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ADVANCED MEASURING SOLUTIONS.

2873

Siemeca™ AMR

Pulse Adapter AEW36.2

The AEW36.2 pulse adapter acquires and handles the pulses from 1 or 2 consumption meters with pulse output and transmits the data to a Siemeca™ AMR network. For setting the parameters, the pulse adapter is equipped with 2 interfaces, 1 wired interface and 1 optical interface.

Use

The pulse adapter is a component of the Siemeca™ AMR system.
It is for installations where consumption meters with pulse output are used the data of which shall be collected by the Siemeca™ AMR system. Such devices can be meters for hot water, cold water, gas, electricity, etc.

Functions

- Acquisition of the pulses delivered by the connected consumption meters
- Monitoring the connecting cable in the case of metering devices with NAMUR circuit
- Handling of pulses and storage of consumption data and set day values
- Wireless transmission of data 6 times a day to the WT..16.. network nodes of the Siemeca™ AMR system

Type summary

Standard version **AEW36.2**:
Connection of 2 meters to the connecting cable by means of the cable connectors supplied with the unit. Labeling in German.

Country-specific version **AEW36.2/DK**:
Connection of 2 meters to the pulse adapter's terminal block. Labeling in Danish.

Ordering

When ordering, please give type reference: **AEW36.2**

Equipment combinations

When installing, the pulse adapter must be programmed with the data set delivered with the parameter setting software for the respective meter. If meters not contained in the meter data base shall be connected, a new data set must be requested from:

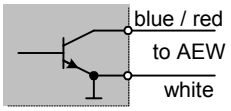
QVEDIS GmbH
Sales Support
Sondershäuser Landstr. 27
D-99974 Mühlhausen

Tel.: +49 (3601) 46 83-0
Fax: +49 (3601) 46 83-75
E-Mail: info@qvedis.com

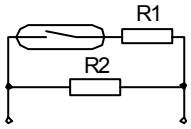
With the correct data set installed, the following types of meters can be connected:
- Water meters with pulse output
- Heat meters with pulse output
- Gas meters with pulse output
- Steam meters with pulse output
- Electricity meters with S0 interface (note: an additional S0 converter is required, e.g. z.B. IC-2, available by Nordwestdeutsche Zählerrevision Ing. Aug. Knemeyer GmbH & Co. KG, Heideweg 33, 49196 Bad Laer)

Technical design

The pulse adapter handles pulses in accordance with the following specification:



Pulse source	*limit values (if parameters are appropriately set)*	
Electronic outputs (Open Collector, Open Drain)	residual voltage when switched	< 0.7 V
	max. frequency	< 17 Hz
	min. pulse width	30 ms
Mechanical switches (Reed contact, relays)	bounce time	< 1 ms
	max. frequency	< 2 Hz
	min. pulse width	260 ms



Mechanical switches with NAMUR circuits	resistance R1	2.2 kOhm
	resistance R2	5.6 kOhm

The inputs are protected against overvoltages. Open collector outputs must be connected with the correct polarities:
Channel 1: + blue, ground white
Channel 2: + red, ground white

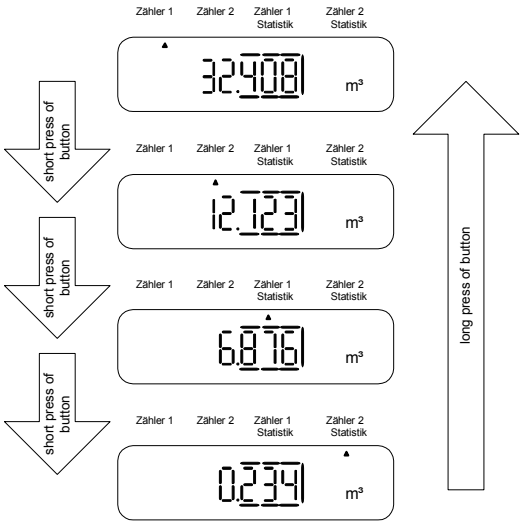
Power supply

The pulse adapter is powered by a lithium battery which has a service life of 12 + 1 years. It cannot be changed in the field.

Data transmission

Data are transmitted to the Siemeca™ AMR network 6 times a day.

Display steps



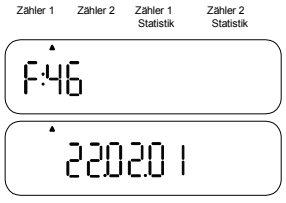
The LCD of the pulse adapter has 4 display levels:

- Meter 1 („Zähler 1“)
- Meter 2(„Zähler 2“)
- Meter 1 statistics
- Meter 2 statistics

The display level currently used is indicated by a little arrow (▲) below the name of the level.
A short press of the button produces a switching action within the same display, a long press produces a change from one display level to the next.
The first 2 display levels show current, meter-related values. The other 2 display levels show 13 end-of-the-month values of the relevant meter.

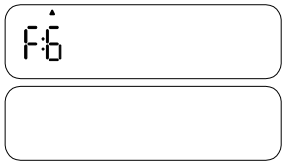
Display

Display levels 1 and 2 (meters 1 and 2) are identical.

