Configuration Guide

Preparation

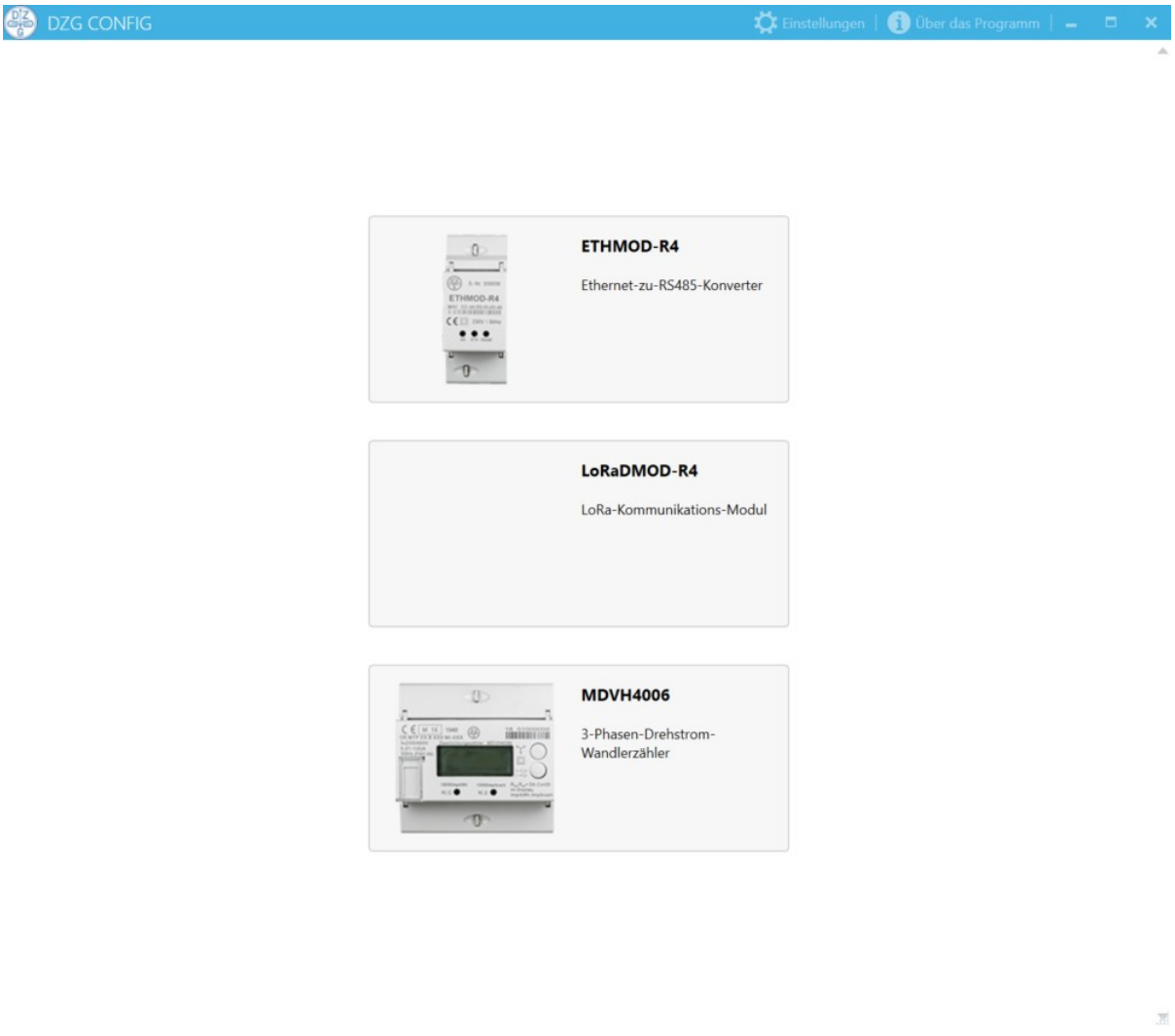
Please connect the supplied cable to the modem's RJ45 jack. Connect the other end of the cable to the PC's RS232 port.

