



Installation, Use and Maintenance Manual

SMARTKEY



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1. General information

1.1 Introduction

Thank you for choosing this product. This document is an integral part of the product, as it contains the procedures and parameters necessary for the assembly, installation, wiring, commissioning and support of the product.

The buyer and/or qualified person with knowledge of electrical and/or electronic systems who will use the product need the use and maintenance manual and must keep it available for reference at any moment.

1.2 Safety warnings

Closely follow the precautions given (with warning symbols), as they are crucial for safety:



General danger symbol



Dangerous electrical voltage symbol

1.3 Storage and Installation Environment

Do not store or use the product in the following environments:

- ⚠ Exposed to direct sunlight
- ⚠ Exposed to higher levels of temperature, condensation and relative humidity than ones indicated in the specifications table
- ⚠ Exposed to dust, salinity, water, oil, chemicals, corrosive or inflammable gases, fuels
- ⚠ Pollution degree higher than 3
- ⚠ When subject to impact or vibrations

1.4 Transport, installation and wiring

- ⚠ Do not drop the product
- ⚠ Do not install the product if there are damage signs on the packaging or on the product itself

1.5 Operation and adjustments

- ⚠ Never activate the device or its switches with wet hands
- ⚠ **The Smartkey is not intended for continuous use on the target device**
- ⚠ Plugging the Smartkey will degrade the IP protection of the DBS and DR product to IP40.

1.6 Maintenance and inspection

- ⚠ Ensure that all safety precautions have been taken before performing maintenance or inspection operations
- ⚠ Do not repair or modify the product
- ⚠ The product does not require any particular preventive maintenance.
- ⚠ Do not treat the product as normal domestic waste: it must be taken to an appropriate collection point for electrical and electronic waste. Failure to observe this requirement can lead to civil and/or criminal penalties, and could have damaging consequences for the environment and human health

1.7 Product checks

Upon delivery of the product, we recommend checking that it corresponds to that ordered and is complete. Contact the supplier's technical support service for any problems relating to the product.

1.8 Label Checks

The product has a QR code applied to it that represents its MAC Address. It is possible to scan it with all smart devices cameras.



