arcus-eds | KNX

Smart Metering
Application Description
Product Page
KNX-WMZ-WZ-HY   Thermal Energy Meter

SM
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WMZ

KNX-WMZ-WZ-HY

Heat Quantity Meter WZ-HY	**Product Group 10**
EIB/KNX	Document: 5400_ex_WMZ.pdf

	Product Data Base:	**ARC_WMZ.VD2**
	KNX Readable Data:	Serial number Energy value Volume Supply and return temperature Temperature difference Actual flow rate Heating power Last reference value
	Temperature range:	0 .. 120 °C
	Connection box:	SK01 plastic housing 72 x 64 x 40 mm
	IP65	Mounted with 2 skrews onto the wall.

1 Application Description

Operating Principals and Areas of Application

The heat quantity meter is a calibrated heat quantity meter „WZ-HY" from NZR equipped with an internal KNX bus coupling unit from Arcus-EDS GmbH, it is is approved by the PTB.

The electronic counting unit is equipped with a lithium battery which assures 5 years lifetime and 1 year surplus.
The bus coupling unit it mounted inside the sealed housing and nonreactive connected with the external terminal box.

KNX sensors are set up using the ETS (KNX Tool Software) with the associated application program.
The device is delivered unprogrammed.
All functions are parameterized and programmed by ETS.

Functions

- Serial number
- Energy value
- Volume
- Supply and return temperature
- Temperature difference
- Actual flow rate
- Heating power
- Last reference value

2 KNX Parameter

Sending condition

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Sending condition   -   KNX-WMZ-WZ-HY

Parameter	Setting	Description
Thermal energy (kW/h)		send at variation
Accumulated volume (m^3)		The current measurement is transmitted to the bus only when a changeoccurs (minimum interval 2 min).
Flow temperature (°C)	• send at variation	
Return temperatur (°C)	• send cyclical (2min)	send cyclical (2min)
Flow rate	• do not send	The current measurement is transmitted every 2 minutes to the bus.
current consumption value		do not send
Value at last due date		The current measurement is not transmitted automatically (Measurements are read manually).

3 KNX Objects

Objects   -   KNX-WMZ-WZ-HY

No.	Label	Data Point Type			Function
0	Thermal output kW	DPT		4 Byte	Calculated value
1	Akkumulated volume (m^3)	DPT		4 Byte	Measured value
2	Flow temperature (°C)	DPT		2 Byte	Measured value
3	Return temperatur	DPT		2 Byte	Measured value
4	Flow rate	DPT		4 Byte	Measured value
5	current consumption value	DPT		4 Byte	Calculated value
6	Value at last due date	DPT		4 Byte	Reference value
7	Serial numbre	DPT	String	14 Byte	Serial number
8	Error indicator	DPT		2 Byte	Error Indicator

Object Description   -   KNX-WMZ-WZ-HY

No.	Label	Description
0	Thermal output kW	The current output in the system in kW.
1	Akkumulated volume (m^3)	The total amount of flow through water in m^3 .
2	Flow temperature (°C)	The flow temperature of the water into the system in °C.

Object Description - KNX-WMZ-WZ-HY (continue)

No.	Label	Description
3	Return temperatur	The temperature of the water returning from the system in °C.
4	Flow rate	The current amount of flow through water in m^3/h.
5	current consumption value	The accumulated warmth output in kWh.
6	Value at last due date	The accumulated warmth output for a particular date in kWh.
7	Serial numbre	The distinct serial number (e.g. serial number of the counter).
8	Error indicator	Error report (see Error Code of the manufacturer).

None of the items can be altered from the bus !

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The Thermal Energy Meter **KNX-WMZ-WZ-HY** is used for remote reading and remote monitoring of Thermal Energy metering data.

The device has an integrated bus coupling unit and needs no auxiliary power.

