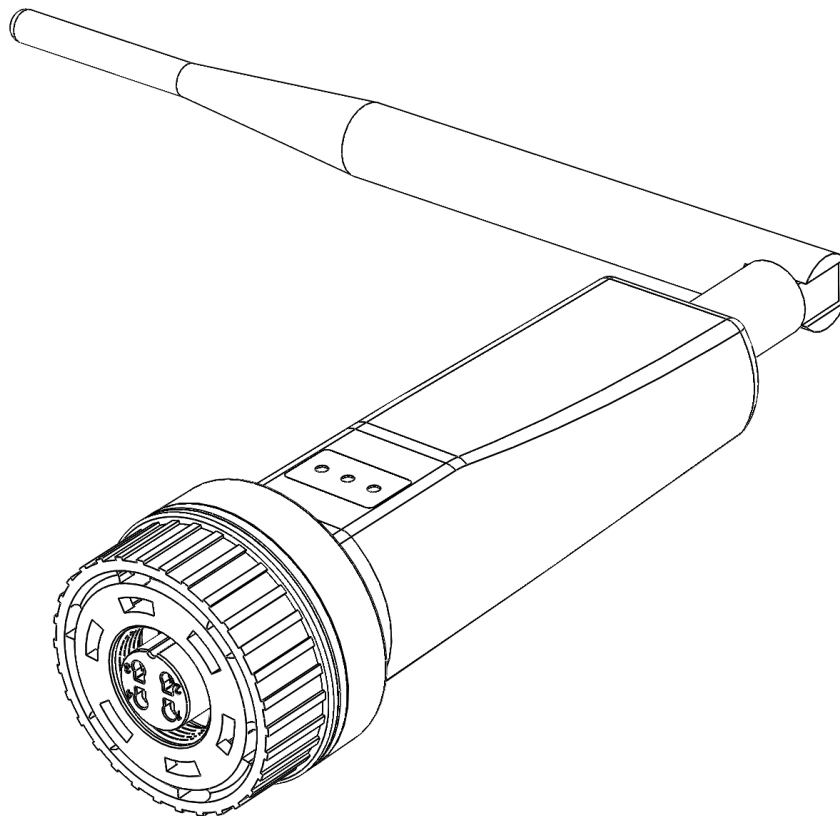


# autarco

## Installation Manual

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Digital GPRS device for Autarco inverters



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## **Additional Information**

This manual is an integral part of the product. Please carefully refer to the manual for the installation, operation and maintenance of the product. Please retain this manual for future reference.

Product information may change without prior notice. All trademarks are acknowledged as the property of their respective owners.

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## 1 Introduction

### 1.1 Read this information first

The objective of this user manual is to provide instructions and a detailed description of the installation, operation and maintenance processes as well as troubleshooting of the Autarco digital GPRS device (GPRS-stick D). This type of digital GPRS device is compatible with all Autarco converters. Always keep this user manual handy.

### 1.2 Important symbols



WARNING! Determine a safety instruction that, if not followed correctly, could result in injury or property damage.

## 2 Connection structure for GPRS monitoring

### 2.1 Topology overview with GPRS monitoring

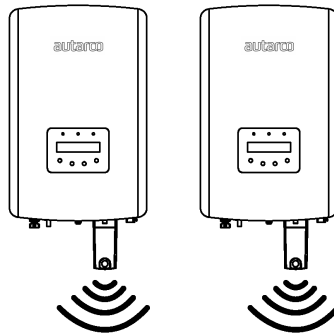


Image 1. Converter(s) with GPRS device

The converter(s) communicate with the public mobile network via GPRS.



Image 2. Public mobile network

The GPRS device communicates with the Autarco server through the public mobile network.

