



## AirIM-100/M

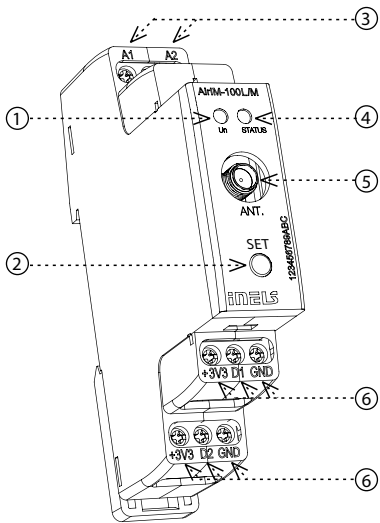
Universal input (for DIN rail)



### Characteristics

- In conjunction with the output contact of the respective monitoring relay, it serves to monitor voltage, current or levels.
- Using a universal feature provides a quick solution to keep track of the current status of the supervised equipment or technology unit and eliminates the financial loss caused by the malfunction of the device
- Communication on the Sigfox or LoRa network.
- Data is sent to the server from which it can be subsequently displayed as a smartphone, application, or Cloud notification.
- Li-Ion battery pack for 24 hour backup.
- The package includes an internal antenna AN-I, in case of locating the converter in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- 1-MODULE, DIN rail mounting.

### Description



1. Power supply indication
2. SET button
3. Power supply terminals
4. Transmitter indication
5. Antenna connector
6. Control input

### Cloud app assignment

It is done in your Smartphone application. Enter the relevant information on the product cover into the application.

Set the sensing type (sensor LS, WS, MS or pulse output S0).

### General instructions

#### Internet of Things (IoT)

- The IOT wireless communications category describes the Low Power Wide Area (LPWA). This technology is designed to provide full-range coverage both inside and outside buildings, energy-saving and low-cost operation of individual devices. Individual networks - Sigfox, LoRa - are available to use this standard.

#### Sigfox network information

- The network supports bidirectional communication but with a limited number of feedbacks. It uses the free frequency band divided by Radio Frequency Zones (RCZ).
  - RCZ1 (868 MHz) Europe, Oman, South Africa
  - RCZ2 (902 MHz) North America
  - RCZ3 (923 MHz) Japan
  - RCZ4 (920 MHz) South America, Australia, New Zealand, Singapore, Taiwan
- Sigfox has more coverage across countries, so it is better suited for long distance monitoring.
- For more information on this technology, please visit [www.sigfox.com](http://www.sigfox.com).

#### LoRa network information

- The network is bidirectional and its communication uses free frequency band.
  - 865 - 867 MHz India
  - 867 - 869 MHz Europe
  - 902 - 928 MHz North America, Japan, Korea
- The advantage of this network is the possibility of freely deploying individual stations in local locations, thus strengthening their signal. It can therefore be used efficiently in company premises or, for example, in local parts of cities.
- For more information on this technology, please visit [www.lora-alliance.org](http://www.lora-alliance.org).

#### Caution for proper operation:

- Products are installed according to the wiring diagram given for each product.
- For proper device functionality, it is necessary to have sufficient coverage of the selected network at the installation site.
- At the same time, the device must be registered in the network. Successful device registration on a given network requires a charge for traffic.
- Each network offers different tariff options - it always depends on the number of messages you want to send from your device. Information on these tariffs can be found in the current version of the ELKO EP pricelist.

## Function

When the power is connected, the transmitter sends the initial message to the server.

### 1. S0 - pulse counting S0

- Checking the correct pulse readings: after setting the longer push (> 2) function of the SET button, the LED will be activated, which will flash when counting the pulse. The LED flashes with a short press or automatically after 5 minutes.
- Measured values send the sensor every 4 hours, or immediately when the 5000 pulse limit is exceeded.
- For each channel, a different function can be set independently.
- Recommended accessories: cable for S0 output

### 2. Energy measurement - pulse counting from active sensor LS, MS, WS

- Checking the correct pulse readings: after setting the longer push (> 2) function of the SET button, the LED will be activated, which will flash when counting the pulse. The LED flashes with a short press or automatically after 5 minutes.
- Measured values send the sensor every 4 hours, or immediately when the 5000 pulse limit is exceeded.
- For each channel, a different function can be set independently.
- Recommended accessories
  - LS (LED sensor): is particularly suitable for power meters that support LED pulse sensing
  - MS (magnetic sensor): is particularly suitable for gas meters that support magnetic sensing.
  - WS (magnetic sensor for water meter): it is particularly suitable for water meters that support magnetic sensing.

### 3. Flood Detection - Flood Sensor

- Flood detection - by connecting sensing contacts (by flooding with water).
- Scans every 4 seconds. The status report sends the sensor data every 12 hours, or immediately when detected.
- This function does not allow setting in the second channel.
- Recommended accessories: flood sensor FP-1, level relay (eg HRH-5, etc.).

### 4. HTM2500LF - Temperature and Humidity Sensor Measurement HTM2500LF

- Temperature and humidity read every 5 minutes. Report on the measured values, the sensor sends:
  - every hour
  - immediately if it measures the change of  $\pm 5$  °C since the last measurement
  - Immediately when a change is measured of more than  $\pm 20\%$  RH from the last measurement
- This function does not allow setting in the second channel.
- Recommended accessories: HTM2500LF sensor

### 5. Alarm function - check the contact - switch

- A contact status message is sent every 12 hours. When there is change (connection / disconnection contact) message is sent immediately.
- For each channel, a different function can be set independently.