The Thermal Energy Meter KNX-IMPZ-WZ-M is delivered in a housing of an impact resistant glass pallet reinforced plastic with gasket and achieves the protection class IP65.
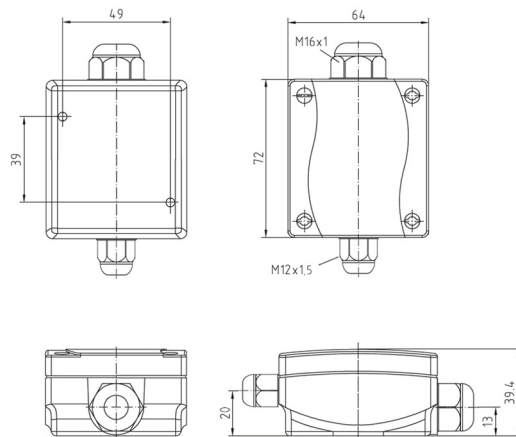
Article-No.: 60201-85x731xx

KNX-WZM-WZ-HY
Thermal Energy Meter
IP65

Areas of Application

- Monitoring of heat consumption values

see   *5 Technical Data*

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5 Technical Data

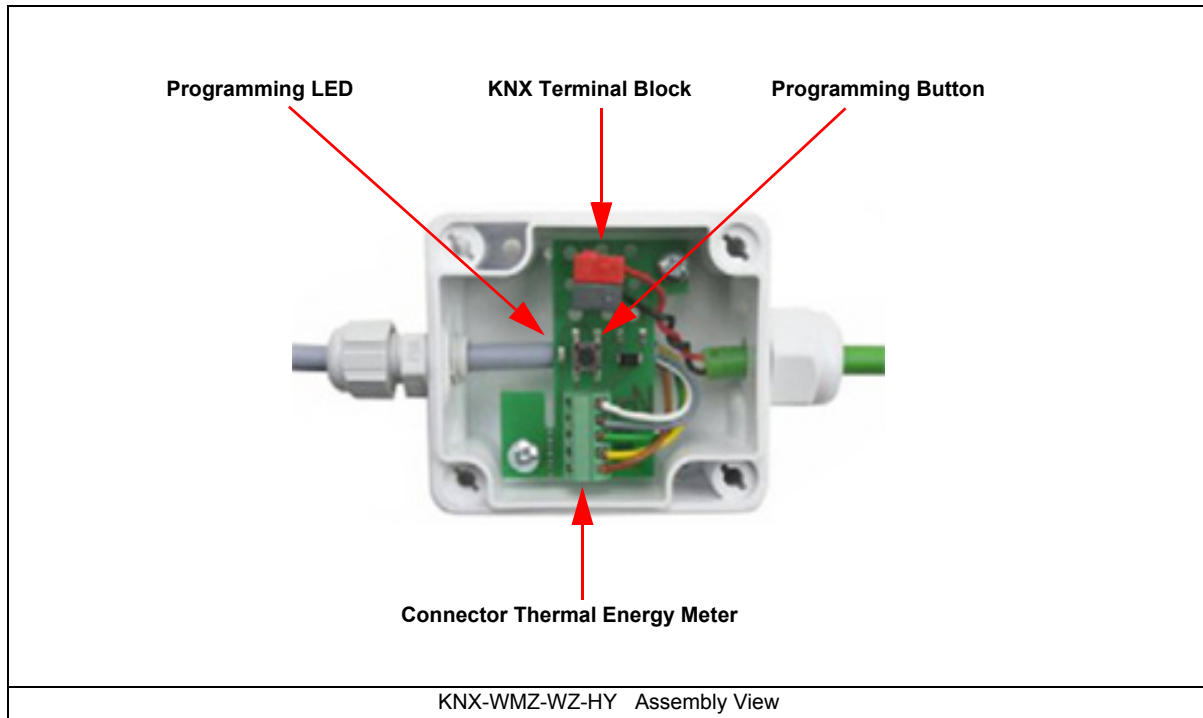**Technical Data   -   KNX-WMZ-WZ-HY**

Operating Voltage	EIB/KNX bus voltage 21 .. 32 VDC
Power Consumption	ca. 240 mW (at 24VDC)
Auxiliary Supply	not required
Bus Coupler	integrated
Ambient Temperature Electronic Measuring Equipment Casing	Operation: -20 .. +55 °C Storage: -20 .. +85 °C
Start-up with ETS	**ARC_WMZ.VD2**
Curcuit Points	EIB-2-pole clamps (red / black)
Protection Class	IP65
Assembly Type	Assembly with 2 screws finery
Casing Type	Plastic housing grey
Casing Dimensions	115 x 65 x 50 mm (W x H x D)

WZ-HY Technical Data	**Temperature Probe**	**Article No.**
Nominal Flow Rate $0,6$ m^3/h Nominal Diameter 15 mm Maximum Flow Rate $1,2$ m^3/h **Installation Length 110 mm**	dry probe	60101-85373106
	wet probe	60101-85473106
Nominal Flow Rate $1,5$ m^3/h Nominal Diameter 15 mm Maximum Flow Rate 3 m^3/h **Installation Length 110 mm**	dry probe	60101-85373115
	wet probe	60101-85473115
Nominal Flow Rate $2,5$ m^3/h Nominal Diameter 20 mm Maximum Flow Rate 5 m^3/h **Installation Length 130 mm**	dry probe	60101-85373125
	wet probe	60101-85473125

i	Other heat meters, technical data and companion dimensions as well as informations about mounting kits and adapters are available at NZR. www.nzr.de The NZR-article no. equals the second part of our article no. Prices on request.

i	All meters of the series WZ-HY are equipped with an internal KNX coupling unit, they are PTB approved, sealed and calibrated.

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6 Startup

The KNX Sensor is set up using the ETS (KNX Tool Software) and the applicable application program.
The sensor is delivered unprogrammed.
All functions are programmed and parameterized with ETS.
Please read the ETS instructions.

| Programming LED | KNX Terminal Block | Programming Button |