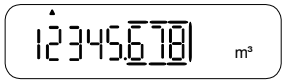


Display level meter 1 or meter 2

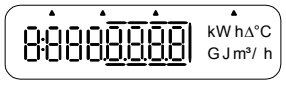
In the event of fault (severe, constant fault), this is the standard display. It alternates with the display showing the date the fault occurred.



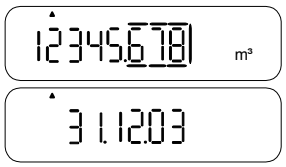
In the event of a temporary fault, the respective error code is displayed. This display alternates with a blank display.



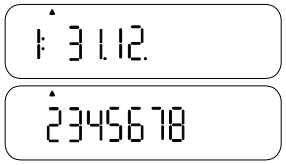
In normal operation, the standard display shows the consumption.



The display test switches all display segments on and off.



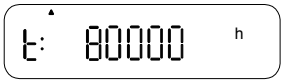
Consumption on the set day. This display alternates with the display showing the set day (notation: dd.mm).



If, during the pulse adapter’s operation, some other set day is programmed, the new set day appears here.

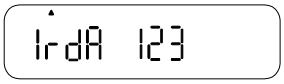
Identification number of the connected meter (to be entered when setting the meter’s parameters).

Data set number (describes the type of meter).

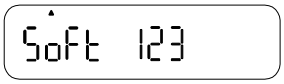


Number of operating hours.

Primary address
When pressing the button for more than 2 seconds in this step, the transmission of 8 installation telegrams will be started.

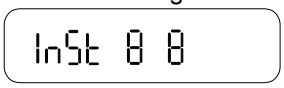


IrDA primary address.



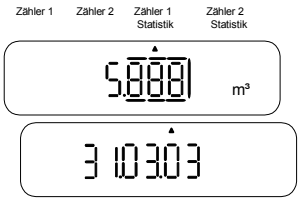
Software version.

Installation telegrams:

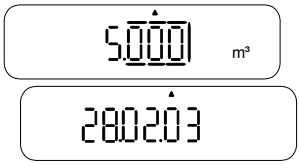


Sending installation telegrams; the 2 digits indicate the remaining telegrams for the 2 channels of the pulse adapter.

Display levels 3 and 4 (meter 1 statistics and meter 2 statistics) are identical. They show the consumption values and the date of that consumption over the past 13 months.



Display level meter 1 statistics or meter 2 statistics
Alternate display of consumption value and last day of the previous month (notation: dd.mm.yy).



Alternate display of consumption value and last day of the previous month (notation: dd.mm.yy).

… Displays continue for the last 13 months.

Error code

Error code	Description of fault
2	Number of operating hours
6	Pulse acquisition channel 1 open-circuit
7	Pulse acquisition channel 1 short-circuit
8	Pulse acquisition channel 2 open-circuit
9	Pulse acquisition channel 2 short-circuit
B	Number of communication via IrDA exceeded
C	Number of communication via M-bus exceeded
F	Device not initialized

Engineering notes

To ensure correct data transmission, the pulse adapter should be installed in locations where radio transmission is not impaired. In case of doubt, the transmission conditions are to be tested with the PC radio module (refer to Data Sheet CE1N2876).

Length of connecting cable

For immunity reasons, the total length of the connecting cable may not exceed **10 m**.

Mounting notes

Electrostatic Sensitive Devices

All modules integrated in the meters are electrostatically endangered components. The freely accessible contacts (cable end, plug connector) are only partially protected against interference.
Skilled personnel should avoid wearing polyester clothing and shoes with plastic soles as this type of clothing promotes electrostatic charging.
Electrostatic charging of skilled personnel must be deflected when handling open components e.g. by touching an earthed piping system.

Mounting

When installing the meter, insert 1 wire of the pulse adapter's connecting cable and 1 wire of the meter's connecting cable into one of the cable connectors supplied with the unit.
Then, squeeze the connector with a pair of pliers.
This connection cannot be separated and offers degree of protection IP54.

Only for AEW36.2/DK:
With the housing cover open, insert the meter connecting cables with the O-ring from the rear of the unit into the cable strain relief and connect the cables to the terminal block. Then, close the housing.

Commissioning notes

The pulse adapter is to be programmed during installation. Enter the following data for each channel:

- Type of pulse source (Reed switch, Reed switch with NAMUR, Open Collector, etc.) per input
- Type of medium (gas, water, etc.) per input
- Physical variable (kWh, m^3, etc.) per input
- Pulse valency per input
- Set day per input (1 set day per year)
- Meter readings when commissioning the pulse adapter, per input
- Meter number (identification number) per input

Wired parameter settings

The parameters can be set wire-bound or via the integrated optical interface (IrDA):
For wired parameterization, a laptop (Windows 98 or higher), the ACT20 parameter setting software, and the WFZ.MBM programming adapter are required.

Parameter settings via IrDA

Parameterization via the integrated optical interface (IrDA) is carried out by means of a PDA.