Figure 1 – Example QR code

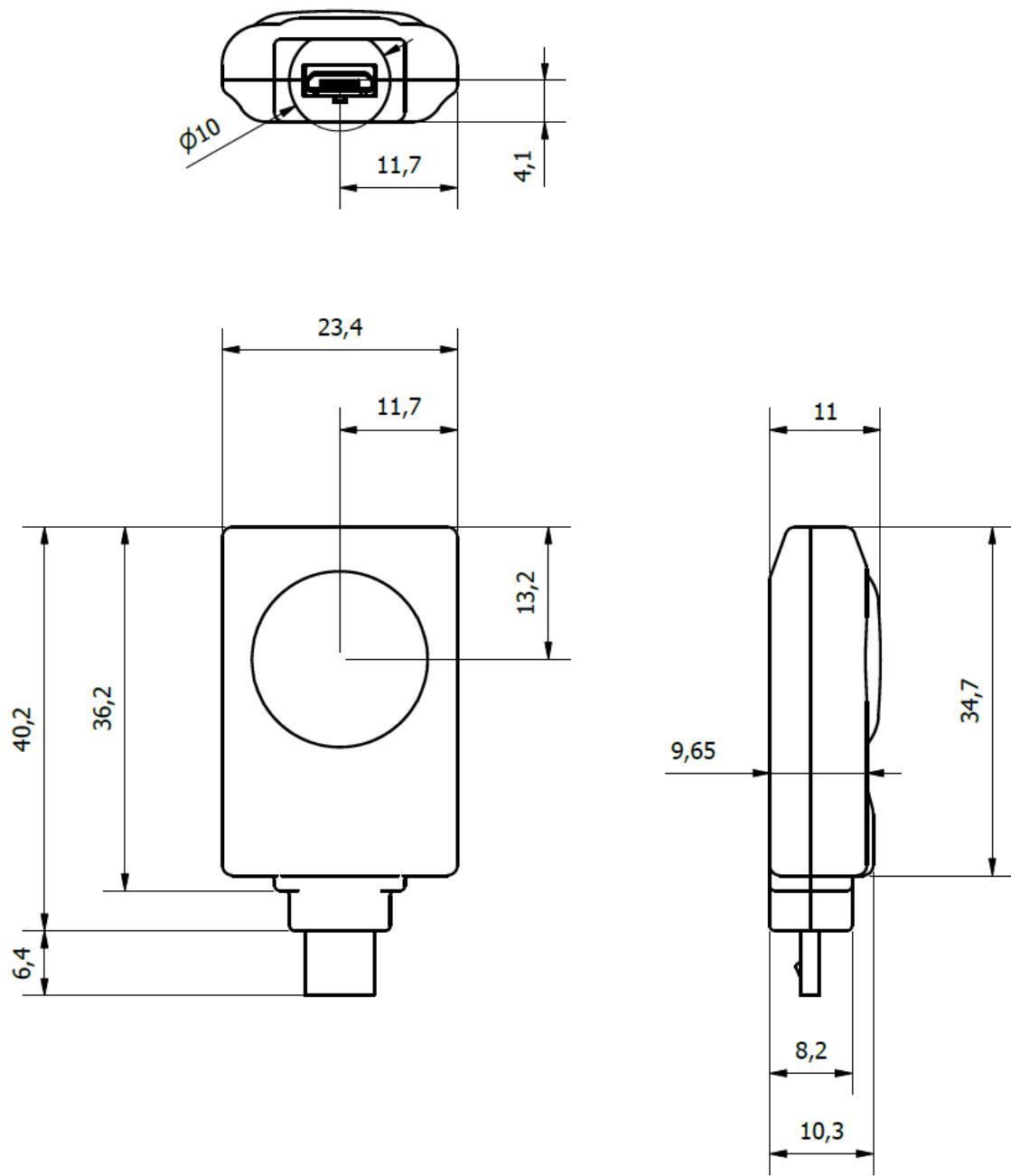
1.9 Product technical specification

| | SmartKey | | |
|-----------------------|----------------------|------------------------------|-----------|
| Nominal Supply | 3.3V – 250mA | | |
| Connection | Wi-fi 802.11g 2.4Ghz | | |
| Service connection | μUSB | | |
| IP rating | IP 40 | | |
| Product Compatibility | | DBS (family) | DR Family |
| | Firmware Revision | ≥ 4.014 | ≥ 2.004 |
| | Hardware Revision | ≥ 3 (> 10/2018) ¹ | ≥ 0 |

¹ To verify DBS HW revision, check the instructions in the file ““Verify DBS HW””

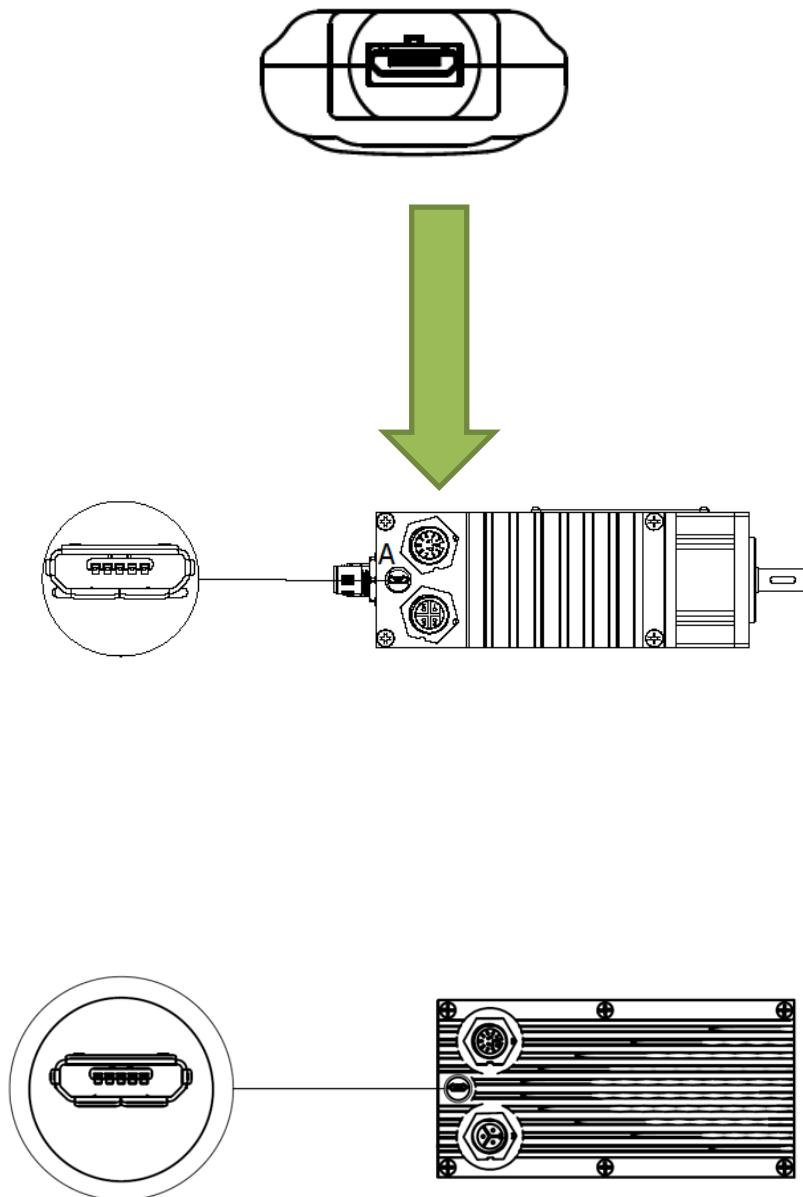
2. Installation

2.1 SmartKey Dimensions



2.2 USB service connector

The Smartkey must be inserted into the micro USB connectors of our DBS and DR range of devices.