Connector Thermal Energy Meter

| KNX-WMZ-WZ-HY   Assembly View |

7 Assembly

The Thermal Energy Meter **KNX-WMZ-WZ-HY** is for outdoor and indoor areas.
It fulfills protection class IP65.
Mounting is done on wall through 2 screw holes.

The cover of the device can be removed by turning the screws on the top.

First attach the sensor to the wall or ceiling, then insert the KNX Bus cable into the slot on the side
of the casing (PG Connection).
Detach the bus clamp from the device, attach the cable and replace the clamp onto the board.
After successfully programming the device, screw the cover back on.

Be careful not to damage the electronics with tools and cable heads.

In Case of Bus Voltage Recurrence

The outputs start with their current values and the ETS parameter settings are saved.

Discharge Program and Reset Sensor

In order to delete the programming (projecting) and to reset the module back to delivery status, it must be switched to zero potential (disconnect the EIB bus coupler).
Press and hold the programming button while reconnecting the EIB bus coupler and wait until the programming LED
lights up (approx. 5-10 seconds).
Now you can release the programming button.
The module is ready for renewed projecting.
If you release the programming button too early, repeat the aforementioned procedure.

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Imprint

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Safety Regulations

Attention! Installation and mounting must be carried out by a qualified electrician.
The buyer/operator of the facility has to make sure that all relevant safety regulations, issued by VDE, TÜV and the responsible energy suppliers are respected. There is no warranty for defects and damages caused by improper use of the devices or by non-compliance with the operating manuals.

Warranty

We take over guarantees as required by law.
Please contact us if malfunctions occur. In this case, please send the device including a description of the error to the company's address named below.

Manufacturer

Registered Trademarks

The CE trademark is a curb market sign that exclusively directs to autorities and does not include any assurance of product properties.

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