Install the **DZG Config** software on the PC.

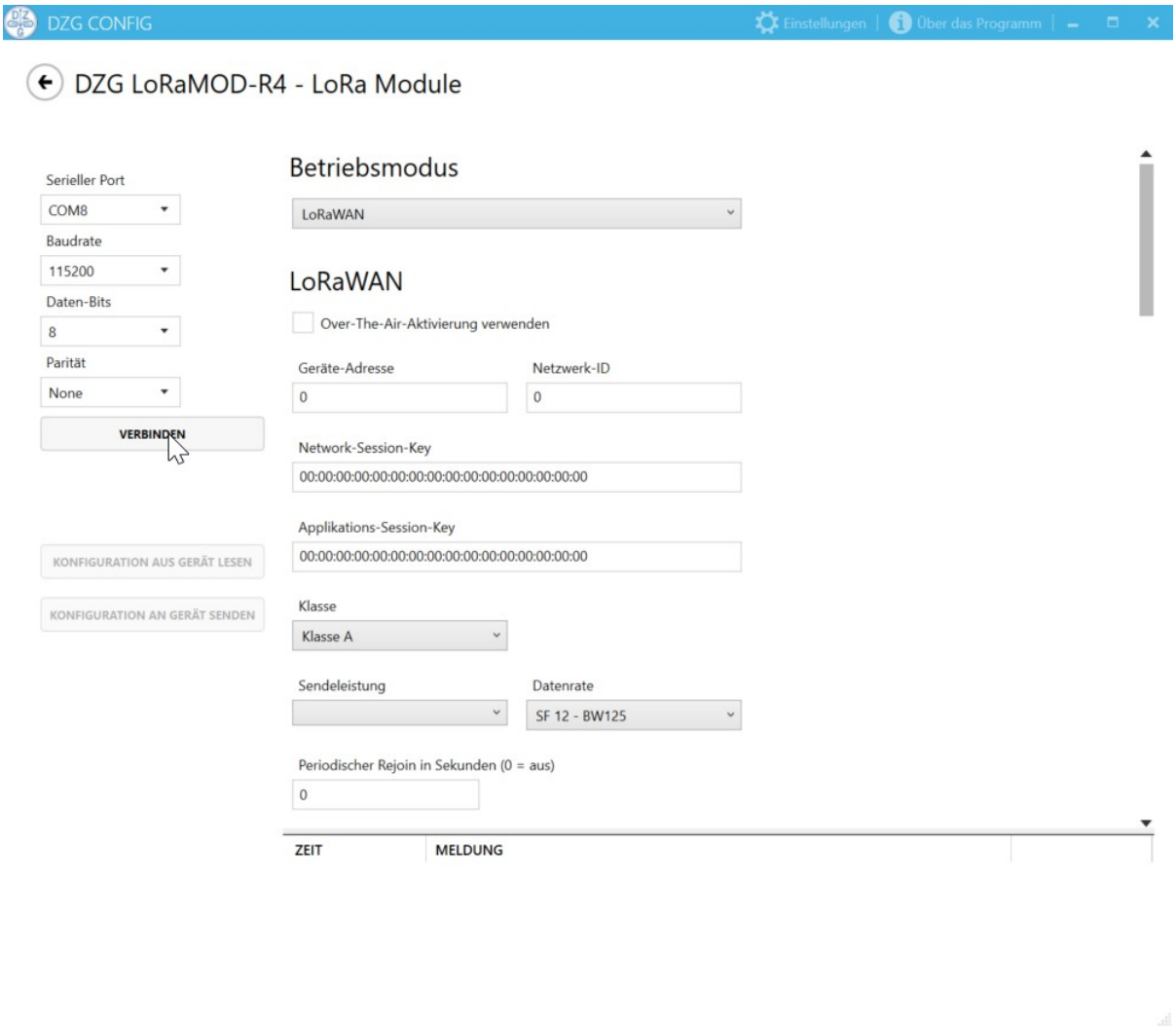
Then connect the device to the 230V AC power supply using the terminals located on the bottom.

