GSM-DIN4

GSM communicator on DIN rail

INSTRUCTION

Last updating 26.5.2020

GSM-DIN4 communicator is a universal GSM device for easy operation of any electrical appliances through a common mobile phone.

The communicator contains four power outputs. Three for the contact loading of 230V/5A and one for the loading of 230V/16A.

It is possible to change their status by remote control through SMS or by mere calling through (free of charge), or by using the function of a timer or a thermostat with connected external temperature sensor.

The communicator GSM-DIN4 is equipped with five logic inputs which can be connected with any sensor. Moreover, it has two measuring (analogue) inputs.

In the event of activation of these inputs, you will receive the information SMS or the call on your mobile.

Basic technical data

- Supply voltage: this version allows 230V AC or 24V AC/DC.
- Outputs: 3x relay contacts with max. loading of 230V/5A and 1x relay contact with max. loading of 230V/16A (resistance load).
- Inputs: 5x logic, separated by optical isolators, active level +12V. The inputs are intended for connecting the potential-free contacts!
- 2x analogue measuring inputs 0 - 12V DC

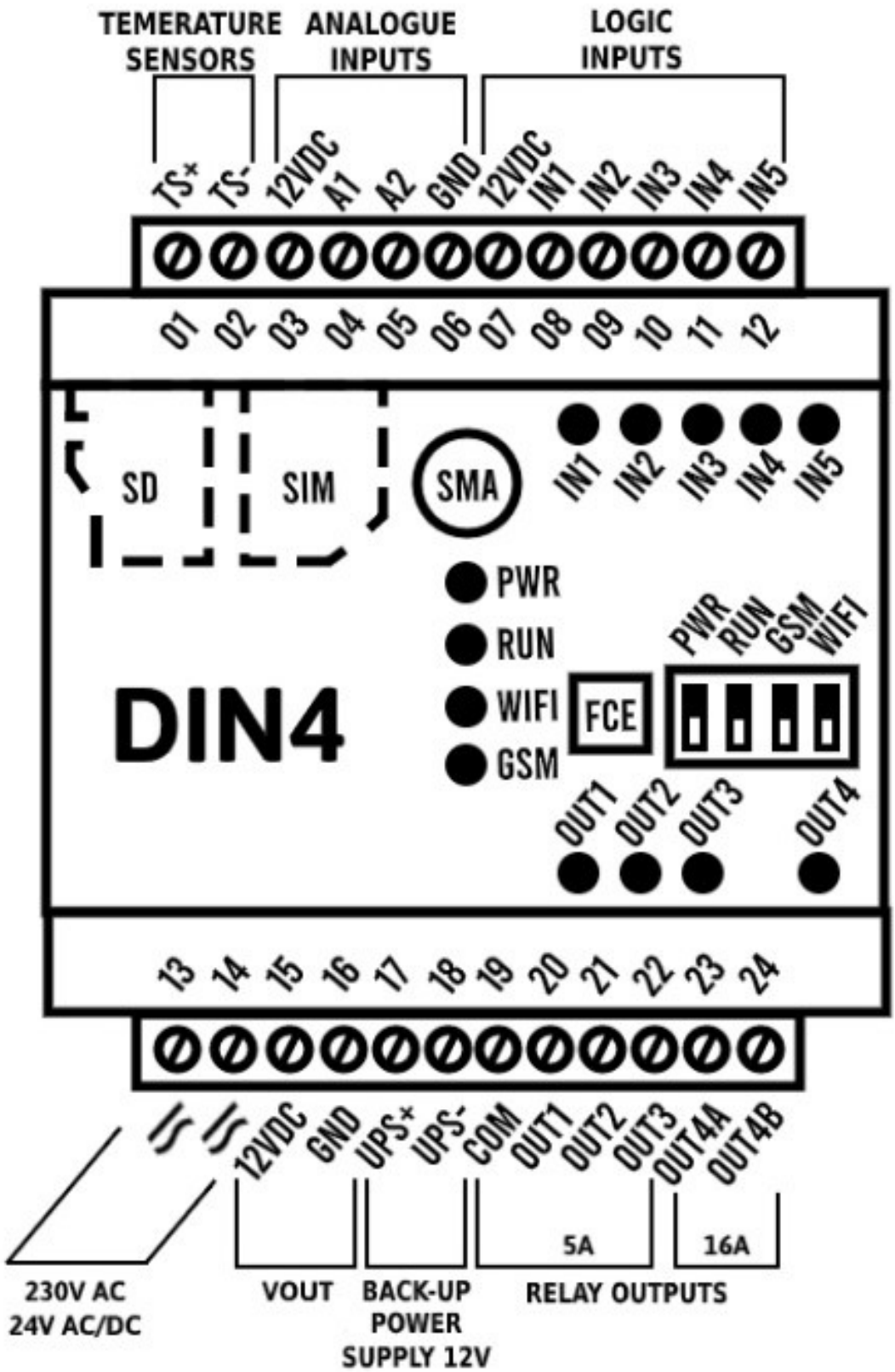
- Input for 4 temperature sensors with measuring range from - 20°C to 125°C.
- (Only the type recommended by the producer can be connected. It is possible to buy it under the product code TC530C2 or TC530C5)
- Simple configuration through WiFi interface by means of integrated web environment
- Operating temperature: from -20°C to +45°C
- GSM/GPRS QuadBand 850/900/1800/1900MHz
- WiFi 802.11b/g/n (2.4GHz)
- Dimensions: 90x71x62 mm (height x width x depth)
- The device is intended for the dry environment. In the event of external installation, use the box with adequate covering.

