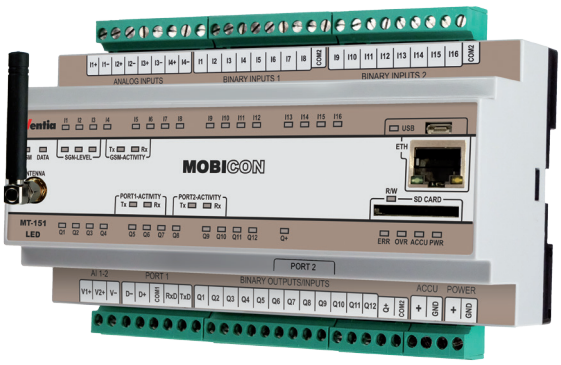
Mobile Controller for 2G/3G/4G telemetry

MT-151 LED v2 LTE

- 2G/3G/4G data packet transmission
- Embedded GSM 2G/3G/4G modem
- Dual-SIM technology (passive) – access to 2 independent GSM networks ensures superior availability
- 16 binary inputs (galvanic isolation)
- 12 binary outputs, selectively configurable as inputs (galvanic isolation)
- 4 analog inputs 4–20 mA (galvanic isolation)
- 2 analog inputs 0–10 V (w/o galvanic isolation)
- Ethernet port 10Base-T/100Base-TX
- RS-232/485 serial port for external devices (galvanic isolation)
- RS-232 port with 5 V feeding for operator panels
- 48 diagnostic LEDs
- Battery buffered power supply (SLA battery support)
- Data logger with 0,1 sec resolution (SD card support)
- Programmable logic controller (PLC)
- Real Time Clock (RTC)
- Standard communication protocols (MODBUS RTU, MODBUS TCP, M-BUS, SNMP, IEC 60870-5-104) GENIbus, GazModem, UDP Standard, Open, Open2



- FlexSerial – programmable handling of non-standard serial protocols
- Remote configuration, programming, diagnostics and firmware upgrade (OTA)
- 3-year warranty

MT-151 LED v2 LTE is a family of new generation telemetry controller for demanding tasks and applications. MT-151 LED v2 LTE model is a professional, industrial design combining functionality of programmable logic controller, data logger, protocol converter and wireless communication interface for packet transmission over 2G/3G/4G networks or/and Ethernet interface. Dual-SIM technology ensures superior level of GSM network availability, with redundant channel of data transmission. Ethernet port provides powerful capabilities of integration with other devices and systems of the user. 48 diagnostic LEDs annunciate clearly detailed information about actual status and operation of the module. With compact, robust design, integral GSM modem, attractive technical features and easy to use configuration tools the MT-151 LED v2 LTE controller is an optimal solution for demanding wireless telemetry, control, diagnostic, surveillance and alarm systems.

Resources:

- 16 optoisolated binary/counter inputs 12/24 VDC (I1 – I16), positive logic
- 12 optoisolated binary outputs 12/24 VDC (Q1 – Q12), positive logic – selectively configurable as inputs
- 4 optoisolated, differential analog inputs 4–20 mA (accuracy 0,2%, 14-bit resolution @ 1 sec interval) with configurable hysteresis and filtration
- 2 single-ended analog inputs 0–10 V
- Ethernet port 10Base-T/100Base-TX
- Isolated RS-232/485 serial port
- RS-232 serial port with 5 V / 500 mA feeding
- micro USB (AB) port for local configuration and programming
- Interface for backup 12 V SLA battery – charging support
- 2 SIM holders – Dual-SIM support
- Embedded temperature sensor
- 48 status LEDs (I/O states, successful login to GSM/UMTS network, active GPRS session, signal level, RX and TX activity of GSM modem, RX and TX activity of communication ports, operations on SD card, module status, primary and backup power source)
- Internal flags and registers for user application program
- Possibility to flash firmware remotely
- Data and Event logger supporting SD card
- RTC with external synchronization functions

Functionality:

