

- Integrated communication modem
- 2G/4G Cat 1 packet data transmission or 2G/LTE Cat. M1/NB-IoT
- Optional support for the LTE450 network
- Binary/counter inputs (4)
- Relay outputs (4)
- Analogue inputs (2)
- USB-C port for module configuration
- DIN rail mounting option
- Configuration via SMS commands
- Logger (up to 28,000 entries)
- RS-232/485 communication port (isolated)
- Detachable terminal blocks
- 3-year warranty



The MT-025 v3 telemetry module is a new addition to the budget-friendly solutions segment. Thanks to its excellent value for money, this new design is ideally suited for use in remote monitoring systems for small, dispersed sites with a limited number of signals at a single location. It enables remote monitoring, diagnostics and control of devices via text messages (SMS) and/or using packet data transmission over an LTE network. As an option, we have adapted the MT-025 v3 to operate on the LTE 450 bands, ensuring reliable connectivity with increased range and deeper signal penetration. Configurable text messages with fixed or variable content (e.g. containing the current measurement value) provide a convenient way of transmitting information to a monitoring centre or directly to predefined mobile numbers of supervisory staff. Alarm messages can be generated in response to changes in the status of binary inputs and outputs, when measured analogue values exceed an alarm threshold, or via timer and counter flags. Communication via an LTE network enables secure and reliable communication with higher-level applications (e.g. SCADA, databases, cloud-based systems), allowing the monitoring system's capabilities to be extended to include remote communication with hard-to-reach or remote sites.

The MT-025 v3 module features 4 opto-isolated binary inputs, which can generate alarm messages to alert the control centre. These inputs can be configured as pulse inputs. They can also work in conjunction with the S0 interface (optional). The MT-025 v3 module is also equipped with 2 configurable analogue inputs for measuring current (4–20 mA) or voltage (0–10 V). In addition, the module has four relay outputs. The built-in data logger, with a capacity of 28,000 entries, allows measurements to be stored in the module's memory.

#### Typical applications:

- Facility monitoring
- Alarm systems
- Access control
- Preventive maintenance
- Automatic meter reading (AMR)
- Control via LTE or SMS: gates, pumps, heating, lighting, etc.

#### Resources:

- Power supply (9.5–30 V DC)
- 2 non-isolated analogue inputs: 0–10 V/4–20 mA
- 4 isolated binary/counter inputs, positive logic, S0 interface (optional)
- 4 relay outputs
- 2G/4G Cat 1 or 2G/LTE Cat M1/NB-IoT modem
- MT/SMS communication
- USB-C configuration port
- RTC real-time clock (with external synchronisation and battery backup)
- SIM card slot
- Isolated RS-232/485

#### Functionalities:

- Transmission modes
  - » 2G/4G – packet transmission
  - » SMS
  - » MQTT 3.1
- Event based or synchronous transmission
- Measurement of analogue values:
  - » voltage measurement
  - » current measurement
  - » ability to scale measurement results
  - » defining alarm levels, filtering and tracking intervals for measured values
- Output control:
  - » bistable and monostable control
  - » local control – control of the output triggered by an event
  - » remote control – control of the output by writing a value to the output register or via SMS
- Universal timers:
  - » synchronisation of the start of the count with the RTC clock
  - » configurable count range
- Local and remote configuration via SMS commands and dedicated tools
- Dynamic insertion of variable values into the text of SMS messages



4DI/4DO

2AI



DIN RAIL

4G

RS-232/485



- SMS transmission limits
- Sending SMS messages to individual recipients and/or defined groups
- Software-configurable alarm thresholds, hysteresis and filtering constants for analogue inputs
- LEDs (module status, communication activity, LTE signal level, binary I/O status)
- User-friendly configuration and diagnostic tools
- Data logger with a capacity of up to 28,000 entries
- DIN rail mounting

### General

|                           |                 |
|---------------------------|-----------------|
| Dimensions (L x W x H) mm | 70 x 86 x 58 mm |
| Weight                    | 165 g           |
| Fixing                    | DIN Rail 35 mm  |
| Operating temperature     | -20 to +55 °C   |
| Protection class          | IP20            |