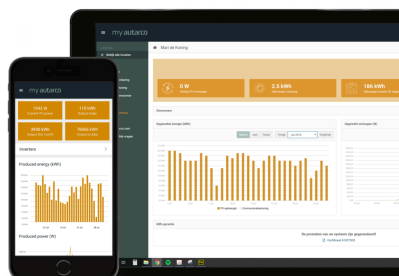


Image 3. <https://my.autarco.com>

Monitoring data is visible in the MyAutarco environment

## 2.2 Is a GPRS device right for you?

The advantage of monitoring on a GPRS network is that, in places without Ethernet or WiFi network (local network), it can still be monitored remotely with an Autarco solar energy system.

**OBSERVATION:** For supervision with a GPRS connection, use is made of a public mobile network. This requires a (micro) SIM card and, in most cases, a paid subscription with a third-party provider.

## 3 Installation

### 3.1 Required type of SIM card

To use a GPRS device you need a card *M2M O/IoT* SIM. These cards have a low monthly cost and limited bandwidth. Some providers of these SIM cards also have a portal to manage multiple cards.

A SIM card uses approximately 10 KB per converter per day.

### 3.2 Required SIM card format

To operate a digital GPRS device you need a card *micro* Sim.

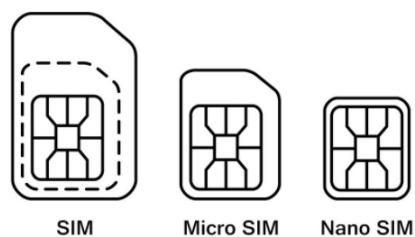


Image 4. SIM card formats

## 3.3 Delete (unlock) the SIM card security code

When the SIM card has a pin code, you must delete it (unlock it) through a phone. To unlock your SIM card you must follow these steps:

### 3.3.1 For Android

1. Put the SIM card in the phone (instead of your usual SIM card)
2. Go to "Settings"
3. Choose "Protection"
4. Choose "Set up SIM protection"
5. Choose "Lock SIM card"
6. DISABLE the "Lock SIM card" option
7. Eljah "OK"

SIM card is no longer locked

### 3.3.2 For iPhone



WARNING! Most iPhones work with a SIM card in the format known as nano. If you want to use an iPhone you must configure a custom SIM card, as well as have an adapter after deleting the security code. This is necessary to put the correct size SIM card back into the GPRS device.

1. Put the SIM card in the phone (instead of your usual SIM card)
2. Go to "Settings"
3. Choose "Public mobile network"
4. Elija «SIM pin code»
5. DESACTIVE the option "SIM pin code"
6. Enter the pin code\* to unlock the SIM card
7. Click "Done"

SIM card is no longer locked

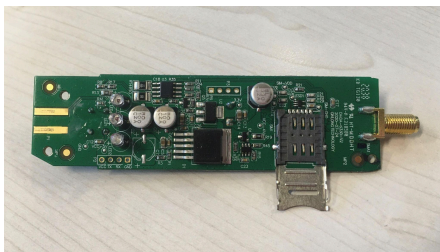
*\*The SIM card pin code is indicated on the new SIM card. If the SIM card has not been configured previously, the pin code is usually **0000***

## 3.4 Placing the SIM card in the GPRS D device

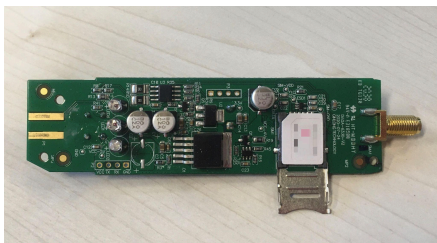
Once the security code has been removed from the SIM card, it can be placed in the GPRS device. Firstly, place the SIM card on the circuit board, and then place the circuit board into the case.