- Transmission modes
  - » GPRS/UMTS/HSPA+/LTE – packet transmission
  - » SMS
  - » e-mail (without SSL)
- Access to module resources using standard protocols MODBUS RTU and MODBUS TCP
- Intelligent packet routing and Multimaster support in MODBUS mode
- Binary inputs configurable as counting inputs (upto 2 kHz) – I1- I4
- Programmable control logic using I/Os, timers, counters, flags and registers for triggering events (data transmission/recording, SMS transmission, e-mail transmission, setting outputs and internal registers, etc.)
- Event based transmission (unsolicited messaging) triggered by change of binary input state, internal flag state, by reaching alarm level of analog input, by true condition
- Configurable SMS messages triggered by alarms and scheduled
- Dynamic fields in SMS text
- Configurable alarm levels, hysteresis, deadband and filtration for analog inputs

WARRANTY 3 YEARS
PLC
MIM option
SMS
16-28DI /12DO
6AI
DIN RAIL
RS-232
RS-232/485
4G

Mobile Controller for 2G/3G/4G telemetry

- Data and event recording on SD card with 0,1 sec res.
- Transmission of data from external devices connected to RS-232/485 serial port
- 5 V feeding provided for external device connected to RS-232 serial port (e.g. operator panel, GPS receiver)
- Configurable events based on mirrored resources of external devices
- Remote configuration and programming over network
- SNMP, M-Bus, FlexSerial, IEC 60870-5-104 support, GazModem, GENIbus
- Configurable access security – list of authorized IPs and tel. numbers, optional password
- DIN rail mounting
- Supply voltage 12/24 VDC (24 VDC in case of using connected external battery)
- Built-in management of external SLA backup battery
- Built-in advanced auto-diagnostics
- Detachable terminal blocks

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	IP 40

Modem

Modem type	Thales ELS61-E
2G	900, 1800 MHz
3G	Bands 8, 1 (900, 2100 MHz)
4G	Bands 1, 3, 8, 20, 28 (700, 800, 900, 1800, 2100 MHz)
Antenna	50 Ω

Imputs I1–I16 *

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

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

* according to IEC 61131-2 for switch type 1 and 3

Power supply

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

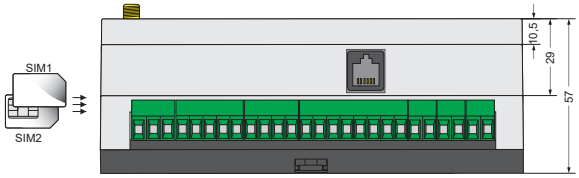
Analog inputs 4–20 mA (4)

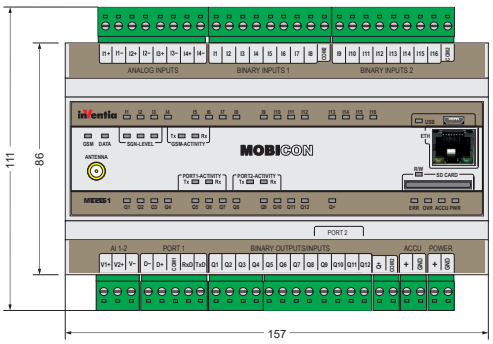
Input current range	4–20 mA
Maximum input current	50 mA
Dynamic input impedance	55 Ω typ.
Voltage drop @ 20 mA	<5 V
A/D converter resolution	15 bitów
Accuracy (@ 25 °C)	0,2 %

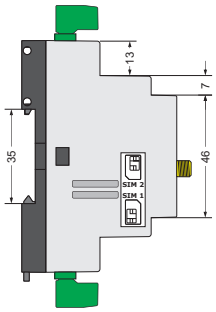
Analog inputs 0–10 V (2)

Input voltage range	0–10 V
Maximum input voltage	20 V
Input impedance	197 kΩ typ.
A/D converter resolution	16 bitów
Accuracy (@ 25 °C)	0,5 %

Drawings and dimensions (all dimensions in milimeters)







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