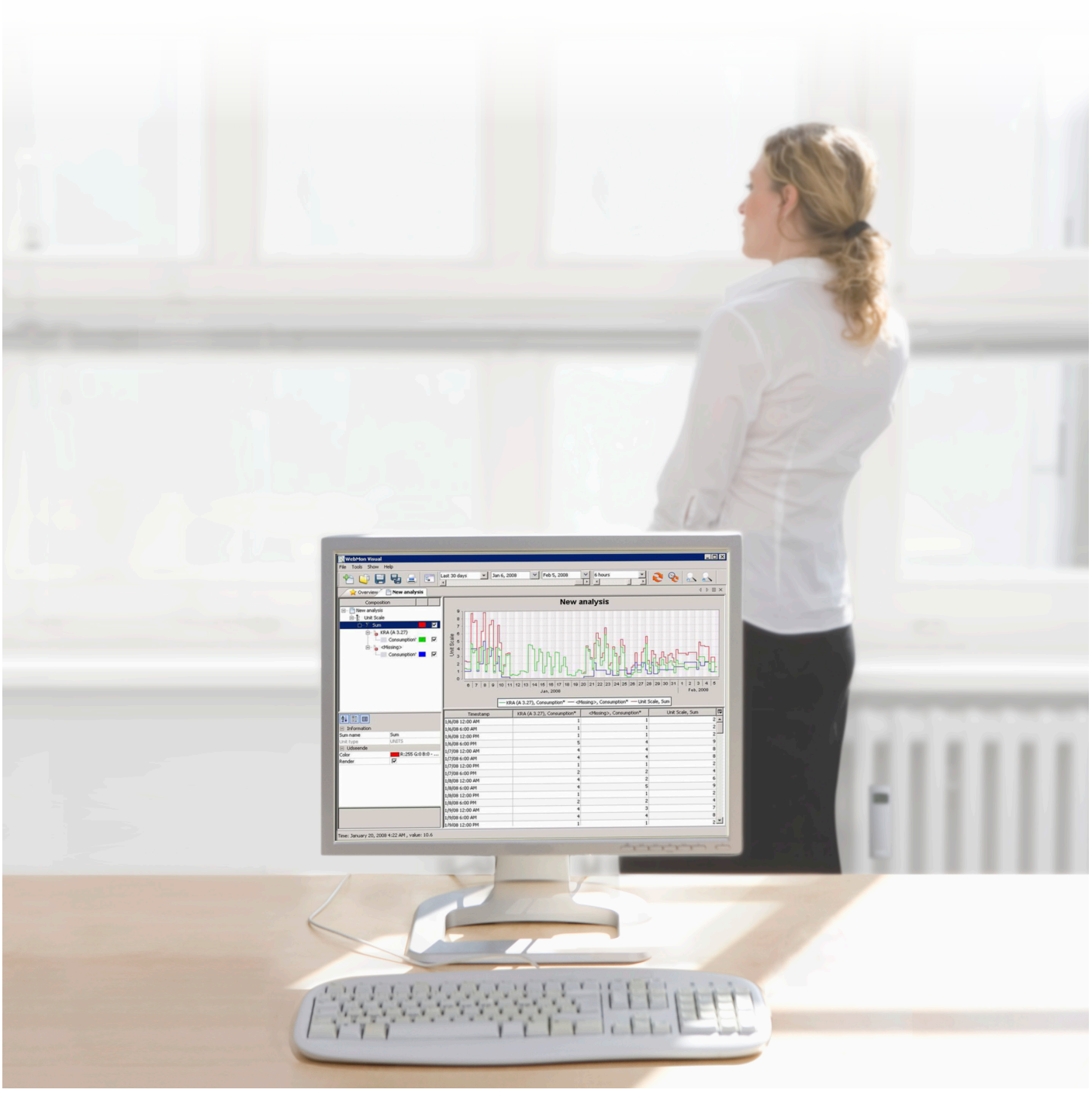
Brunata WebMon Visual
BrunataNet

– online monitoring



EASY TO PRINT

Brunata

Brunata WebMon Visual

BrunataNet

Brunata WebMon Visual is a rich client extension to our existing WebMon services. It provides an easy way to monitor, analyse and extract various kinds of meter data from Brunata's systems. With WebMon Visual, you are given a complete and detailed overview of your entire meter portfolio and can instantly generate an analysis with both a graphic and a table view of the data.

The system is a very suitable tool for continuous monitoring of a building's energy efficiency. Today's focus on energy savings and energy efficient buildings requires methods and systems, which can map energy consumption in buildings. Brunata WebMon Visual provides a completely new opportunity for very detailed logging of large amounts of data and enables you to present the data in charts.

