

1.0 Introduction

The Arcus-EDS Water Meter is a calibrated „Modularis “ water meter from the company NZR with an inbuilt impulse module and counter, as well as a battery back-up data storage unit and KNX Bus Interface for remote reading and monitoring.


2.0 KNX Interface
Item Chart:

The following items are available for remote reading with the KNX/EIB System:

Nr.		Data Point Type	Data Type
0	Accumulated Volume in m ³	<i>DPT14.076 = Volume</i>	Measurement 4 Byte
1	Current Flow m ³ /unit of time	<i>DPT14.077 = Volume Flow</i>	Measurement 4 Byte
2	Current Time	<i>DPT10.001 = Time</i>	Time 3 Byte
3	Current Date	<i>DPT11.001 = Date</i>	Date 3 Byte
4	Last Control Date	<i>DPT11.001 = Date</i>	Date 3 Byte
5	Last Control Reading	<i>DPT14.076 = Volume</i>	Measurement 4 Byte
6	Next Control Date	<i>DPT11.001 = Date</i>	Date 3 Byte
7	Consumption	<i>DPT14.076 = Volume</i>	Measurement 4 Byte
8	Consumption Reset	<i>DPT07.000 = Reset</i>	Reset 16 Bit
9	Consumption Date	<i>DPT11.001 = Date</i>	Date 3 Byte
10	Consumption Time	<i>DPT10.001 = Time</i>	Time 3 Byte
11	Serial Number	<i>DPT16.000 = String</i>	Identification 14 Byte

Accumulated Volume	in m ³ , the current meter reading.
Current Flow	Volume flow in m ³ /unit of time, parameters for the unit of time are set up.
Current Time	Internal clock.
Current Date	Internal date.
Last Control Date	The date when the last control reading was saved at 12:00 a.m.
Last control Reading	The meter reading from the last control date at 12:00 a.m.
Next Control Date	The date when the next control reading will be saved at 12:00 a.m.
Consumption	Water consumption since the last consumption reset.
Consumption Date	The date of the last consumption reset.
Consumption Time	The time of the last consumption reset.
Serial Number	The serial number on the meter.

Transmission requirements are set by the ETS parameters.

The following items can be adjusted:

Current Time	The internal clock of the water meter is reset.
Current Date	The internal date of the water meter is reset.
Next Control Date	The next control date is reset.
Consumption Reset	Consumption is set to zero and the current date and time are saved. If the reset PIN does not equal zero then the transmitted reset value must equal the PIN value. If the reset PIN is zero then the reset value must not be zero.

General settings	
Send all values periodical	1 minute
Unit per Pulse	1
Unit per Pulse (*10 [^])	-3
Presetting	0
Reset PIN/ (0 without pin)	0
Kind of pulse counter	Volume flow rate
Volume flow rate unit	per hour
Automatic daylight saving time	yes

Parameter:

The following settings are available to set the parameters with ETS:

Show all measured data periodically	The measured data is shown in preset cycles. If the data is not shown periodically it will be shown when there is a change; a minimum interval of 10 seconds is necessary to reduce bus overload.
Impulse Unit Value per Impulse Impulse Unit * 10 [^]	The impulse value for the meter can be set. Example: Displayed in m ³ with 1 Impulse/l requires the setting 1 * 10 ⁻³ , the input value =1 und the exponent = -3 .
Preset Impulse	If the readings of the counter and the item value differ, the meter can be synchronized. The values are synchronized from the start and a 0 should be input. If the meter is used without a S0 connector it can be resynchronized. Previously counted impulses are entered. 12.5 m ³ with 1 Impulse/L so that a value of 12500 is only updated when the new meter reading is more than the old reading.
Reset PIN	To ensure that only authorized users can reset the consumption value, a PIN can be entered. The reset value must match the PIN. If the PIN is zero, the reset value must not equal zero.
Type of Impulse Measurement	„Volume Flow“ should be set.
Volume Flow Unit	The volume flow can be determined: volume flow in m ³ /sec , m ³ /min , m ³ /h or m ³ /day.

3.0 Installation

The water meter must only be installed and put into operation by an authorized specialist. In addition, knowledge of Engineering Tool Software (ETS) is required. Start-up is carried out with ETS Version 2 or higher. You will find the water meter in ETS under manufacturer: Arcus-eds, product family: meter, product type: impulse meter/water meter.

The EIB programming button and programming LED are located on the attached housing. (see above).

