



- Integrated NB-IoT/LTE Cat. M1 modem
- Packet data transmission
- Option for a soldered-in MIM card to replace the SIM card
- SMA connector for an external GSM antenna
- IP68-rated enclosure: 2 m for 24 hours
- 5 digital inputs/2 counter inputs
- Diagnostic LEDs
- Built-in battery pack
- Smart power management
- Data logger
- Remote configuration, updates and diagnostics
- USB-C port for local configuration
- Up to 5 years' operation on the internal battery (up to 10 years on the optional lithium battery)
- 1-wire port for an external temperature and humidity sensor*
- MQTT support with full SSL encryption
- Electronics coated with a protective layer, enhancing resistance to moisture, dust and environmental factors
- Adapter for reading heat meter data*

* option



The MT-058 is a modern, battery-powered telemetry module designed for the reliable monitoring of distributed infrastructure assets. Thanks to its support for energy-efficient LTE Cat. M1 and NB-IoT technologies, the device offers exceptionally low power consumption, enabling many years of operation without the need to replace the battery. Depending on the configuration and operating conditions, the battery life can be as long as 10 years.

The module features a compact, sealed housing with an IP68 rating and electronics coated with a special protective layer that enhances resistance to moisture, dust and adverse environmental conditions. As a result, the MT-058 is ideally suited for use in water supply, district heating, energy and environmental applications, including in locations without access to the mains power supply.

The flexible architecture of inputs and interfaces allows it to work with water meters, flow meters, pressure and temperature sensors, and alarm signals. The built-in data logger ensures that measurements are retained even during temporary loss of connectivity, whilst cyclic or event-based transmission allows the device's operation to be optimally tailored to the application's requirements.

The MT-058 can be powered either by batteries or by external power sources, such as a rechargeable battery paired with a photovoltaic panel. Intelligent power management automatically switches between power sources, ensuring uninterrupted system operation.

The device supports modern communication protocols, including MQTT with full SSL encryption support, enabling secure integration with IoT platforms, SCADA systems and cloud-based solutions. Additionally, an industrial MIM card can be fitted directly onto the device's circuit board, enhancing communication reliability in demanding operating conditions.

Functionality:

- LTE-M / NB-IoT – energy-efficient data transmission
- MQTT with full SSL encryption support
- Option to expand I/O capabilities using an expansion board:
 - » 4 additional binary inputs
 - » 2 additional analogue inputs (0–5 V)
 - » 2 additional PT1000 inputs
- Automatic reporting of alarm events (unsolicited messages)
- Programmable alarm thresholds, hysteresis and analogue signal filtering
- Built-in data logger with a resolution of 1 s
- Remote modification of configuration parameters

Safety:

- List of permitted IP addresses
- Password-protected configuration
- Encrypted MQTT communication (SSL)

Maintenance and diagnostics:

- User-friendly configuration tools
- Diagnostic LEDs

Design:

- Detachable terminal blocks
- Electronics coated with a protective layer to enhance resistance to moisture, dust and environmental factors
- IP68 protection rating

General

Dimensions (L x W x H)	151 x 80 x 60 mm
Mounting method	4 holes, 63 x 127 mm
Operating temperature	-20 to +60 °C
Protection class	IP 68: 2 m for 24 hours
Housing material	polycarbonate (UL94V-0)

Modem

Type	Nordic nRF9160
Modem bands	
LTE Cat-M1:	B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B28, B66
Cat-NB1/NB2:	B1, B2, B3, B4, B5, B8, B12, B13, B17, B19, B20, B25, B26, B28, B66
Antenna	50 Ω

Internal power supply

4.5 V alkaline battery pack	7,8 Ah	service life of up to 5 years
3.6 V lithium battery pack	13 Ah	service life of up to 10 years

External power supply

Supply voltage range	7–24 V DC
Maximum current draw	0,3 A

Binary inputs I1–I5

Polarity of normally open contacts	3,3 V
Counting frequency (50% duty cycle), I1–I2 only	250 Hz max.
Minimum pulse width – operation as a pulse input, I1–I2 only	2 ms
Minimum pulse width – operation as a binary input, I1–I2 only	2 ms

All analogue inputs (with 5 V DC power supply)

Measuring range	0–5 V DC
Resolution	12 bits
Accuracy	± 0,5 %

Recorder

Memory type	FLASH
Maximum number of records	20 480
Maximum number of MQTT records	2 048

1-wire port

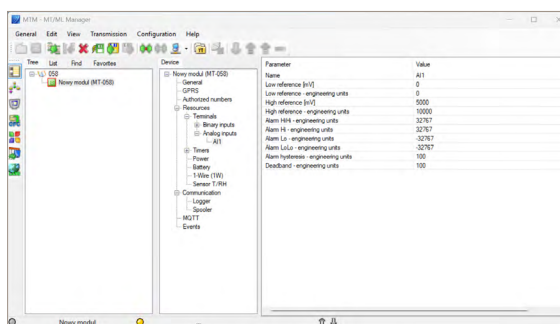
Compatible with a temperature sensor	DS18B20
Supply voltage	3,3 V

Temperature and humidity sensor (optional)

Typical temperature accuracy	1 °C
Temperature measurement range	-20 +60 °C
Typical relative humidity accuracy	3 %RH
Operating relative humidity range	0–100 %RH

Additional options

Option to fit a MIM card	
Holder for an internal size D lithium battery	

Configuration software**Drawings and dimensions (all dimensions in millimeters)**