

DATASHEET

ZEBRA FINCH WM-BUS

Standalone LTE/4G module designed to support multiple communication networks.

Features and Benefits

- 1 x RS485 Port
- LTE/4G Modem
- Wireless M-Bus 868MHz receiver
- Wi-Fi
- BLE
- MQTT Bridge Mode
- TCP M2M Mode
- USB-C for Local Configuration
- Modbus RTU/IP
- DLMS
- MQTT
- Location Via Cell Tower (CLBS)
- Automatic Kamstrup Configuration
- Offline Data Caching
- Location via geolocation services or LBS
- DIN Mounting enclosure
- M2M Server and Client

Technical Overview

The ZebraFinch-wM-Bus is a compact, standalone LTE/4G module designed to support multiple communication networks. It primarily enables wireless M-Bus communication via the 868 MHz receiver and DLMS/MODBUS communication through the RS485 port, allowing seamless integration with a wide range of metering and monitoring systems.

The wireless M-Bus receiver supports up to 10 configured water meters, collecting consumption data and key status indicators such as leak, burst, and dry detection (where supported). Water meter encryption keys are securely stored on the device, allowing for data to be decrypted at the edge and delivered in a readable format without additional processing. The RS485 port also supports connectivity to multiple electrical meters and MODBUS devices, enabling seamless integration in complex energy monitoring infrastructures.



Technical Overview

Cloud integration and configuration via a simple MQTT interface. The device uses a standard data SIM, either customer-supplied or provided through one of our connectivity options. For added deployment flexibility, TCP M2M Mode enables secure serial data transport and seamless RS485 and UART integration over TCP/IP for SCADA and industrial monitoring systems.

The ZebraFinch-wM-Bus features a unique MQTT Bridge Mode, allowing users to remotely access the device's communication ports as a virtual COM port on any Windows PC via a secure MQTT connection. Designed for reliable, real-time LTE/4G communications, it also includes Automatic Kamstrup Configuration, which automatically generates configurations for connected meters and enables predefined measurement points to be read without manual setup.

To ensure data continuity, the device provides offline caching for wM-Bus, DLMS, and MODBUS data. Readings are stored locally during network outages and automatically transmitted once connectivity is restored, with support for up to 200 cached messages.

Specifications

Power Supply	12-24V AC/DC 250mA, 500mA peak (current draw is dependent on connected peripherals)
Communication	LTE: - CAT1 B1/B3/B8 Bluetooth v4.2 (BLE): 2.4GHZ - 2.4835GHz Wi-Fi: 802.11 b/g/n 2.4GHZ - 2.4835GHz
Communication Port	1 x RS485 ¼ load chipset
Enclosure	100 x 75 x 68 (HxWxD) mm DIN rail mountable 100 x 75 x 50 (HxWxD) mm Standalone
Environment	IP Rating: IP31 Temperature Range: -10C - 40C
Protocols	RS485: - Modbus RTU 100 Points (device config counts as one point) - DLMS 10 Devices 45 Points Mx per device IP: - MQTT - Modbus IP wM-Bus 868MHz 10 Water meters
Compliance	EMC Class A under EN 55032 (commercial/professional use only): - ETSI / EN 301 489-(1,17,52) - ETSI / EN 301 908-(1,13) - ETSI / EN 300 328 Safety: - IEC / EN 62368-1