Technical data for the water meter can be found in the data sheet of the manufacturer NZR:

Technical Documentation Water Meter Modularis WZ-M **db-wz-m.pdf (see attached)**

Wasserzähler Modularis WZ-M

water meter modularis WZ-M

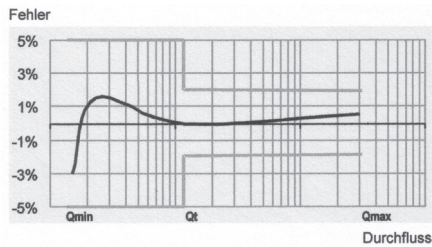


Modulsteckplatz / Modules slot:

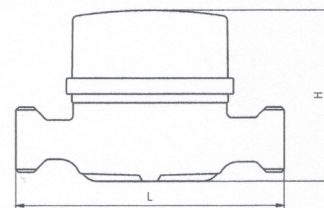
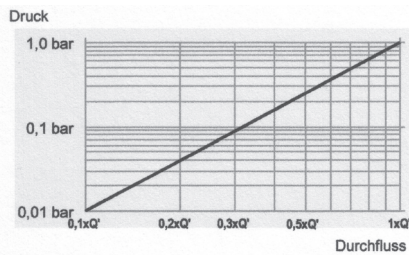
Der Wasserzähler ist durch seine vorhandene Aussparung im Messsatz jederzeit mit Fernauslese-Modulen nachrüstbar. Die Nachrüstung kann ohne Verletzung der Eichung erfolgen. Die Module werden durch eine Sicherungspombe gesichert. Beim späteren Wechsel der Zähler können die Module weiter verwendet werden.

The water meter can be retrofitted with remote reading modules due to its opening in the measuring set. The retrofitting can be performed without losing the validity of the calibration. The modules are secured by safety seals. The modules can still be used after meters have been replaced.

Fehlerkurve / Error curve



Druckverlustkurve / Pressure drop curve



Volumenteil / Volume device

Typ / Typ			Aufputzzähler / surface-mounted		
Nenndurchfluss / Flow rate	q _p	m ³ /h	1,5	2,5	
Nennweite / Nominal diameter	DN	mm	15	20	
Maximaler Durchfluss / Maximum flow rate	q _s	m ³ /h	3	5	
Trenngrenze / Transitional flow rate	q _t	l/h	120	150	
Kleinster Durchfluss / Minimum flow rate	q _{min}	l/h	30	50	
Anlauf / Starting flow rate		l/h	8	5	15
Anschluss / Connection AG Zähler / Meter AG Verschraubung / Screw connect		"	3/4	1	
		"	1/2	3/4	
Baulänge / Length	L	mm	80	110	130
Bauhöhe / Height	H	mm	69	69	
Breite / Width	B	mm	70	70	
Gewicht / Weight		kg	0,45	0,5	0,58

Bestellinformationen / Order list

WZK-M kalt / cold 30 °C	75124015	75124115	75124025
WZW-M warm / warm 90 °C	75124515	75124615	75124525

Wasserzähler Modularis / Water meter Modularis

Beschreibung / Description

- Als Einstrahl Aufputzzähler / as single stream surface-mounted meter
- Mit integriertem Modulsteckplatz / With integrated module slot
- Einbaulage horizontal, vertikal, Fall- und Steigrohr / installation position horizontal, vertical, down pipe and riser
- Metrologische Klasse: B horizontal, A vertikal / metrological degree: B horizontal, A vertical
- Gleitreibungsoptimierte Werkstoffe / sliding friction optimized materials
- Zählwerkgehäuse 360° drehbar / meter housing, rotatable by 360°
- 8-stelliges Rollenzählwerk mit 3 Nachkommastellen / 8-digit roller counter with 3 decimal places
- mit PTB und EG-Zulassung / with PTB and EC-approval

Kommunikationsmodule / Communication module:

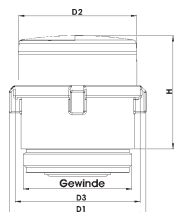
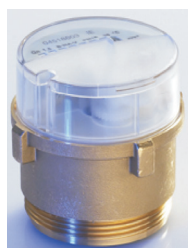
- Impuls-Modul / Impulse module**
 - Impulswertigkeit / Impulse value 1 Imp./Liter
 - Drehrichtungserkennung / Detection of rotation
 - Anschlussleitung / connection cord 1m
- M-Bus-Modul / M-Bus module**
 - M-Bus gemäß EN 1434-3
 - Drehrichtungserkennung / Detection of rotation
 - Primär- und Sekundär-Adresse / Primary and secondary address
 - mit 12 Stichtagswerten / with 12 cut-off date value
 - mit zusätzlichem Impulsausgang / with additional impulse output 1 Imp./Liter
 - mit Pufferbatterie (6 Jahre) / with buffer battery
 - Anschlussleitung / connection cord 1m

Typ / Type	Beschreibung / Description	Art.-Nr.
MOD-I	Impuls-Modul (1 Imp./Liter)	8100
MOD-M	M-Bus- / Impuls Modul	8101