3. Parametrization interface

3.1 Smartkey Connection

After inserting the Smartkey in the DBS/DR device, it will start broadcasting its wi-fi access point.

Use your device wi-fi connection interface to look for the access point, as shown in figure 1 using a smartphone as an example. The Smartkey access point name will be

- Minimotor-wifi-XXXXXXX, with X being the Smartkey MAC Address, the same found on the label.

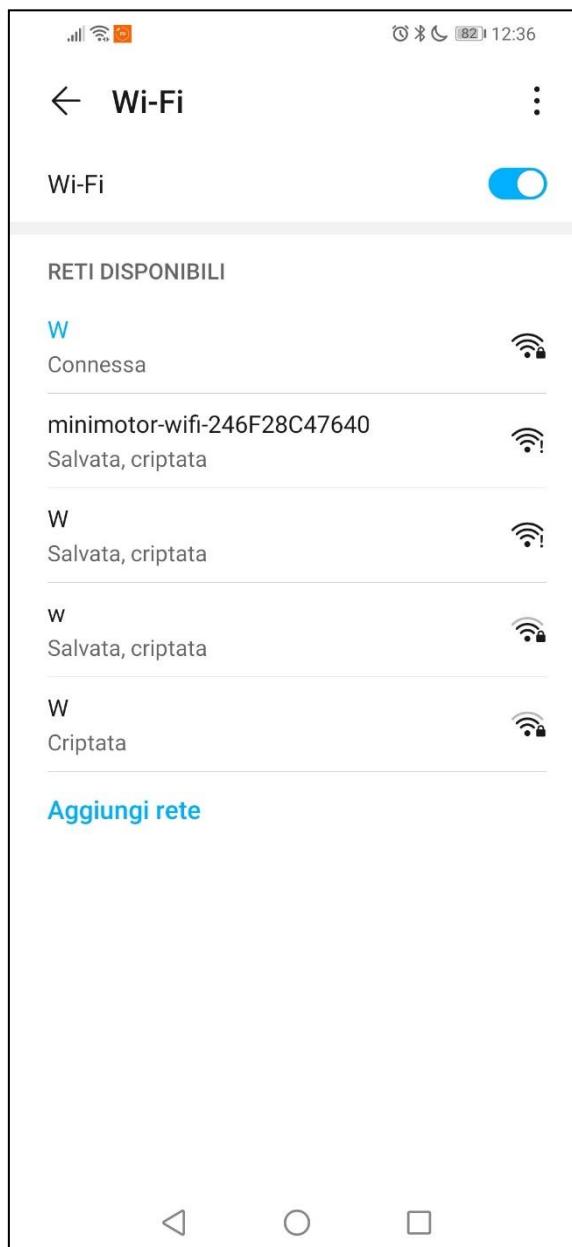


Figure 2

Connect to the Wi-Fi access point using as password: 12345678.



Figure 3

In order to access the Smartkey interface, use your device web browser to go to address 192.168.1.1

The first page you'll encounter will be the Info view. See chapter 3.2 for more information.

3.2 Smartkey Interface

The Smartkey has three pages: Info, Config and Control. You can switch between them by selecting their names, either via tapping if on a touch-based device or with a click on a pointer-based device.

3.2.1 Info View



Figure 4 – DBS Info View

1. This Dot indicates the Smartkey status. If **RED** the Smartkey is not communicating with the target device. Check if its correctly powered up. If **GREEN** the Smartkey is connected to the target device. It's present in all views.
2. This part of the Info view collects the general information about the device. You'll find:
 - Device Name
 - Serial Number
 - Firmware revision
 - Smartkey MAC Address
 - Smartkey IP Address
3. This section of the Info View show live data from the connected device. On DBS family system you have:

- DC Voltage: Input Supply Voltage read on the Power Input
- DC Power: Watts absorbed by the device
- Out Current: Current Apk sent by the Drive system to the Motor
- Speed: Rotational speed of the motor axis
- Position: Encoder reading in user position units (nominally 4096 bits per revolution)
- Torque: Percentage of Torque used by the Device
- Motor Temp: Motor Temperature (If sensor present)
- Board Temp1: Logic Board temperature
- Board Temp 2: Heatsink Temperature

On DR family system you have

- DC Voltage: DC power supply voltage
- Drive Power: Drive output power
- Out Current: Drive output current
- Speed: Motor commanded speed
- Board Temp 1: Logic Board Temperature



Figure 5 – DR Info



Figure 6 - Unsupported Motor

If the Config view returns the error: UNSUPPORTED MOTOR, go to the Config view and update the firmware of the Smartkey.