Functions and properties

- **Five universal inputs** with the possibility of configuration of the reaction to change, disconnection or connection of the loop
- Possibility of setting up the **time of arrival** and **departure**
- The **inputs** can be switched into the regime of activated/deactivated inputs for the connection of a keyboard, RFID and a receiver of remote control. Then the device serves as a small security panel or signalling device with optional activation/deactivation through the access system. Information about the input change can be sent to 10 phone numbers.

- Each input can be named individually (text of sending SMS)
- If it is necessary to have the inputs permanently active
- (in watching status), they can be switched into the regime of **24-hour loop**.
- **The input for the digital temperature sensors** with the possibility of automatic control of the input (thermostat).
- **Information SMS** in the event of exceeding the set temperature or dropping the temperature under the set limit.
- **Four power outputs** - three with the contacts for loading 230V/5A (resistance load) and one for 230V/16A (resistance load). Each output can have a timer with a specific control order (e.g. SWITCH THE HEATING ON, SWITCH THE HEATING OFF ...)
- **Status** of the device can be checked any time by SMS message.
- **GSM-DIN4** can be easily and quickly configured through the well-arranged and intuitive web environment which is accessible through the internal WiFi net. The web interface enables you to carry out all configurations easily, to download and install them into and from the configuration files.

Description of the teminal block

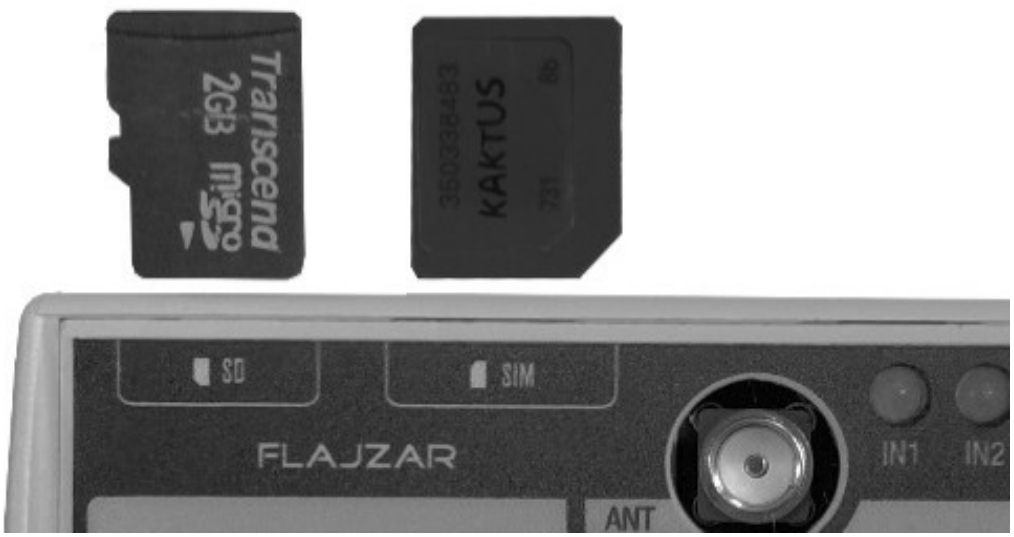


Description of the terminals

01-+ contact of temperature sensors (supply No. TC530Cx**)**
02- - contact of temperature sensors (supply No. TC530Cx)
03- 12V DC for the analogue (measuring) inputs.
04- Analogue input A1
05- Analogue input A2
06- GND for the analogue (measuring) inputs
07- 12V DC for the logic inputs
08- Logic input IN1
09- Logic input IN2
10- Logic input IN3
11- Logic input IN4
12- Logic input IN5

