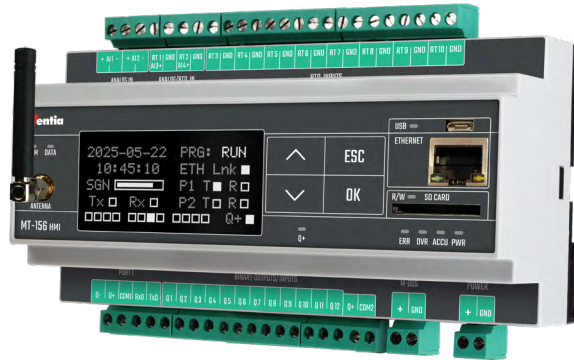


- Programmable logic controller (PLC), CODESYS® advanced programming environment (free of charge)
- Built-in 2G/4G or 2G/LTE Cat. M1/NB-IoT modem
- Dual-SIM technology (passive mode) – access to 2 independent GSM networks ensures redundancy of the transmission infrastructure
- 10 PT1000 inputs, including 2 configurable PT1000 /4–20 mA inputs
- 2 analogue inputs 4–20 mA (galvanic isolation)
- 12 binary, configurable inputs/outputs (galvanic isolation)
- 1-wire interface
- 10Base-T/100Base-TX Ethernet port
- RS-232/485 serial port for external devices (galvanic isolation)
- M-BUS interface (up to 16 slave devices)
- Dedicated RS-232 interface for communication with the IOT-RG-01 data concentrator module
- Graphical OLED display (128x64)
- Diagnostic LEDs
- Real-time clock (RTC)



- 1 s resolution logger with SD card recording capability
- Standard communication protocols (MODBUS RTU, MODBUS TCP, M-BUS)
- Remote configuration, programming, diagnostics and firmware updates

The MT-15x series is a range of latest-generation professional telemetry controllers for demanding applications. The MT-156 HMI v3 model combines the functions of a programmable PLC controller, recorder, transmission protocol converter and wireless communication interface enabling data transmission in 2G/4G or 2G/LTE Cat. M1/NB-IoT networks in packet transmission mode. Dual-SIM technology ensures unrivalled transmission reliability thanks to access to two independent networks from different operators. The Ethernet port opens up powerful possibilities for integrating the controller with other user devices and systems. The built-in OLED display with navigation buttons facilitates local viewing of parameters and graphs without the need to connect additional equipment (operator panel, laptop). Industrial design, galvanic isolation of resources, appropriately selected technical parameters and easy-to-use configuration tools are important advantages that make the MOBICON series the optimal solution for wireless telemetry, surveillance, diagnostics and control systems with increased reliability.

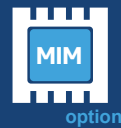
Resources:

- CODESYS RUNTIME SYSTEM (RTS) 256 kB FLASH memory, 64 kB RAM
- Creating user programs using free CODESYS Development System (in accordance with IEC 61131) – with debug option
- 10 PT1000 inputs, including 2 configurable PT1000 /4–20 mA inputs
- 12 binary, configurable inputs/outputs (galvanic isolation)
- 2 opto-isolated, differential analogue inputs 4–20 mA (accuracy 0.2%, 15-bit resolution) with configurable hysteresis and filtering
- 10Base-T/100Base-TX Ethernet port
- Isolated RS-232/485 serial port
- RS-232 port with 5 V/500 mA power output

- 1-wire interface
- USB port for local configuration and programming
- Slots for 2 SIM cards (radio network redundancy)
- Internal temperature sensor
- Graphical OLED display and status LEDs
- Internal flags and registers available to the user
- Remote firmware update
- Data and event logger, SD card recording
- Real-time clock RTC (with external synchronisation capability)

Functionality:

- Transmission modes:
 - » 2G/4G lub 2G/LTE Cat. M1/NB-IoT – packet transmission
 - » SMS
 - » e-mail (without SSL)
- Access to module resources via standard MODBUS RTU and MODBUS TCP protocols
- Intelligent packet routing and Multimaster operation in MODBUS mode
- Transparent mode packet distribution
- Programmable logic functions using inputs/outputs, timers, counters, flags and registers to trigger events (data transmission, sending SMS and e-mail messages, setting outputs and internal registers, etc.)
- Event transmission as a result of a change in the state of a binary input or internal flag, exceeding a set analogue value threshold or fulfilling a logical condition
- Sending SMS/e-mail messages triggered by events or according to a schedule
- Dynamic insertion of variable values in SMS/e-mail message fields
- Configurable alarm thresholds, hysteresis, dead band and filter constant for analogue inputs