3.2.2 Config View



Figure 7 – DBS Config view

The Configuration view allows the reading and writing of all the motors parameters available using the BSI desktop application. Refer to the original device manual for an explanation of all the parameters.

1. In this section, you will find the current active User Level. By selecting it, you can change between USER, ADVANCED, EOL and SERVICE. The last two are password protected. The parameters showed depends on which user level is currently selected.

2. In this section you will find all Drive parameters to visualize and modify. Their layout is the same as with the corresponding end device BSI software, so refer to the DR or DBS user manual for the description of each parameter.
3. This command updates the Smartkey firmware. To check the current firmware revision go to 192.168.1.1/id.json. Download the latest version on the product page on our website, save the file on the same device where you're connecting to the Smartkey, and select it when prompted by the interface.

3.2.3 Commissioning View

In the commissioning view you can directly activate the motor, and home its position.

When entering this view, a warning will be issued



Warning: In this page you are able to control the motor, be aware of moving parts that can cause damage or severe injury.

Controlling the motor from a master is inhibited, it will be restored when closing the control page.

Continue...

Cancel

Figure 8

Read carefully and be sure to actuate the motor only when in a safe environment to do so, as you will be inhibiting the control from a master PLC if it connects to the motor.

After you have accepted, you will find yourself in the Commissioning View, as seen in Figure 7.



Figure 9

1. In this section there are four live operating parameters of the motor
 - DC Voltage: Input Supply Voltage read on the Power Input
 - Speed: Rotational speed of the motor axis
 - Position: Encoder reading in user position units (nominally 4096 bits per revolution)
 - Torque: Percentage of Torque used by the Device
2. In this section you can set the motor speed and acceleration/deceleration rates using the dials.
3. In this section includes the command buttons. In order left to right they are:
 - Home Button: The actual position of the motor will be set to 0.
 - Start/Stop Button: If the motor is not running, it will start accelerating to the target speed with the acceleration set in section 2 of the commissioning view. If the motor is running, it will decelerate to 0 speed using the acceleration set in section 2 of the commissioning view. The motor will remain enabled when stopped.
 - Neutral: if the motor is stopped, it will disable it.
 - Change Direction: Changes the motor rotation direction from clockwise to counterclockwise and vice versa. The motor will decelerate and accelerate to the target speed using the acceleration set in section 2 of the Commissioning View.

4. Warranty Conditions

We recommend reading this document closely and ensuring you have understood it before purchasing the product. Contact the manufacturer directly with any queries.

The manufacturer guarantees its products from defects in materials and/or workmanship for a period of **twelve (12) months** (unless otherwise specified in contractual documentation) from the date of delivery. The warranty is limited to repair of the product, or replacement, at the manufacturer's discretion.

The warranty does not cover damage, malfunctions, losses or requests for compensation due to:

- Operational errors in use and/or installation
- Modifications performed by the purchaser
- Unauthorised repairs
- Dropping of the device
- Natural disasters (fire, flood, lightning strikes etc.)
- Incorrect storage and/or maintenance

The burden of proof of any defect (and for any request for assistance in the place of use) lies with the purchaser.

5. Disclaimer

The manufacturer shall not be liable:

- For determining the suitability of the product to meet the customer's needs; this shall remain the responsibility of the customer themselves
- For the use of this product as a safety device for machinery which represents a hazard to persons or property
- For conformity of the product with legislation, standards and regulations applicable to the collection of products required for the purchaser's application. The purchaser shall therefore be responsible for guaranteeing the conformity of their machinery to such standards.

Furthermore:

- The product performance specified in this document does not represent a guarantee but merely a reference for the choice of the most appropriate solution for the purchaser's requirements, as it is the result of the manufacturer's testing conditions
- The product may be subject to modifications in order to make improvements, or for other reasons. Contact the manufacturer to confirm these.
- The information contained in the following document has no contractual validity and may contain omissions, typographical and/or spelling errors, and may therefore be subject to modification and/or updating without notice.



Mini Motor S.p.a.

Via E.Fermi, 5

42011 Bagnolo in Piano (RE), Italy

Tel. +39 0522 951889

Fax. +39 0522 952610

info@minimotor.com

www.minimotor.com