Brunata WebMon Visual has many advantages:

- Wireless data transfer with logging of large amounts of data
- Online information about every meter in the building
- Identification of radiators or thermostatic valves behaving abnormally
- System overview and illustration of a building's energy usage
- Overview and exact mapping of the real energy consumption in all types of buildings
- More efficient utilisation of energy and energy savings without comfort reductions
- Improved indoor environment
- Optimisation of operation and verification of discrepancy accusation
- Flexible and mobile registration equipment at a favourable price

Advantages for administrators

You may consider WebMon Visual a more advanced version of WebMon, suitable for power users who require more than just an occasional glimpse at a meter value. As an administrator of a building, you have many advantages. You can add an arbitrary number of meters, combine different registration types on individual scales, summarise data, export the data, export the chart, print it, save the analysis and much more.

By using WebMon Visual, administrators can map energy consumption and energy waste in buildings and use the information to develop a targeted and effective solution to a problem. It can also be a very useful tool when answering questions from occupants regarding their heating costs.

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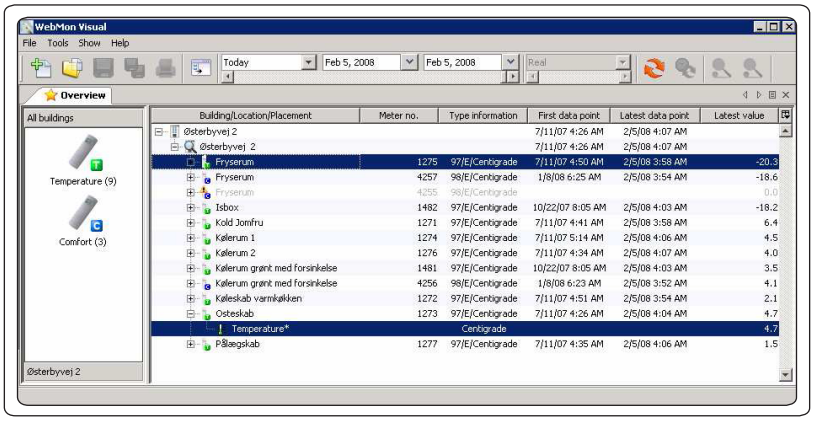
Advantages for residents

As a resident, you get a detailed presentation of the total energy consumption of your flat from WebMon Visual. It also allows you to compare your consumption with the consumption of flats similar to yours.

WebMon Visual can easily help you detect radiators or thermostatic valves behaving abnormally. In this way, you may become more aware of inefficient utilisation of energy and achieve energy savings without reduction of comfort. By monitoring your consumption on a daily basis you are able to adjust your heat consumption pattern and achieve greater awareness of possible consumption reductions.

About the programme

Overview: When you have logged in, an "Overview" document will be created for you. This document represents your entire meter portfolio. While the overview document is good for gaining a complete overview over your portfolio and confirm meter activity, its primary function is to serve as a selection interface for detailed viewing of registration data. For this, you may select any number of registration types as well as a period, and click on "Create new analysis" in the tool bar (or menu bar).



Example in which the meter no. 1275 (and its default registration) is selected as well as the temperature registration of meter no. 1273. After selection, you specify a period on the tool bar and click the "Create" button to create a new analysis with the selected registrations.

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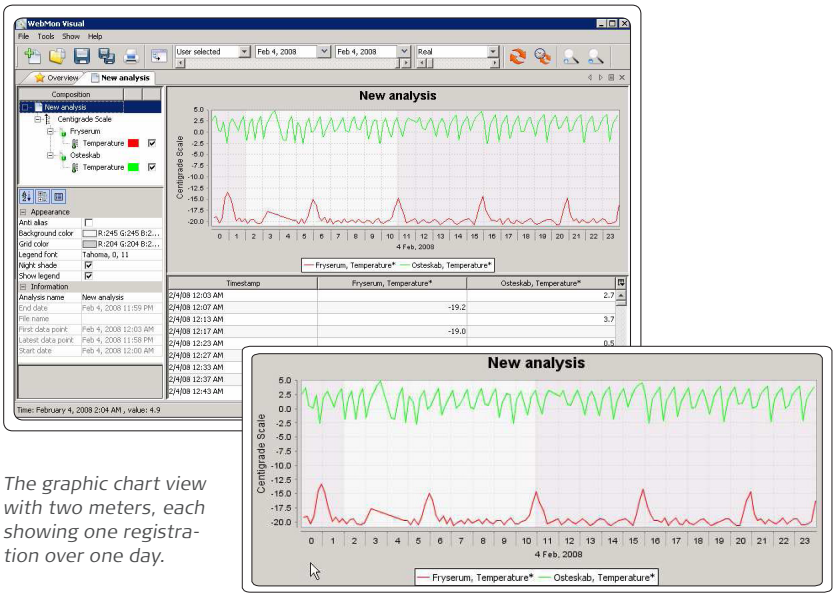
Brunata WebMon Visual

