MT-514 – Specialised alarm module for lifts

- GPRS/LTE packet transmission
- Integral 2G/4G modem
- 8 opto-isolated binary inputs
- 4 opto-isolated binary inputs/outputs
- 1 relay output
- Ability to play back stored voice messages
- Automatic sending of an alarm message when the ALARM input is activated (SMS/GPRS)
- Automatic answering of incoming calls, call-back or dialling
- Automatic generation of confirmation for completed calls
- 10Base-T/100Base-TX Ethernet port
- Communication port for monitoring or diagnosing external devices RS-232 (or RS-485 as an option)
- USB-C port for configuration

The specialised alarm module for lifts, MT-514, is a dedicated, professional device that meets the requirements of the PN-EN 81-28:2022-11 standard, 'Remote alarm in passenger and goods-passenger lifts'. The module enables status monitoring on 8 binary inputs, control of 5 outputs, establishment of a voice connection with the service and playback of stored voice messages. Some unused outputs can be configured as inputs. It also allows monitoring of the emergency power supply status using a voltage analogue input. The module has a USB-C port for configuration, an RS-232 (or optional RS-485) communication port and an Ethernet port.

Due to the wireless nature of the GPRS/LTE transmission used, the module is used in cases where there is no access to traditional telephone lines or when it is necessary to increase the reliability and optimise the operating costs of alarm and monitoring systems.

Thanks to the compact design of the device, the integrated GPRS/LTE modem, and the appropriately selected technical parameters enabling direct cooperation with the standard intercom in the lift cabin, the MT-514 is an optimal solution for both newly constructed and currently renovated passenger and goods lifts.

Resourses:

- Dedicated opto-isolated alarm/binary input with adjustable reactivation delay (labelled ALARM)
- 7 additional opto-isolated binary inputs with adjustable reactivation delay
- AUDIO output suitable for standard '4+n' intercoms
- 4 opto-isolated, universal high-side binary outputs that can be converted into binary inputs
- 1 NO/NC relay output
- 10Base-T/100Base-TX Ethernet port with DHCP server
- RS-232 port (or optional RS-485) for connecting external devices (monitoring, diagnostics)
- RTC real-time clock

- Internal non-volatile memory for configuration data with remote update option

Functionality:

- Transmission modes:
  - » GPRS/LTE – packet transmission
  - » SMS
  - » AUDIO
- **The Ethernet port** on the device allows it to work in two modes: as a client, where it can work with any network, providing communication with servers and other systems, and as a router with NAT, which makes the Internet available to other devices through a built-in 2G/4G modem with a SIM card. In router mode, it can also act as a DHCP server, automatically assigning an IP address to the connected device. This solution offers flexibility of integration and extensive network configuration options.
- **VoLTE** – the option to make phone calls via LTE technology
- Option to send SMS/GPRS alarm messages to the service centre when the ALARM input is activated, the status of the binary input or output changes, the device restarts, the mobile network is logged on to or a voice connection is ended
- Software-adjustable inactivity time of the ALARM input to reduce the number of unjustified alarm messages in case of multiple consecutive alarm activations
- Programmable filtration constant for binary inputs
- Automatic confirmation of voice call execution
- **Diagnostics of the AUDIO path** including alarm connection test
- Option to transfer data to/from devices connected to the communication port (optional)
- Option to change the module's configuration parameters remotely
- Protection against unauthorised access in the form of a list of authorised phone numbers and IPs, optional configuration password

General

Dimensions (length x width x height)	105 x 86 x 59 mm
Weight 300 g	222 g
Mounting mode DIN Rail 35 mm	Szyna DIN 35mm
Operating temperature -20 to +55 °C	-25°C do +55°C
Protection class IP	IP 40

Modem

Modem type 2G/4G Cat 1	SIMCOM A7672E
Region Europe, Asia	Europa, Azja
2G 900, 1800 MHz	900, 1800 MHz
4G LTE Cat 1 B1, B3, B5, B7, B8, B20	B1, B3, B5, B7, B8, B20
Antenna socket	50 Ω, SMA-F

Power Supply

Power voltage range DC (nom. 12/24 V)	9 – 30 V DC		
Input current (typ.) @ 25°C	Idle	Active	Max
12 V DC	0,08 A	0,18 A	1,2 A
24 V DC	0,04 A	0,12 A	0,6 A

Binary Inputs I1–I8/A

Input type Voltage, optoizolated	napięciowe, optoizolowane
Signal voltage range	0 – 30 V
Input ON (1) voltage	> 9 V @ 1,5 mA
Input OFF (0) voltage	< 3 V @ 0,4 mA
Minimum pulse duration	10 ms

Binary outputs Q1–Q4

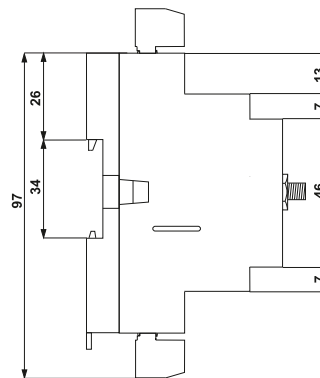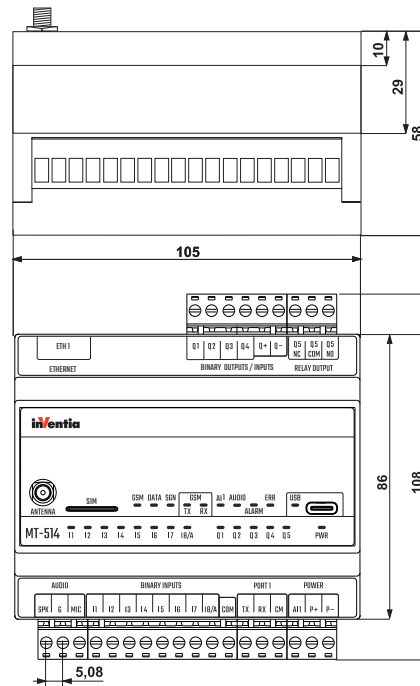|	
Output type	Solid state, isolated, NO
Power supply range Q+	7 – 30 V
Recommended load current	0,2 A
Maximum load current	0,5 A
Current limiting (max.)	1,5 A
Voltage drop (Q+ -Qx) @0,2 A	<1,9 V; 1,25 V (typ.)
@0,5 A	<3,4 V; 1,9 V (typ.)

Relay output Q5

Output type	Relay, isolated, NO/NC
Maximum voltage between contacts	125 V AC / 30 V DC
Load current	1 A (resistive), 0,3 A (inductive)
Resistance	< 80 mΩ

Analog input AN1

Input voltage range	0-15 V
Maximum input voltage	30 V
Input impedance	120 kΩ typ.
Accurancy	±2 % max.
Nonlinearity	±1 % max.

Drawings and dimensions (all dimensions in milimeters)

Application example

Intercom ALARM Signaling

Power Supply

Elevator cabin

INVENTIA employs certified Quality Assurance System ISO 9001:2015

MT-514

Revision 02.2025