LoRaMOD-R4

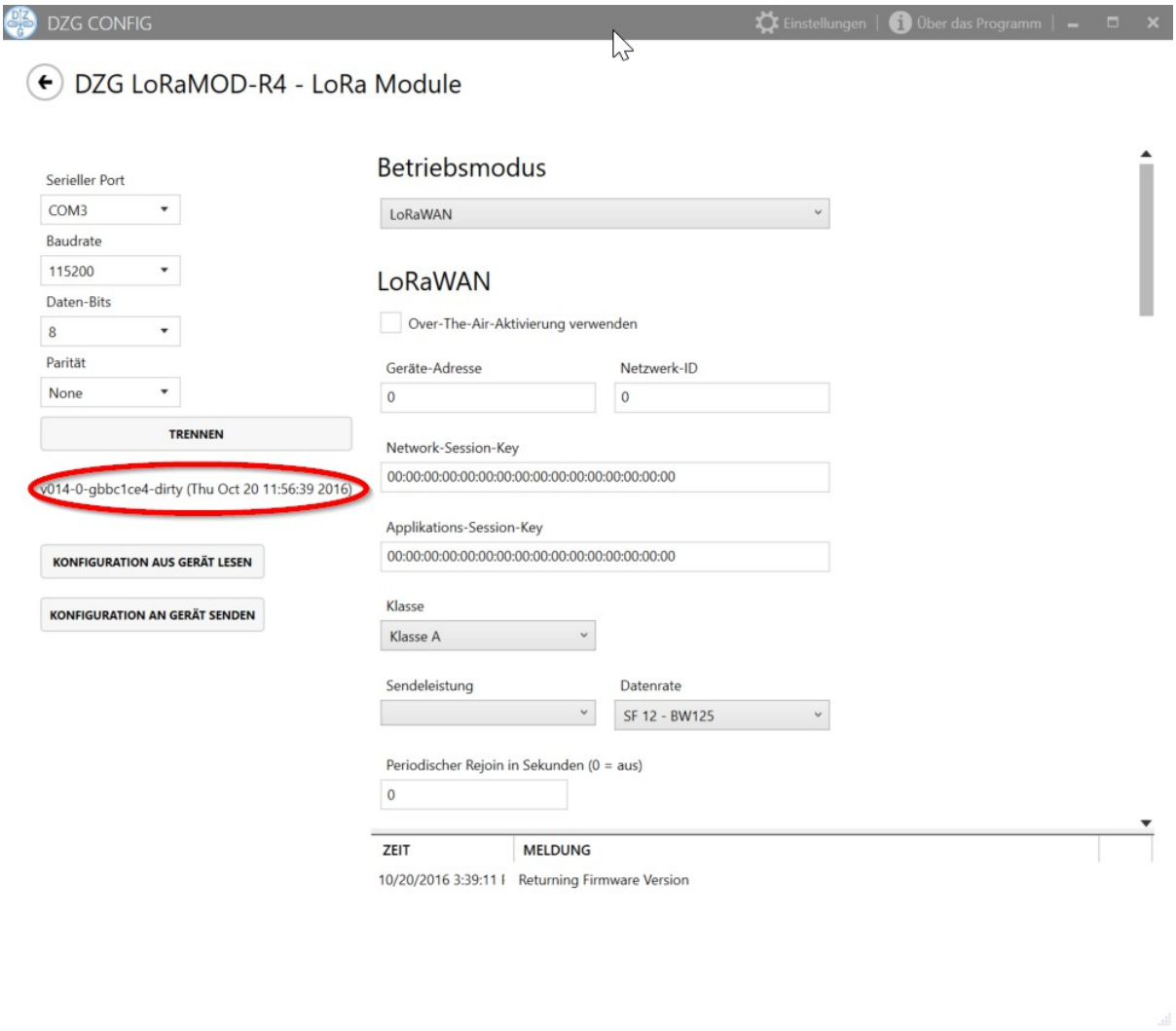
Starting the **DZG Config** program



Select the "LoRaMOD-R4" button.