BrunataNet

Analysis: When you create an analysis, the required data are downloaded from Brunata, whereupon a new document is created next to the existing "Overview" document. An analysis document is made up by four separate views.

An analysis document consists of four distinct parts



The graphic chart view with two meters, each showing one registration over one day.

Chart view: The chart view is a graphic representation of registration data for the meters selected for the analysis. You can zoom and pan in on this view using the mouse or the tool bar buttons. You manipulate this view (i.e. give a registration a new colour, change legend title etc.) by using the properties view.

Requirements: In order to use the programme, you require an administrative or sub-user access for Brunata's WebMon system. The application can be installed from most Internet browsers, which have Java 1 version 6 and will be installed as a regular programme onto the client computer. A computer with a processor of minimum 1GHz and 512MB RAM is recommended, as well as a screen capable of showing a resolution of 1024x768 or more. A good broadband connection will also enrich the user experience as the programme downloads data over the Internet from Brunata's website. The application has been tested on Microsoft Windows 2000/XP/Vista and the browsers Microsoft Internet Explorer version 6 and 7, as well as Mozilla Firefox version 1 and 2.

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Reading and report products

Brunata WebMon

WebMon, which is a part of the BrunataNet system, gives you an overview of the consumption. WebMon is a web-based programme for presentation of data, which are read remotely. The browser-based software enables you to view and print the information available in the BrunataNet system. Connected to a building's installation with meters, WebMon can present all the gathered data.

In principle, everyone can be given access to data, but as the requirements differ, the system is divided into two different levels:

I. Administrators (managers, caretakers etc.), who need an overview of the entire meter portfolio in the building and want to follow the total consumption of the building.

II. Residents and users, who need access to parts of the system in order to monitor their own consumption and perhaps relate it to consumption of a similar apartment.

Brunata WebMon Visual

Please, see pages 2-4 of this brochure.

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Do you utilise your resources sufficiently?

Brunata can help you to check the energy efficiency!

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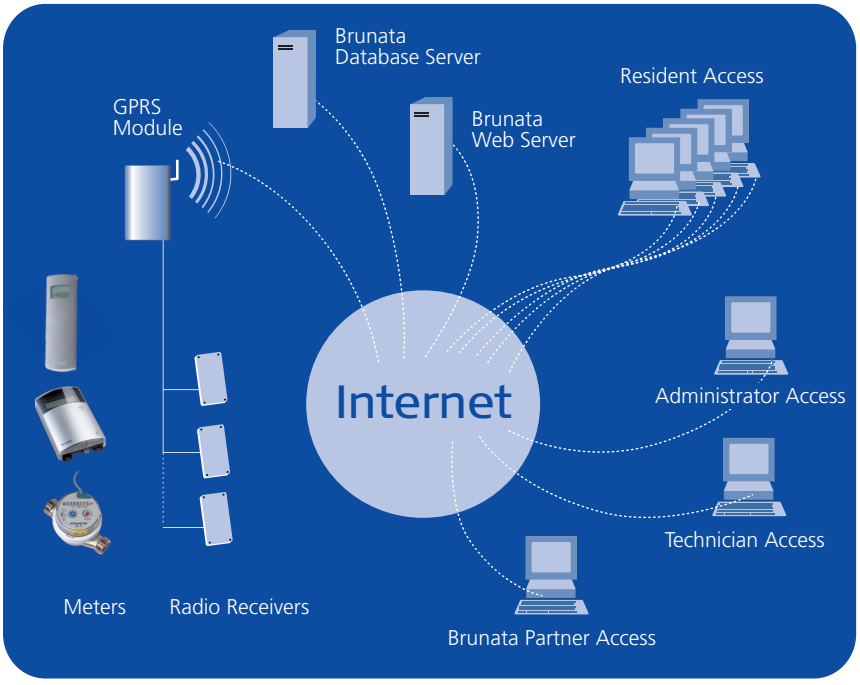
BrunataNet ensures accurate and secure transfer of meter data from consumption meters to Brunata's Oracle server. Selected data can be accessed here and used for e.g. allocation accounts or WebMon presentation.