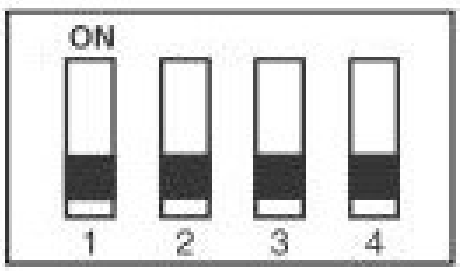
13,14- Supply voltage of this version:230V AC or 24V DC/AC.
15- 12V DC for supplying the sensors
16- GND for supplying the sensors
17- +contact for the back-up power supply (Supply No. UPSZ)
18- - contact for the back-up power supply (Supply No. UPSZ)
19- Common contact of relay outputs OUT1,2,3
20- Relay output OUT1 max. current 5A
21- Relay output OUT2 max. current 5A
22- Relay output OUT3 max. current 5A
23,24- Relay output OUT4 max. current 16A

Description of connectors and slots



SD- Slot for microSD cards for saving the history (PUSH-PUSH)
SIM- Slot for microSIM cards (PUSH-PUSH)
SMA- Connector for connecting GSM antenna

Description of DIP switch



	DIP1	DIP2	DIP3	DIP4
Position ON	DIN4 on	Automate RUN	GSM on	WiFi AP regime
Position OFF	DIN4 off	Automate STOP	GSM off	WiFi Client regime

Description of LED signalling	
IN1- IN5 (green)	**Green is off -** the input in not connected **Green is on -** the input is connected
POWER (green)	**Green is off** - DIN4 is off **Green is on** - DIN4 is on
RUN (yellow)	**Yellow is off** - the automat is in the STOP regime, evaluating loop is stopped; the device does not evaluate sensors and inputs. **Yellow is on** - automat is in the RUN regime, the evaluating loop works, the device evaluates sensors and inputs.
WIFI (yellow)	**Yellow is off** - WiFi is off. **Yellow is on** - WiFi is connected to AP or it transmits as AP (according to DIP4 configuration). **Yellow flickers** - WiFi is not connected to AP (is not set or the configuration of the net name and the net password is incorrect)
GSM (yellow)	**Yellow is off** - GSM module is off (DIP4 OFF) **Yellow flickers** - GSM module is just connecting to the net. **Yellow is on** - GSM is connected to the net. **Yellow flickers shortly** - indication of receiving or sending SMS message.
OUT1 - OUT4 (red)	**Red is off** - the output is not connected **Red is on -** the output is connected

Initial start-up

Connect terminals 13 and 14 to the power supply of 230V or 24V according to the device version.
After switching the communicator GSM-DIN4 on, switch over DIP1 to the position ON and the green LED diode POWER will be on.

If the switch DIP3 OFF is off, insert the activated microSIM card into the SIM slot **while the PIN code inquiry is off**. Screw the GSM antenna in the antenna SMA connector. Now it is possible to switch on GSM module by switching DIP3 into the position ON. Yellow LED diode of GSM will start flickering and after successful connection yellow GSM LED will be on permanently.

We recommend using the cards with flat-rate tariff instead of prepaid re-chargeable cards. In the event of insufficient credit on the card the device will be out of service.

The program of the communicator contains the evaluating loop which is controlled by the switch DIP2. If DIP2 is in the position ON, the evaluating loop is in RUN regime; the inputs and outputs are evaluated and controlled according to the setting-up. If DIP2 is in OFF position, the evaluating loop is stopped (STOP), the inputs and outputs are neither evaluated nor controlled.

Installation of GSM-DIN4 communicator

As the device is supplied from the network voltage of 230V, its installation should be carried out by a specialist with appropriate qualification.

Caution: incorrect connection of sensors can cause unreliable operation of the device or even its damage.

Recommended cable cross-section for the supply of device: 2x1mm^2, protected by fuse F 1A / 250V with high interrupting capability.

Caution: Considering the insulation distance between the terminals of 230V network voltage and the terminals of output relays, it is permitted to connect to the relays only appliances supplied by 230V AC.

The installation position is determined by the orientation of the front plate (the side of device with supply input and relay outputs downwards).
The device must be equipped with an easily accessible disconnecting element (circuit breaker, switch)

If you use a delivered antenna, do not place any wires nearby.