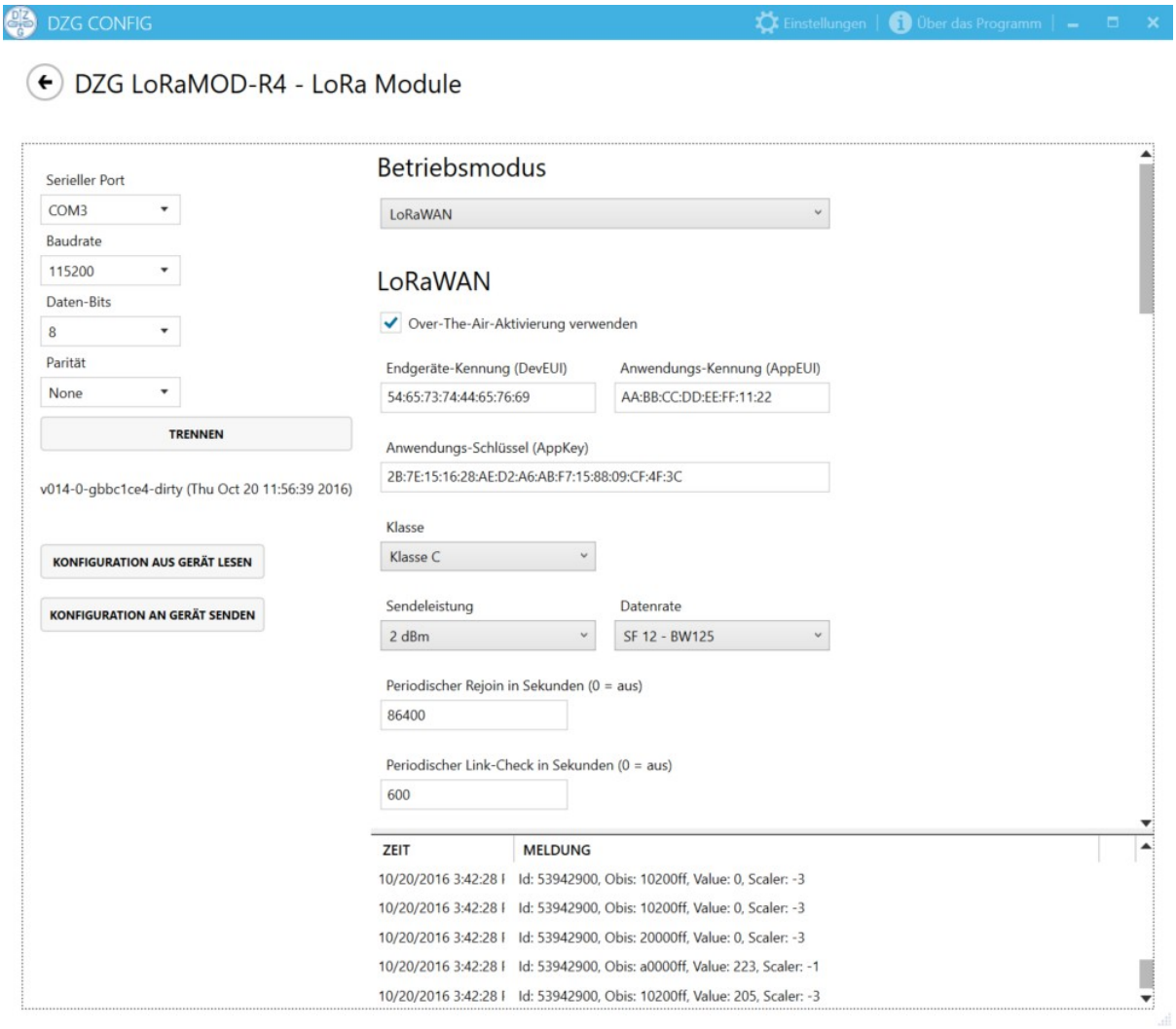


Check the serial port parameters and then click the **Connect** button.