### 6. Alarm function - check the contact - switch

- A contact status message is sent every 12 hours. When there is change (connection / disconnection contact) message is sent immediately.
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### 7. NC function - this function must be set on an unallocated channel (if only one channel is connected).

- For each channel, a different function can be set independently.

### Setting functions

- Long press SET (> 5s) to enter programming mode.
- The LED will flash by function (function 1 - 1x, 2 - 2x ...). Short (<1s) by pressing the SET button to move upwards in the function selection,
- Press SET (> 2s) to switch between channels.  
Channel 1 indicates green LED.  
Channel 2 indicates a red LED.
- A long press of the button (> 5s) terminates the programming mode and saves the set functions.

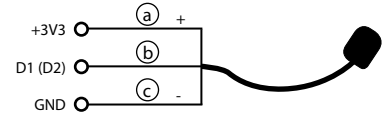
## Connection examples

### 1. S0 - pulse counting S0 (S0 + and S0- must be distinguished)

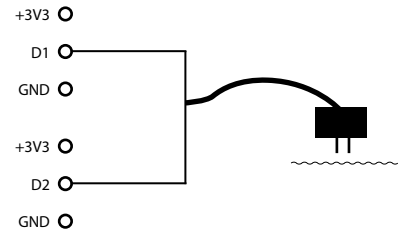


### 2. Energy measurement - pulse counting from active sensor LS, MS, WS

- (+) brown wire
- (signal) green wire
- (-) white wire

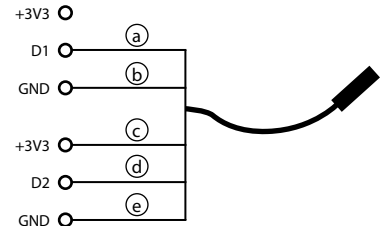


### 3. Flood Detection - Flood Sensor

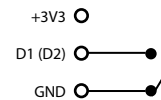


### 4. HTM2500LF - Temperature and Humidity Sensor Measurement HTM2500LF

- An analogue humidity measurement input
- Shielding
- Power supply (+)
- Analog input for temperature measurement
- Power supply (-)



### 5. Alarm function - check the contact - switch



### 6. Alarm function - check the contact - switch



## Technical parameters

	AirIM-100S/M		AirIM-100L/M	
Supply voltage:	85 - 230 V AC (50 - 60 Hz)	12 - 48 V DC	85 - 230 V AC (50 - 60 Hz)	12 - 48 V DC
Supply voltage tolerance:	+10 % / -25 %			
Input:	3 VA			
Backup power:	battery Li-Ion			
Battery life:	24 hour			
Battery charging:	7 hour			

### Setting

Setting:	With a message from the server / button SET
Alarm Detection:	message to the server
Battery status view:	only when the battery is powered by a message on the server

### Indication

- red LED:	broadcast / D1
- green LED:	power supply / D2
- without indication:	Backup battery power / no power

### Input

Digital input:	D1, D2
Supported sensors for energy measurements:	LS (LED sensor)* MS, WS (magnetic sensor)* SO (Contact, open collector)

### Communication

	Sigfox	LoRa
Transmitter frequency:	RCZ1 868 MHz	868 MHz
Range in open space:	Approx. 50 km**	Approx. 10 km**
Transmission power (max.):	25 mW / 14 dBm	25 mW / 14 dBm

### Other parameters

Working temperature:	-20 ... + 50 °C
Operation position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP20 from the front panel
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm <sup>2</sup> ):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5
Connection of the sensor:	terminals, wires 0.5 - 1 mm <sup>2</sup>
Output for antenna:	SMA connector ***
Dimension:	90 x 17.6 x 64 mm
Weight:	93 g

\* Not included in the package.

\*\* Depending on network coverage.

\*\*\* Max Tightening Torque for antenna connector is 0.56 Nm.

## Warning

Read the operating instructions before installing the device and putting it into operation. Instruction manual is designated for mounting and also for user of the device. It is always a part of its packing. Installation and connection can be carried out only by a person with adequate professional qualification upon understanding this instruction manual and functions of the device, and while observing all valid regulations. Trouble-free function of the device also depends on transportation, storing and handling. In case you notice any sign of damage, deformation, malfunction or missing part, do not install this device and return it to its seller. It is necessary to treat this product and its parts as electronic waste after its lifetime is terminated. Before starting installation, make sure that all wires, connected parts or terminals are de-energized. While mounting and servicing observe safety regulations, norms, directives and professional, and export regulations for working with electrical devices. Do not touch parts of the device that are energized – life threat. To ensure the transmission of the radio signal, make sure that the devices in the building where the installation is installed are correctly located. Unless otherwise stated, the devices are not intended for installation in outdoor and damp areas, they must not be installed in metal switchboards or in plastic cabinets with metal doors - this prevents transmission of the radio frequency signal. iNELS Air is not recommended for controlling life-saving instruments or for controlling hazardous devices such as pumps, heaters without thermostat, lifts, hoists, etc. - radio frequency transmission may be overshadowed by obstruction, interference, transmitter battery may be discharged etc., thereby disabling the remote control.