We recommend using an external antenna for enclosed spaces or for the places with weak signal (under 40%).

Configuration of GSM-DIN4 communicator

The configuration is carried out through WiFi interface which can be operated in AP or Client regime.

AP regime (access point) - **DIP4 ON** - communicator transmits its own WiFi net with the name DIN4. Connection to the net is possible through the medium of notebook, tablet, or smart mobile phone with WiFi. After connecting to DIN4 net, the configuration pages are accessible through the web browser at IP address 192.168.1.1 or at the address **http://DIN4.local/**

Client regime - **DIP4OFF** - the communicator is connected to your WiFi net to the router or AP. The configuration pages will be accessible at IP address which is assigned by your router or at the address **http://DIN4.local/**. The configuration of your WiFi net parameters can be carried out through the configuration pages in WiFi AP regime on the page **General - Chart of the Connection to the local WiFi** where you give the name and password of your WiFi net and you store the configuration by clicking **Change WiFi.**

After the communicator is connected successfully to the local WiFi net, you can find out the assigned IP address of the communicator by SMS order “STAUS” which is sent off to the number of SIM inserted into the communicator.

The configuration pages are accessible through the newly assigned IP address.

Desccription of the configuration pages

The pages can be switched into CZ or EN in the upper MENU by clicking on the appropriate flag.

Noticeboard - the page displays the current status of communicator, e.g. date, time, strength of GSM signal, parameters of WiFi interface, properties and current status of logic inputs, status of analogue inputs, measured values of temperature sensors if they are detected, status of relay outputs and parameters of SD card if it is inserted.

General - the page contains the configuration of WiFi net parameters, time zones, access password and SMS password, name of the device, default parameters of the communicator after restoring the power supply, the control of inputs and their properties, service configuration of service numbers and functions: the counter of automatic SMS sent off and the function of checking the credit in the event of pre-paid SIM card usage.

Logic inputs - the page contains the configuration of properties and parameters of inputs from IN1 to IN5, functional button TL and the detection of communicator power supply from the back-up power supply BATT. It is possible to set the name of individual inputs, the text of SMS after the input contact is connected and text of SMS after it is disconnected, the reaction and properties of input (delay, 24-hour loop, etc.)

Analogue inputs – the page contains the configuration of analogue inputs A1 and A2. It is possible to set the name of an individual input, SMS order for the inquiry about the current values of input, the alarm function while reaching the upper or lower limit of the input and the recount of measured value.

Outputs – the page contains the configuration of the relay outputs from OUT1 to OUT4, the signalling output with LED backlighted TL button, and the acoustic BUZZER output. It is possible to set the name of an individual output, SMS order for the connecting and disconnecting the contacts of output, the confirmation and properties of the output.

Temperature sensors - the page contains the configuration of temperature sensors from 1 to 4, checking the temperature of individual sensors, as well as editing the text if the upper or lower limit is exceeded, the selection of the temperature sensor which will control the program, the permission and configuration of the thermostat with the possibility of using the function of heating or cooling.

Users - the page contains users' configuration of their phone numbers and the permission to receive information from individual inputs or the possibility of controlling the outputs and the evaluating regime of inputs. Max. number of users is 10.

Service - the page contains the service configuration of the communicator, e.g. FW updating on the Internet if

the communicator is connected to the net with the access to the Internet, saving or downloading the configuration file for the communicator configuration, saving and downloading the file for users‘ configuration, the possibility of saving and deleting the files from the history of GSM communication, the analogue inputs or the log of temperature sensors and the possibility of configuration of the device into the factory configuration.

Support - page contains the form for contacting the technical support with automatic sending off the operating logs.

Detection of the temperature sensors

New temperature sensors can be connected if the device is switched off (DIP1 OFF). After the sensors are connected to terminals 01 and 02, switch the device on (DIP1 ON). Now it is possible to detect new sensors on the configuration page **Notice board/Temperature sensors**. In the event of successful sensors detection, the current measured temperatures are displayed.

Updating of the firmware

The updating of FW on the Internet is possible only if the device is connected to the router/AP with the access to the Internet. The current FW version installed in the device and the new FW version available on the Internet are displayed on the page **Service/Updating of the firmware**. After you select the new version by clicking on **Download**, the new FW version will be downloaded and

automatically installed in the device**. Do not switch off the device during updating**, **the communicator could be damaged.** The updating time is about 2 minutes. After the successful updating the device is restarted.