If the connection is established correctly, the firmware version read from the device is displayed immediately.

Clicking the "**Read Configuration from Device**" button reads and displays the currently active configuration.



LoRaWAN must be selected as the operating mode.

To establish a connection to a LoRaWAN network, either Over-The-Air Activation (**OTAA**) or Activation-By-Personalization (**ABP**) can be used.

For **OTAA,** the device identifier (DevEUI) and application identifier (AppEUI) must be entered in little-endian format. The AppEUI and the application key (AppKey) are assigned by the LoRaWAN provider.

With **ABP**, all parameters (device address, network session key, application session key) are hard-coded with the LoRaWAN provider. This connection type is recommended only for test scenarios, as the same session keys are used continuously, which results in reduced data security.

In the Class dropdown menu, select **Class A** or **Class C**. Class C devices are permanently accessible, while Class A devices are only available to receive incoming commands for a short time after sending a message.

For the **transmit power,** the initial level can be set between 2 and 14 dBm.

The initial **data rate** can be configured in steps from SF7 (fast) to SF12 (slow).

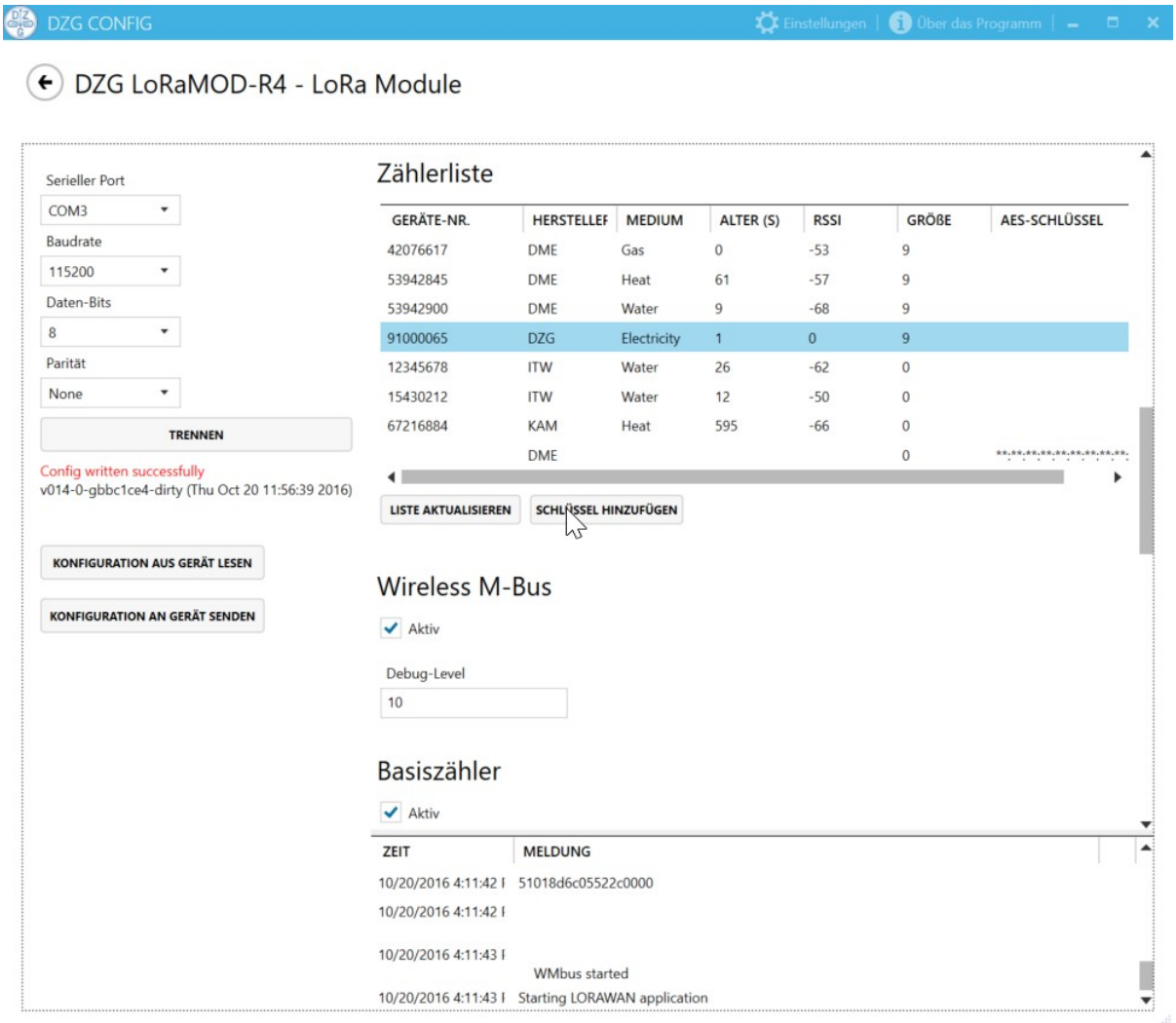
The **periodic rejoin** parameter triggers a new join procedure in OTAA mode after the set number of seconds has elapsed. The rejoin is performed regardless of whether a connection has been established or not.