Triggering installation telegrams

For the pulse adapter to log on to the Siemeca™ AMR network, installation telegrams must be triggered on the pulse adapter **after** parameterization:

On the first display level, press the button briefly a few times until you reach the M-bus display:

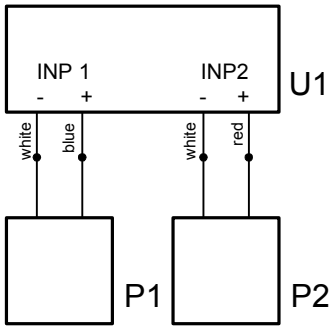
Then, keep the button depressed for more than 2 seconds. The installation telegrams will be sent:

The display shows the number of the remaining installation telegrams for each channel.

Technical data

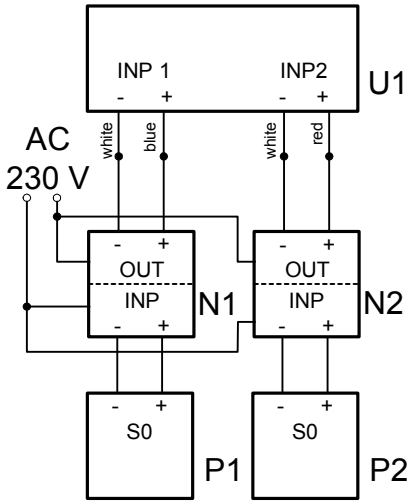
CE conformity	89/336/EEC (EMC directive) 1999/5/EEC (R&TTE directive)
Degree of protection	IP 54 to EN 60 529
Safety class	III to EN 60 950
Electromagnetic compatibility	
Immunity	EN 301 489 –1 / -3 V1.2.1 (2000-08) EN 61000-6-2 :1999
Emissions	EN 300 220 –1 V1.3.1 (2000-09) - 3 V1.1.1. (2000-09
Security of IT equipment	EN 60 950
Operating voltage	DC 3 V
Life expectancy	12 +1 years
Nominal frequency	868.3 MHz
Transmitting power	< 5 mW
Transmission frequency	6 times / 24 hours
Perm. ambient temperature	
Transport and storage	–25…+60 °C
Operation	0…55 °C
Weight	0.3 kg

Connection diagrams



Connection of any type of meters with pulse output

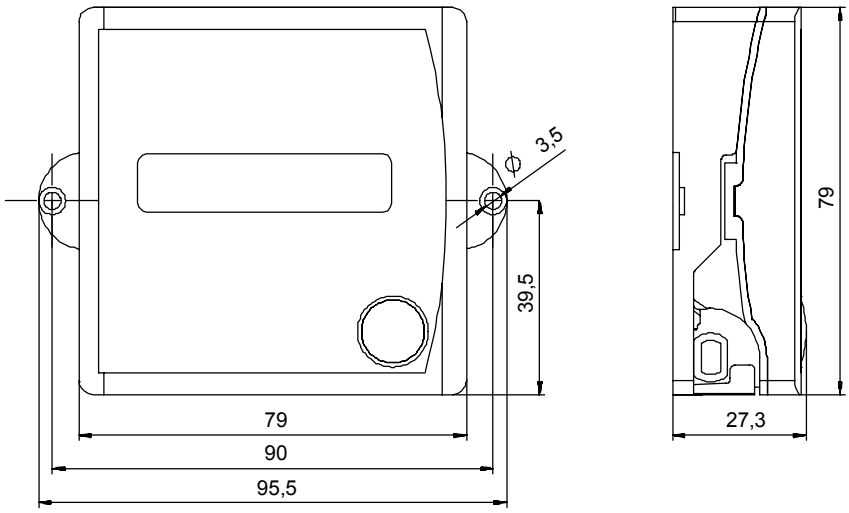
U1 AEW36.2 pulse adapter
P1, P2 Meter with pulse output



Connection of electricity meters with S0 interface

U1 AEW36.2 pulse adapter
P1, P2 Electricity meters with pulse output
N1, N2 WHZ.SO pulse converter

Dimensions



Dimensions in mm

Connecting cable length is 350 mm.

Type of unit	Type reference	Document
Siemeca™ AMR system		Data Sheet CE1N2870
Engineering Manual		CE1J2870
Heat cost allocator	**WHE46**	Data Sheet CE1N2877
Wireless pulse adapter	**AEW36.2**	Data Sheet CE1N2873
Heat meters	**WFM26…,** **WFQ26….**	Data Sheets CE1N5333, CE1N5347, CE1N5338, CE1N5348
Water meters	**WFC26…,** **WFH26…,**	Data Sheets CE1N5341, CE1N5343
	WFC36…, **WFH36…,**	Data Sheets CE1N5328
	WMC36…, **WMH36…**	Data Sheets CE1N5329
Network node	**WTT16** **WTX16…**	Data Sheet CE1N2874
Network node with Gateway	**WTX16.IP** **WTX16.GSM** **WTX16.MOD…**	Data Sheet CE1N2878
Software	**ACS…,** **ACT…**	Data Sheet CE1N2875
PC radio module	**WTZ.RM**	Data Sheet CE1N2876
M-bus central unit	**OZW10**	Data Sheet CE1N5362