12DI
/12DO

4AI

10RTD



DIN RAIL

RS-232/485

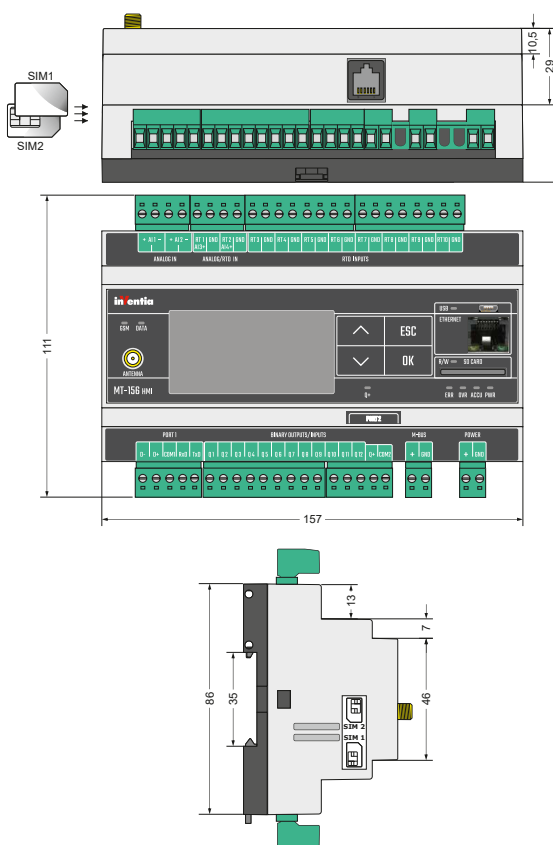
4G



M-BUS

- Data and event logging on SD card with 1s resolution
- Data transmission from external devices connected to the RS-232/485 port
- Ability to map external device resources to trigger events
- Remote configuration and programming via radio network
- Protection against unauthorised access – list of authorised IP addresses and telephone numbers, optional password
- DIN rail mounting
- 12/24 V DC power supply
- Built-in self-diagnostics
- Detachable terminal blocks
- Auto-configuration based on a unique ID number read by the 1-Wire interface

Drawings and dimensions (all dimensions in millimeters)



General

Dimensions (L x W x H)	157 x 86 x 58 mm
Weight	382 g
Fixing	DIN Rail 35 mm
Operating temperature	-20 do +65 °C
Operating humidity	up to 95%, noncondensing
Protection class	IP20

Modem

Modem type	SIMCom SIM7070G	SIMCom A7672E
Region	global	Europe, Asia
2G band	850, 900, 1800, 1900 MHz	900, 1800 MHz
4G band	B1, B2, B3, B4, B5, B8, B12, B13, B14, B18, B19, B20, B25, B26, B27 (Cat M), B28, B66, B71 (Cat NB), B85	Band 1, 3, 5, 7, 8, 20
Antenna socket	50Ω, SMA-F	50Ω, SMA-F

Inputs Q1 – Q12

Maximum input voltage	30 V
Input current	2,4 mA
Input voltage ON (1)	>9,4 V
Input voltage OFF (0)	<8,4 V

Outputs Q1 – Q12

Maximum output current	100 mA
Voltage drop @ 100 mA	<0,5 V
OFF state current	<100 μA

Analog inputs 4-20mA/PT1000 (2) – voltage measurement

Measurement range	4–20 mA / -50 to +150 °C
Input impedance	47 Ω
A/D converter resolution	20 bits
Accuracy (@ 25 °C)	0,2 % / ± 0,5 °C

Analog inputs 4 – 20 mA (4)

Input current range	4 – 20 mA
Maximum input current	50 mA
Dynamic input impedance	55 Ω typ.
Voltage drop @ 20 mA	< 5 V
A/D converter resolution	15 bits
Accuracy (@ 25 °C)	0,2 %

Analog inputs PT1000 (10)

Measurement range	-50 do +150 °C
Connection type	2-wire
A/D converter resolution	20 bits
Accuracy (@ 25 °C)	±0,5 °C

Power supply

DC (nom. 12/24 V)	10,8 – 30 V		
Input current (@ 24 VDC)	Idle	Active	Max.
	0,06 A	0,25 A	1,00 A