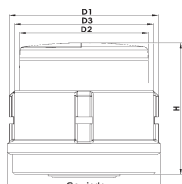
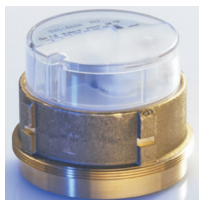
Wasserzähler

Kapselzähler Modularis UPZ-M

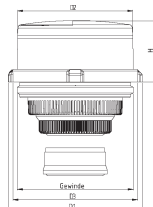
water meter modularis UPZ-M



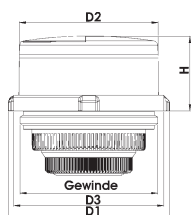
Viterra
ISTA



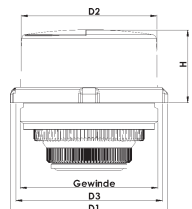
Allmess
Actaris



Elster
ABB



Metrona-
Brunata



Sensus
SPX

Kapselzähler Modularis / Cap meter Modularis

Beschreibung / Description

- Alternativmesskapsel mit Modularis-Zählwerk / Alternative measuring cap with Modularis counter
- Mehrstrahl Trockenläufer / Multi stream dry rotator
- Kalt- und Warmwasserzähler / Cold and warm water meter
- Einbaulage horizontal, vertikal / Installation position horizontal, vertical
- Metrologische Klasse: B horizontal, A vertikal / metrological degree: B horizontal, A vertical
- Ein Montageschlüssel für alle Varianten / An installation key for all variants
- Gleitreibungsoptimierte Werkstoffe / sliding friction optimized materials
- Zählwerkgehäuse 360° drehbar / meter housing, rotatable by 360°
- 8-stelliges Rollenzählwerk mit 3 Nachkommastellen / 8-digit roller counter with 3 decimal places
- Mit integriertem Modulsteckplatz / With integrated module slot
- Nachrüstbar mit Modularis Modulen zur Fernauslesung / Retrofittable with Modularis modules for remote readout
- Passend zu am Markt befindlichen Rosetten / Fitting to escutcheons available on the market
- PTB und EG-Zulassung / PTB and EC-approval
- Die Originalrosetten können weiter verwendet oder durch eine neu Rosette (siehe Zubehör) ersetzt werden / the original escutcheons could just again or changed by new one (see accessory)

Kommunikationsmodule / Communication module:

- Impuls-Modul / Impulse module
 - Impulswertigkeit / Impulse value 1 Imp./Liter
 - Drehrichtungserkennung / Detection of rotation
 - Anschlussleitung / connection cord 1m
- M-Bus-Modul / M-Bus module
 - M-Bus gemäß EN 1434-3
 - Drehrichtungserkennung / Detection of rotation
 - Primär- und Sekundär-Adresse / Primary and secondary address
 - mit 12 Stichtagswerten / with 12 cut-off date value
 - mit zusätzlichem Impulsausgang / with additional impulse output 1 Imp./Liter
 - mit Pufferbatterie (6 Jahre) / with buffer battery
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MOD-I	Impuls-Modul (1 Imp./Liter)	8100
MOD-M	M-Bus- / Impuls Modul	8101

Messkapseln / measuring cap

Typ / Typ			UPZ-M-IE	UPZ-M-AU	UPZ-M-MM	UPZ-M-MT	UPZ-M-SP
Kompatibel / Compatible			ISTA	Allmess	Elster/ABB	Metrona/Brunata	SPX
			EAS-N	UP 6000	MO-E, MO-C, EAS-H	HT3	Pollumuk
Nenndurchfluss / Flow rate	q _p	m ³ /h	1,5	1,5	1,5	1,5	1,5
Maximaler Durchfluss / Maximum flow rate	q _s	m ³ /h	3	3	3	3	3
Anlauf / Starting flow rate		l/h	10	10	10	10	10
Durchfluss 1 bar Druckverlust / pressure drop	q'	m ³ /h	3,3	3,3	3,3	3,3	3,3
Metrologisch Klasse / metrological degree	Horizontal		B	B	B	B	B
	Vertikal		B	B	A	B	B
Gewinde / thread			G2B	M77x1,5	G2B	M64x2	G2 1/4"
Maße / measures	D1	mm	75	75	75	75	75
	D2	mm	65	65	65	65	65
	D3	mm	71	71	71	71	71
Bauhöhe / Height	H	mm	60	60	34,5	34,6	34,7
Gewicht / Weight			kg	0,34	0,5	0,23	0,26

Bestellinformationen / Order list

UPZ-M kalt / cold	40 °C	75120815	75122915	75122115	75122315	75122515
UPZ-M warm / warm	90 °C	75120915	75123015	75122215	75122415	75122615

Stand 10/2007

Technische Änderungen vorbehalten.