SMS orders

Principles of SMS orders usage:

The password function for SMS control is switched off in the factory configuration, SMS orders do not have to contain the password. If the password function for SMS control is switched on, the order has to contain the password at the beginning.

E.g. In order to check the status you should send off SMS in the form: “1234 status“(with the gap between the password and the order).

The font size in SMS orders is irrelevant - you can write the order for the status determination as STATUS/status/StAtus

Configuration SMS orders are in GSM-DIN4 intended only as a stopgap just in case the configuration is not possible through WiFi.

If possible, use the configuration through WiFi (it is intuitive, simple, well-arranged and free of charge).

SMS order	Description
STATUS	Determination of the current status of communicator (operator, status of signal, status of credit, number of SMS sent off, regime of WiFi, IP address, regime of automat and status of SD card).
INPUTS	Determination of the current status of logic and analogue inputs.
OUTPUTS	Determination of the current status of relay outputs
TEMP	The current status of temperature sensors is determined if they are connected
NPIN	The password for DIN4 and SMS orders is changed, e.g. “NPIN 1111” is changed into 1111.
SET DEFAULT VALUES	The communicator is set into the factory configuration. The set phone numbers remain preserved
CLEAR ALL NUMBERS	All set phone numbers are deleted
NUMBER1 (NUMBERx)	The phone number is saved in the list, e.g. NUMBER1 +420123456789 (from NUMBER1 to NUMBER10)
NUMBER1 DELETE	The phone number1 is deleted from the list (NUMBER1- NUMBER10)

Important recommendations

Connect only high-quality sensors and entrust a specialist with the installation of the device in order to minimize a number of false alarms.
Do not disclose the number of SIM card inserted into GSM-DIN4 to anybody.
Delete all sent-off messages from your phone by which your communicator is controlled and set. They contain the password and anyone can find it if he looks into your mobile phone.
If the device is used in the area with a lower level of GSM signal (lower than 40%), use the external antenna with higher signal gain.
It is advisable to check the status of the device regularly (you can use the function of the Automatic status report sent to your mobile in the given day and time)
New versions of firmware, new functions
GSM-DIN4 is designed as an open system which will be further developed according to the clients' requirements. So the system updating is possible. The firmware updating is carried out through the configuration pages.

Warranty

The producer provides warranty for the period of 24 months from the date of sale. The warranty does not apply to the damage caused by incorrect connection and usage which contradict with this Instruction.

The warranty does not apply to the mechanical damage

of GSM DIN4, nor the damage cause by over-voltage, overload and discharge of static electricity.

The module can be put into operation only with the appropriate GSM antenna. The output stage of GSM could be damaged without the connected antenna. While sending the device because of the claim, enclose the description of the default, purchase document or warranty certificate and the confirmation of specialist installation. Where applicable, also other documents as proof of professional installation (the confirmation of installation company, the inspection report etc.)

Notice:

GSM alarm GSM DIN4 was tested by the accredited testing agency which issued the Conformity declaration for the device.

This document and other documents can be downloaded on www.flajzar.cz

As the product is a wireless device, specific unfavourable external events can cause the loss of connection with the device (which generally refers to all radio devices). Therefore we do not recommend connecting such devices and appliances (e.g. engines, cranes, pumps and heating appliances without another protection) which can cause harm to your health or damage to your property if they are connected to the outputs of this device in the event of lost communication.

The producer is not responsible for the device malfunction which was caused by the operator after expiration of the date stated in the introduction of this Instruction as well as for the damages caused by inappropriate usage and connection.

GSM DIN4 was tested with SIM cards of all Czech, Slovak and other selected foreign operators.

Nevertheless, the producer is not responsible for GSM DIN3 malfunction abroad. He undertakes to solve the possible problem, in co-operation with a client, by the firmware updating.

Recycling

Information for users concerning the disposal of electrical and electronic devices. The symbol on the product, on its packaging or in the user's manual means that the used electrical or electronic products must not be disposed together with communal waste.

These products must be placed free of charge on certain collection points for the purpose of proper disposal. If the disposal of such a type of waste is not proper, a user can be fined according to the national regulations.

Do not throw it into fire, do not demount or short it out.

Accessories

Suitable accessories can be found on the websites of the producer www.flajzar.cz

Conformity declaration

Conformity declaration can be found on www.flajzar.cz

Producer, services and technical support

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Send your technical inquiry concerning the device by email to technik@flajzar.cz.