### 3.4.1 Placing the SIM card on the printed circuit

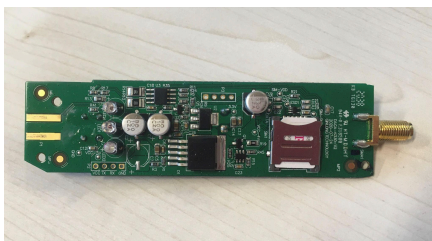
1. Open the SIM card holder on the printed circuit board



2. Place the micro SIM card

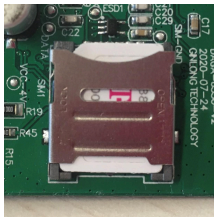


3. Close the SIM card holder

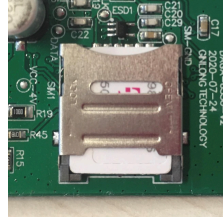


4. Close the support completely by sliding the metal door up





*a. closed*



*B. Slipped*

### 3.4.2 Placing the SIM card in the GPRS D device case

1. Place the circuit into the casing (blue) of the GPRS device. Make sure the circuit wire protrudes from the bottom of the case.



2. Snap together the two parts (black and blue) of the GPRS device casing.



3. Tighten the loose pieces onto the wire, following this order:

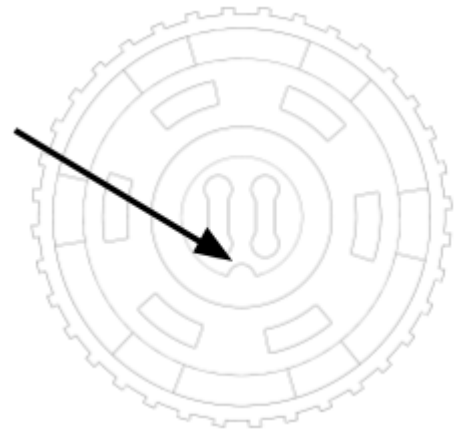
- metal ring
- nut
- rubber ring
- antenna



## 3.5 Installing the device in the converter

1. Insert the GPRS device into the corresponding connection point of the converter.

Attention: Make sure the position of the device connection part is correct. Place the small notch correctly at the connection point, so that the numbering on the 4-pin connector matches the numbering on the converter.



*Image 5. Connection point notch*

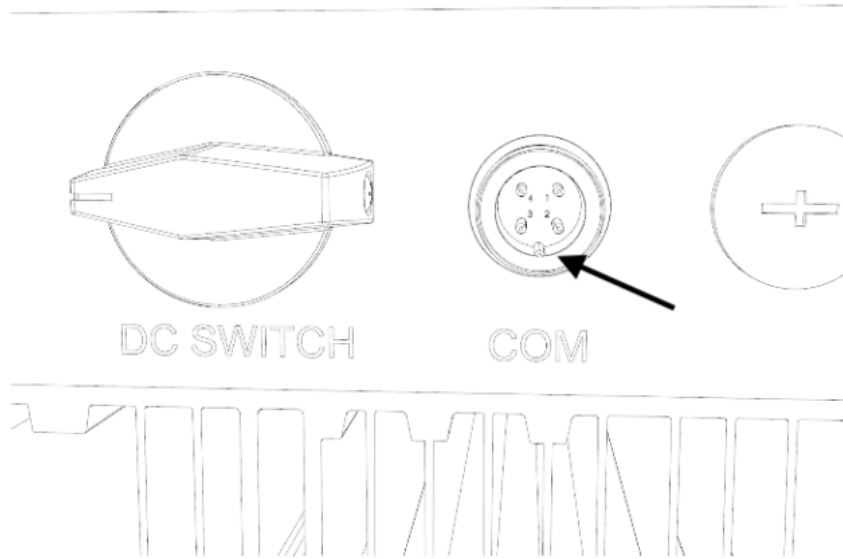


Image 6. COM port notch

2. Using the black ring, tighten the device on the top of the device.



**WARNING!** In order to avoid damage, do not rotate with the blue casing. If the device itself rotates while inside the converter, the device cables will be damaged and the warranty will be voided.