The "Periodic **Link Check"** parameter causes a heartbeat data packet to be sent repeatedly at the configured interval. However, the link check packet is only sent if the device is in LoRaWAN mode and there is outgoing payload data in the buffer.

The **Join Time Window** defines a device-specific random time interval that ensures a waiting period is observed in the event of a power failure and subsequent power restoration before a Join Request message is sent in the case of OTAA. This setting helps prevent collisions in larger networks.

The transmission time window defines a device-specific random time interval that—similar to the join time window—minimizes the probability of multiple devices in the network transmitting simultaneously.

The "Time in LoRaWAN Mode" parameter determines how long the device remains in LoRaWAN mode after an outgoing packet is sent. Once this time has elapsed, the device automatically switches to wireless MBus receive mode, provided this mode is enabled.



The meter list displays all meters detected via RS485 or wireless MBus. If a meter data record could not be decrypted, this is indicated by a value of 0 in the

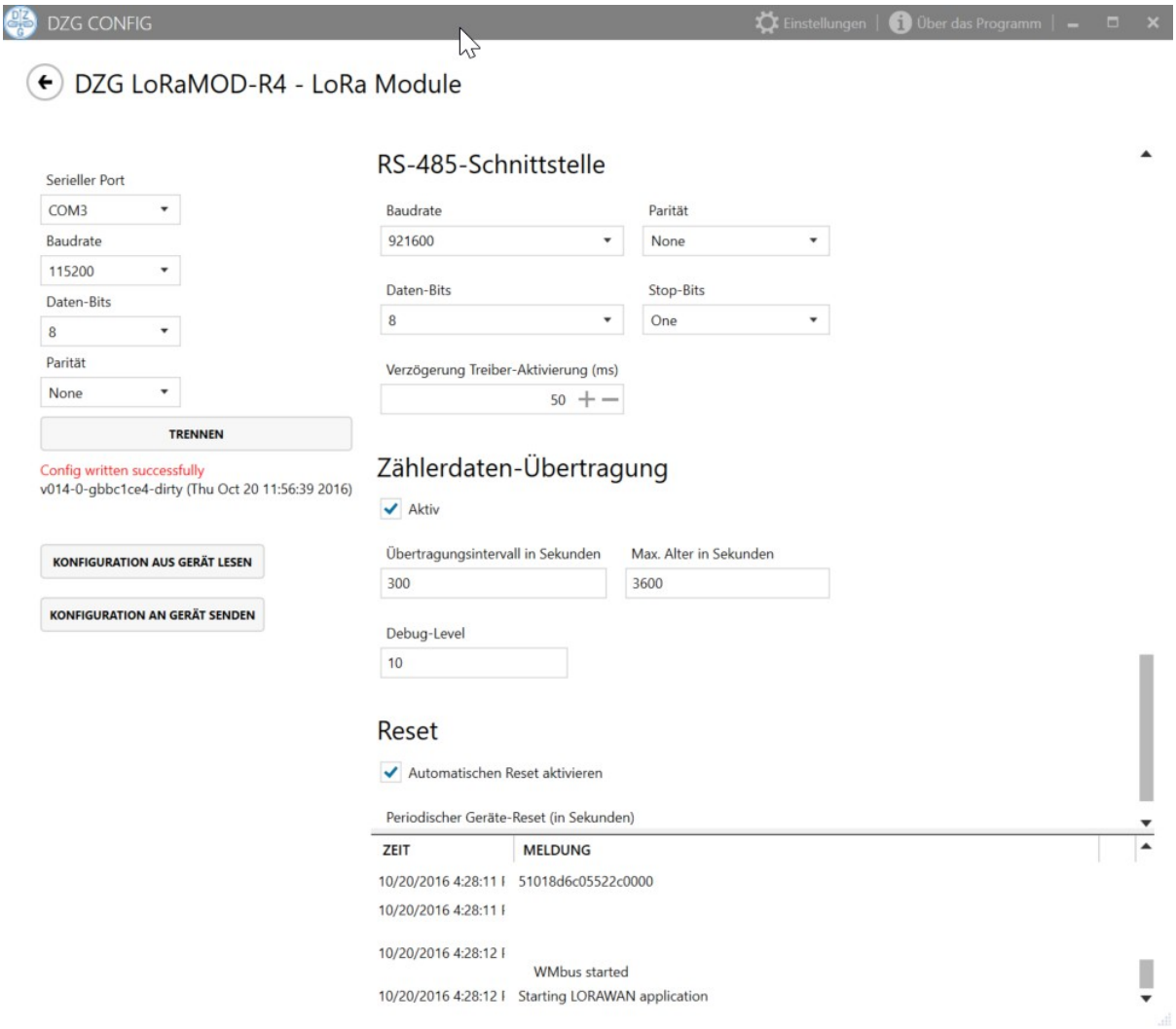
List view shown. For many M-Bus meters, it may be necessary to store a key in order to interpret the meter data set. This key can be imported into the device using the "**Add Key**" button.

If a device number is specified, the key is used specifically for that device to decode incoming data. If no device number is specified, the key is used for all devices from the selected manufacturer.