System description

All consumption meters, such as humidity, water, energy, electricity and gas meters, can be connected to the system provided they have pulse output. Heat cost allocators from Brunata are read directly. Meter data are radio transmitted wirelessly from the meters to strategically placed receivers. In a partially cabled system, the information is transferred via a RS485 network to a centrally placed controller box or GPRS module. Depending on the circumstances, the controller box is connected to the internet, GSM or an accessible telephone socket. Data are transferred through these to Brunata's database server.



System overview with GPRS module.

Brunata

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Wie is Warmtemeterservice?

Warmtemeterservice B.V. (in het kort WMS) is gespecialiseerd in het meten en verdelen van energie en met name warmte. WMS bestaat sinds 1 april 1988 en is momenteel een toonaangevend bedrijf in de branche, niet in omvang of omzet, maar zeer zeker in kennis, mogelijkheden en gedrevenheid. Door onze inzet voor de branche is WMS zelfs toonaangevend in Europa.

WMS is al vanaf haar oprichting licentiehouder voor Brunata en sinds oktober 2009 officieel dealer voor Hydrometer producten in Nederland. Met deze twee leveranciers beschikken we over een groot assortiment aan producten die zich op één of andere manier sterk onderscheiden van anderen.

Er worden meetsystemen geleverd in nagenoeg elk marktsegment; voor kleine installaties maar ook voor grote industrieën. Van eenvoudige meetsystemen tot uiterst geavanceerde.

De Brunata groep is een van de grotere dienstverleners op het gebied van het opnemen van meterstanden en het maken van afrekeningen. In totaal worden, door de Brunata groep ruim 20 miljoen meters opgenomen. Brunata verwerkt via BrunataNet dagelijks zo'n 2,5 miljoen meterstanden.

Hydrometer uit Duitsland, behorend tot de Diehl groep, is een van de grotere producenten op het gebied van warmte- en watermeters, zodat we ook alle mogelijkheden hebben om energiebedrijven en waterleidingbedrijven in hun behoeftes te voorzien.

Warmtekostenverdelers

De warmtekostenverdeler Brunata Futura+ is de enige volledige 2-voeler meter op de markt en maakt dus geen gebruik van een zogenaamde starttemperatuur waardoor het inzet bereik een stuk groter is.

De Futura serie in combinatie met BrunataNet en Brunata WebMon in het bijzonder maken van een warmtekostenverdeelsysteem een compleet monitoring systeem. Meterstanden worden minimaal één keer per dag uitgelezen en zijn continue beschikbaar via internet voor zowel beheerder / administrateur als ook elke bewoner via een unieke logincode.

Diensten

De dienstverlening is voor ons de meest belangrijke tak van sport. Door ons worden meterstanden opgenomen met als doel het verrekenen van kosten op basis van individueel gemeten verbruiken.

Daarnaast willen wij de dienstverlening zoveel mogelijk laten aansluiten op de wensen van de opdrachtgever. In feite moet een opdrachtgever het gehele traject van stook- en servicekosten aan ons kunnen uitbesteden. Volledige ontzorging dus.

Onze nieuwste vorm van dienstverlening is dan ook het incasseren van de maandvoorschotten en het factureren van de eindafrekening. Deze diensten hebben overigens voornamelijk betrekking op gebouwen met blokverwarming, WKO-installaties of warmtepompen.

WMS biedt via Brunata ook de mogelijkheid tot meterverificatie op eigen geaccrediteerde testbanken.

Warmtemeterservice B.V.

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Fax +31 (0) 515 576 180
Mail verkoop@wms.nl
Web www.wms.nl / www.brunata.nl

Antwoordformulier:

Voor aanvullende informatie of een vrijblijvende prijsopgave kunt u contact met ons opnemen via onderstaand telefoonnummer, de mail, via onze website of door dit formulier in te vullen en te faxen of op te sturen:

Naam contactpersoon : _____

Telefoon nummer: _____

Emailadres: _____

Bedrijfsnaam: _____

Bezoek adres: _____

Postcode: _____ ___ **Plaats:** _____

Postadres: _____

Postcode: _____ ___ **Plaats:** _____

Telefoon: _____ **Fax:** _____

Ja, ik wil graag meer weten!

☐ **Adviseer mij telefonisch via** _____ / _____
☐ **Ik wens een afspraak met een vertegenwoordiger of adviseur!**
☐ **Anders, namelijk:**

_____

_____

_____

_____

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