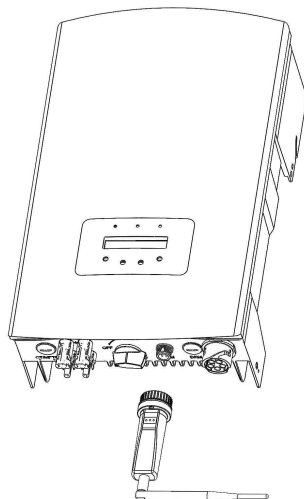


Image 7. Connection point and device

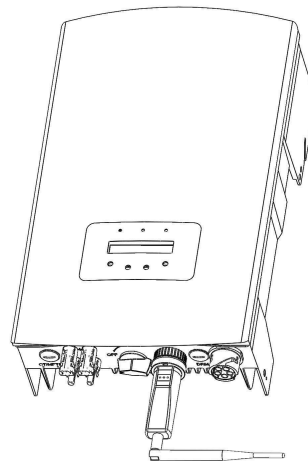


Image 8. Device installation



WARNING! To ensure communication quality, keep the GPRS device away from large metal objects and electrical devices with strong magnetic fields, such as microwave ovens, refrigerators, mobile phones, cement walls, photovoltaic panels and metal walls.

## 4 Establish connection

### 4.1 GPRS D Device Configuration

To activate data communication, there must be the possibility of sending an SMS from a telephone to the telephone number of the installed SIM card. The exact text to send will depend on the SIM card provider:

1. With the following link you will find the correct [APN], [username] and [password]. These will depend on the provider\*:  
[https://www.gadgetgoeroe.nl/tips/apn-instellingen-van-alle-nederlandse-mobiel-internet-aanbieders/\\*\\*](https://www.gadgetgoeroe.nl/tips/apn-instellingen-van-alle-nederlandse-mobiel-internet-aanbieders/**)
2. Set up the SMS message according to the following instructions.

Attention! You should not write the square brackets, but you should add quotes

Attention! Do not copy the quotes from this file, you must type the quotes using your device's keyboard. If you copy the quotes from this file, the SMS message will not work

Option 1. With username and password:

```
AT+QICSGP=1,"{apn}","{username}","{password}"
```

Option 2. Without username and password:

```
AT+QICSGP=1,"{apn}","",""
```

Below is an example of a correct SMS message:

```
AT+QICSGP=1,"internet.access.nl","",""
```

*These instructions are specific to the GPRS device with item code **S2.GPRS-STICK-D.1***

3. Send the SMS message.

Attention: the SIM card can send an SMS message back, but this does not always happen. This message **no** It is necessary for the proper functioning of the SIM card

\*If your provider does not appear in this list, search online for 'APN + [provider name]'. This is how you will find the data. For example: "APN: internet.access.nl".

\*\*The information available on the website may not be up to date. Visit the SIM card provider's website and check the correct settings.

## 4.2 Modify APN settings

By resending an SMS message with the new APN data, the old data will be overwritten.

It is possible to reset the APN configuration with the reset button on the back of the device, keeping the button pressed for **15 seconds**. But this is not necessary. Sending an SMS is enough.

## 5 Control

### 5.1 Is the device connected?

On the digital GPRS device there are three LED indicators. The PWR indicator (red), or the *switched on* indicates whether the device is on (receiving power). The COM indicator (orange) or the *communication* provides information about the communication between the device and the converter. The NET indicator (green) or the *red* provides information about the communication between the device and the Autarco server.



Image 9. LED indicators on the device

In the diagram on the next page you will find information about the meaning of the LED indicators.




| LED indicator  | state          | Description   |
|--|----------------|---|
| <br>RED/ verde    | SWITCHED ON    | The device is connected to the Autarco server.<br>The monitoring connection has been completed successfully.<br>Monitoring data is being transmitted.               |
|  | FLASHING LIGHT | The device is trying to connect to the Autarco server.  |
|  | OFF            | The device does not connect to the Autarco server.  |
| <br>WITH / orange | SWITCHED ON    | The device can receive data from all connected converters.  |
|  | FLASHING LIGHT | A. The device is processing data from a converter, or,<br>B. The device is performing a software update (if the green NET indicator also flashes at the same time). |
|  | OFF            | The device cannot receive data from at least one of the connected converters.   |
| <br>ON/ red     | SWITCHED ON    | The device is supplied with power (the device is turned on).  |
|  | FLASHING LIGHT | The device does not receive sufficient power supply.  |
|  | OFF            | The device is not supplied with power.  |