The **wireless M-Bus mode** controls whether a switch is made between LoRaWAN mode and wireless M-Bus reception.

The function of the RS485 interface is set by enabling or disabling the base meter function. When the base meter function is enabled, the selected codes are continuously queried. The serial interface parameters can be configured in the RS-485 Interface section.

The **Meter Data Transmission** switch controls whether data received via RS485 or wireless M-Bus is transmitted via LoRaWAN.



In general, any change in the value of a received meter data record triggers a data transmission via LoRaWAN. To limit the **transmission interval** and prevent data from being sent too frequently, the minimum transmission interval can be configured. The **maximum age in seconds** excludes outdated meter data records from being sent via LoRa.

The "**Periodic Reset**" parameter causes the device to restart after the specified number of seconds has elapsed.

After changing one or more parameters, the settings can be permanently written to the device's memory by clicking the
"**Send** Configuration **to Device**" button.

Status messages are continuously displayed in the lower section, providing information about the device's operating status.

RJ45 Jack Pinout

Pin	Description	Note
1	RS-485 B	
2	DC12 out	R29A must be installed to supply external devices with 12V
3	GND	Pin 5 on SUB-D 9 socket
4	DC12 in	R28A must be installed for the external 12V power supply to work.
5	NC	
6	RS-485 A	
7	RS-232 TX	Pin 2 on SUB-D 9 socket
8	RS-232 RX	Pin 3 to SUB-D 9 socket