### Modem

|                |                                                                                                  |                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Modem type     | SIMCom 7672G*                                                                                    | SIMCom SIM7070G*                                                                                         |
| Region         | global                                                                                           | global                                                                                                   |
| 2G Band        | 850/900/1800/1900 MHz                                                                            | 850, 900, 1800, 1900 MHz                                                                                 |
| 4G Band        | B1, B2, B3, B4, B5, B7, B8, B12, B13, B17, B18, B19, B20, B25, B26, B28, B38, B39, B40, B41, B66 | B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B27 (Cat M), B28, B66, B71 (Cat NB), B85 |
| Antenna socket | 50 Ω, SMA-F                                                                                      |                                                                                                          |

\* depends on the variant ordered

### Power supply

|                                      |          |       |       |
|--------------------------------------|----------|-------|-------|
| Napięcie stałe DC (nom. 12 V / 24 V) | 9,5–30 V |       |       |
| Input current, (typ.) @ 25°C         | Idle     | Activ | Max.  |
| 12 V DC                              | 0,01 A   | 0,2 A | 1,0 A |
| 24 V DC                              | 0,005 A  | 0,1 A | 0,5 A |

### Binary inputs I1 – I4\*

|                         |                           |
|-------------------------|---------------------------|
| Input type              | napięciowe, optoizolowane |
| Signal voltage range    | 0–30 V                    |
| Input voltage ON (1)    | >9 V @ 1,5 mA             |
| Input voltage OFF (0)   | <3 V @ 0,4 mA             |
| Maximum pulse frequency | 250 Hz                    |
| Minimum pulse duration  | 2 ms                      |

\* option – possibility to connect S0-pulse interface

### Binary outputs Q1 – Q4

|                                  |                                    |
|----------------------------------|------------------------------------|
| Output type                      | Relay, isolated, NO                |
| Maximum voltage between contacts | 250 V AC/30 V DC                   |
| Load current                     | 5 A (resistive)<br>2 A (inductive) |
| Resistance                       | < 100 mΩ                           |

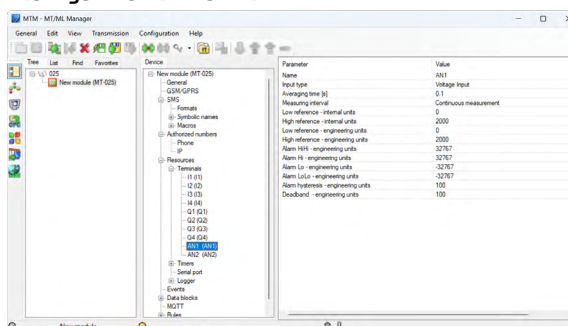
### Analogue inputs AN1, AN2 – voltage measurement

|                         |             |
|-------------------------|-------------|
| Measurement range       | 0–10 V      |
| Maximum input voltage   | 12 V        |
| Input dynamic impedance | 213 kΩ typ. |
| Accuracy                | ±1,5 % max. |
| Nonlinearity            | ±1 % max.   |

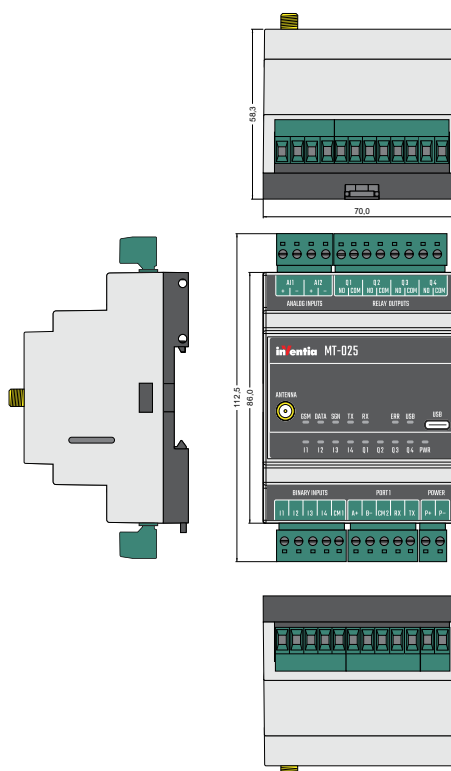
### Analog inputs AN1, AN2 – current measurement

|                         |             |
|-------------------------|-------------|
| Measurement range       | 4–20 mA     |
| Maximum input current   | 40 mA       |
| Input dynamic impedance | 340 Ω typ.  |
| Voltage drop at 20mA    | 6,9 V       |
| Accuracy                | ±1,5 % max. |
| Nonlinearity            | ±1 % max.   |

### Configuration environment



### Drawings and dimensions (all dimensions in millimeters)



# MT-025 v3