Image 10. General information about the LED indicators

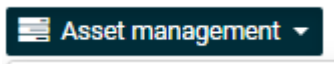
If the indicators do not light up after installation on the converter, continue with section 8.



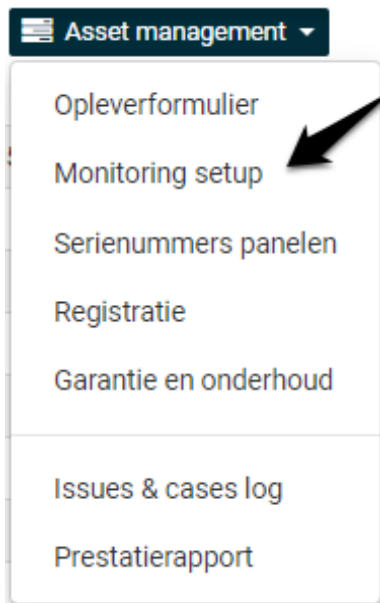
## 6 Device registration on Helios

Follow the steps below to register the device serial number in Helios (installers only):

1. Go to the Helios environment of the system in question ([www.helios.autarco.com](http://www.helios.autarco.com))
2. Click the arrow next to "Asset Management" in the following menu



3. Click Monitoring Settings



4. Enter the serial number of the GPRS device
5. Click "Confirm"

Helios will automatically monitor whether monitoring messages are received. This is located in the "Monitoring Messages" field.

## 7 Access to the MyAutarco supervision platform

### 7.1 Access to the MyAutarco monitoring platform (installer)

Once the Autarco server has successfully received the monitoring messages, you will need to link the data to the corresponding system (digital twin) in Helios and generate the MyAutarco login for the end user. To do this, end users must contact their installer.

By entering and linking the serial numbers of the installed elements, the Autarco software knows which system, inverter and string the received monitoring data should be assigned to. Next, we start by displaying the data in MyAutarco, both for the distributor and the end user.



#### NOTE FOR THE INSTALLER

Before registering the system with Autarco, you will need to confirm the following details from your customer in relation to the creation of your monitoring and kWh warranty certificates.

- Name
- Surnames
- Gender
- Email address
- Phone number
- Installation address

### 7.2 Access to the MyAutarco supervision platform (user)

Once the installer has registered your system with Autarco, you will receive your access data by email. You can check your system monitoring data on MyAutarco, through the website <http://my.autarco.com> or through the MyAutarco application.

## 8 Problem resolution

### 8.1 The device does not receive power (the red “PWR” indicator is off)

If the inverter is on, this means that the device is installed correctly and the address setting on the inverter is equal to <01>. If the red LED does not light up, then the device may be defective or the internal cables may be broken.

Try installing another device, making sure that **just squeeze the black ring (NOT the blue casing)** Of the device. Hold the device with one hand and turn the black ring with the other.

### 8.2 The red “PWR” indicator is on, the orange “COM” indicator is off.

The device is powered (turned on), but cannot receive data from at least one of the connected converters.

1. Briefly press the button on the back of the device once (this will attempt to force a connection).
2. Check the address\* setting of the drive.

Setting the address on the converter:

If the device only reads one inverter, the inverter address setting should always be set to <01>. If the device reads more than one converter, the first converter must be set to <01>. Other converters must be numbered consecutively.

To check the address of the converter, use the up and down buttons on the converter, go to **Settings** (settings) > **Set Address** (set address) > *select the correct number* > **Enter** (intro).

\*This address is used to identify converters when a device reads multiple converters.