

- Integral NB-IoT/ LTE Cat. M1
- Packet data transmission
- Option of soldered MIM card replacing the SIM card
- SMA antenna connector for external antenna
- IP68 housing (2m for 24h)
- 5 binary/2 counter inputs
- Diagnostic LEDs
- Built-in battery pack
- Smart energy management
- Data logger
- Remote configuration, update and diagnostics
- USB-C port for local setup
- Up to 5 years of operation on the internal battery (time depends on device configuration)
- Integrated temperature and humidity sensor mounted outside the housing
- 1-wire interface for external temperature sensor
- 3-year warranty



MT-058 is a modern, battery telemetry module built on the basis of a modem supporting energy-saving LTE Cat. M1 and NB-IoT technologies. Thanks to the use of mechanisms offered by these technologies, which reduce the consumption of energy necessary for data transmission, the operation time of the device can be up to 5 years (depending on the conditions and configuration), which effectively reduces the costs of operating and servicing the device. These features make the device an ideal solution for measurement, recording and alarm applications in places without external power supply.

Combined with its compact IP68-rated housing, the device can be used even in harsh environmental conditions, especially when collecting data from water meters, flow meters or in chamber monitoring.

The module has built-in 5 binary inputs, with the ability to configure them as counter inputs, counting pulses with a frequency of up to 250 Hz with min. duration of 2ms, which allow you to read water meters and two-way flowmeters.

At the same time, the inputs can be configured as alarm inputs, where an alarm event will be sent after a change of state, e.g. as a result of opening the door of the teletechnical cabinet, transmitting a signal from an external device.

The module has a built-in Flash memory for the data logger, thanks to which you can manage energy consumption even more effectively, and record data even in the event of a temporary lack of radio signal. Event or cyclical transmission allows you to adjust the operating mode of the device to the user's needs while optimizing energy consumption. The battery voltage is continuously monitored and communicated along with other measurement data.

The device can use a standard (2FF) SIM card (Subscriber Identification Module), or optionally MIM (Machine Identification Module), soldered at the production stage in the process of surface assembly of electronics, which further increases the reliability of the device.



DATA PORTAL

LTE-M

1AI/5DI



General

Dimensions (L x W x H)	151 x 80 x 60 mm
The method of attachment	4 holes
Working temperature	-25 to +60 °C
Protection class	IP68 (2m for 24h)
Housing material	polycarbonate (UL94V-0)

LTE 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		

Power supply

Alkaline battery pack 4,5 V	7,8 Ah	working time to 5 years
Lithium battery (SAFT LSH 20 or FANSO ER34615M)	13 Ah	working time to 10 years
Energy consumption (when transmitting 2 times a day)	0,7 Ah / year	

Binary inputs I1 – I5

Polarization of NO contacts	3.3 V
Counting frequency (50% fill), I1 - I2 only	250 Hz max.
Minimum pulse length - work as a pulse input, I1 - I2 only	2 ms
Minimum pulse length - work as a binary input, I1 - I2 only	2 ms

Analog input AI1 (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	28000

Additional features

Possibility to mount a MIM card	
Built-in sensor temperature and humidity	Humidity, accuracy ± 3 % Temperature, accuracy ± 1 °C, @ -25 °C... +100 °C

1-wire interface

Compatible with 1-wire temperature sensor	DS18B20
Supply voltage	3.3 V

Temperature and humidity sensor (option)

Typ. temperature accuracy	1° C
Operating temperature range	-40 – 125°C
Typ. relative humidity accuracy	3 %RH
Operating relative humidity range	0 – 100 %RH

Drawings and dimensions (all dimensions in millimeters)

