

# UHF Industrial Reader **BLUEBOX Micro IA**



## APPLICATIONS

- Parking Automation
- Logistics
- Robotics
- Data Collection

## FEATURES

- Integrated Antenna
- Upgradeable FW
- M12 Connector
- RS232/RS485
- Optional: CANbus (SAE J1939 or CANopen)
- IP65
- Supports ETSI & FCC Frequencies

## RFID OPTIONS

- UHF (EPC C1 GEN2 / ISO18000-6C)

## DESCRIPTION

The BLUEBOX Controller Micro IA with internal antenna is an UHF read and write RFID device operating in the 840 MHz to 960 MHz frequency band and suitable for industrial application.

It communicates with a 'host' system (typically a PC or a PLC) through a RS232 / RS485 serial line. Optionally the BLUEBOX Micro IA is available with a CANbus (SAE J1939 or CANopen) interface.

The BLUEBOX acts as a joint through a set of commands between the host system and one or more RFID transponders (or tags) present near the antenna.

The same 'master/slave' protocol is used for the communication between the host system ('master') and the BLUEBOX ('slave'), independently of the kind of connection (point to point or multipoint).

Through these communication channels, it is also possible to configure the functional parameters and to upgrade the firmware, the 'BLUEBOX Show' software of the SDK is foreseen to explicate these operations.

BLUEBOX is designed and developed to allow installation and maintenance experts to perform all power supply and communication connections without the need to open the device.

## TECHNICAL DATA

### ELECTRICAL SPECIFICATIONS

Power Supply	10 ... 36 Vdc
Power Rating	4 W @RFout = 27 dBm
Operating Frequency	865 – 868 MHz (ETSI) 902 – 928 MHz (FCC) - on request
Max. Power	Max 500 mW (27 dBm), software configurable 1 dB step
Operating Distance	up to 3 meters*
Antenna	Integrated
Antenna Gain	3.4 dBic
Antenna Beamwidth	115°
Antenna Axial Ratio	< 3 dB
Antenna Bandwidth	18 MHz
Digital Inputs	-51 dBm ... -87 dBm, software programmable 1 dB step
Status	1 LED, Buzzer
Interfaces	Serial RS232 / RS485 Optional: <b>CANbus (SAE J1939 or CANopen)</b>
Connections	1 M12 Connectors (5-poles A-coded male for power supply and serial interface)

### MECHANICAL SPECIFICATIONS

Dimensions	120 × 122 × 37 mm
Material	Plastic, ABS (Acrylonitrile Butadiene Styrene)
Class Protection	IP65

### ENVIRONMENTAL CONDITIONS

Operating Temperature	-20 °C to +55 °C
Storage Temperature	-40 °C to + 85 °C
Humidity	up to 95 %, non condensing

### SUPPORTED STANDARDS / TAGS

Standard ISO 18000-6C (EPC Class 1 Generation 2)  
E.g.: Alien Higgs 2/3/4, Impinj Monza, NXP UCODE, etc.

### APPLICABLE STANDARDS

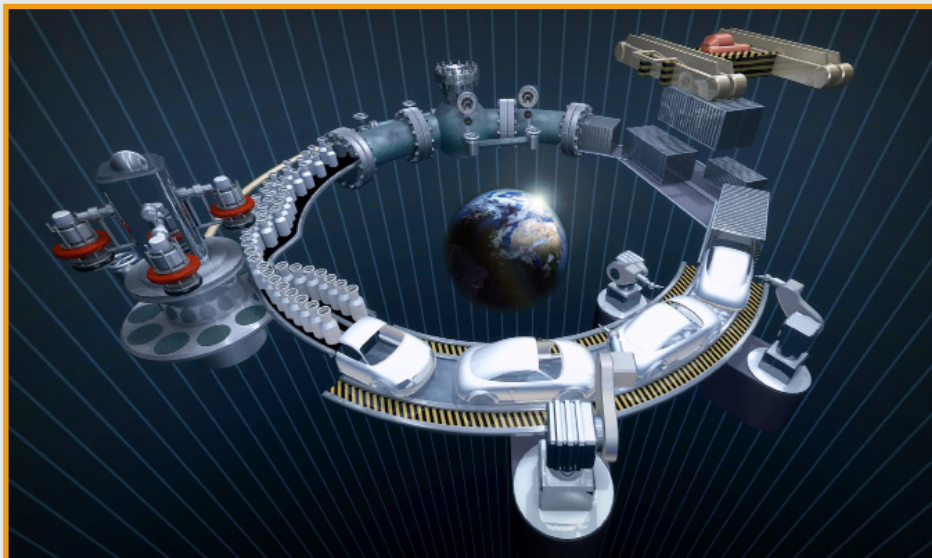
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RoHS	EC Guideline 2011/65/EU
Certificate	FCC, CE

### SDK INFORMATION

Supported OS	Windows 7, 8
Supported Languages	C#, C++, serial command protocol

\*Reading distance depends on tag, antenna and environmental conditions

## APPLICATION EXAMPLE



## AUTOMATED VEHICLE PRODUCTION

The **BLUEBOX MICRO IA UHF** reader is ideal for industrial 4.0 automation processes in automotive production. The different production steps within a manufacturing process require robust and flexible devices that can be easily integrated.

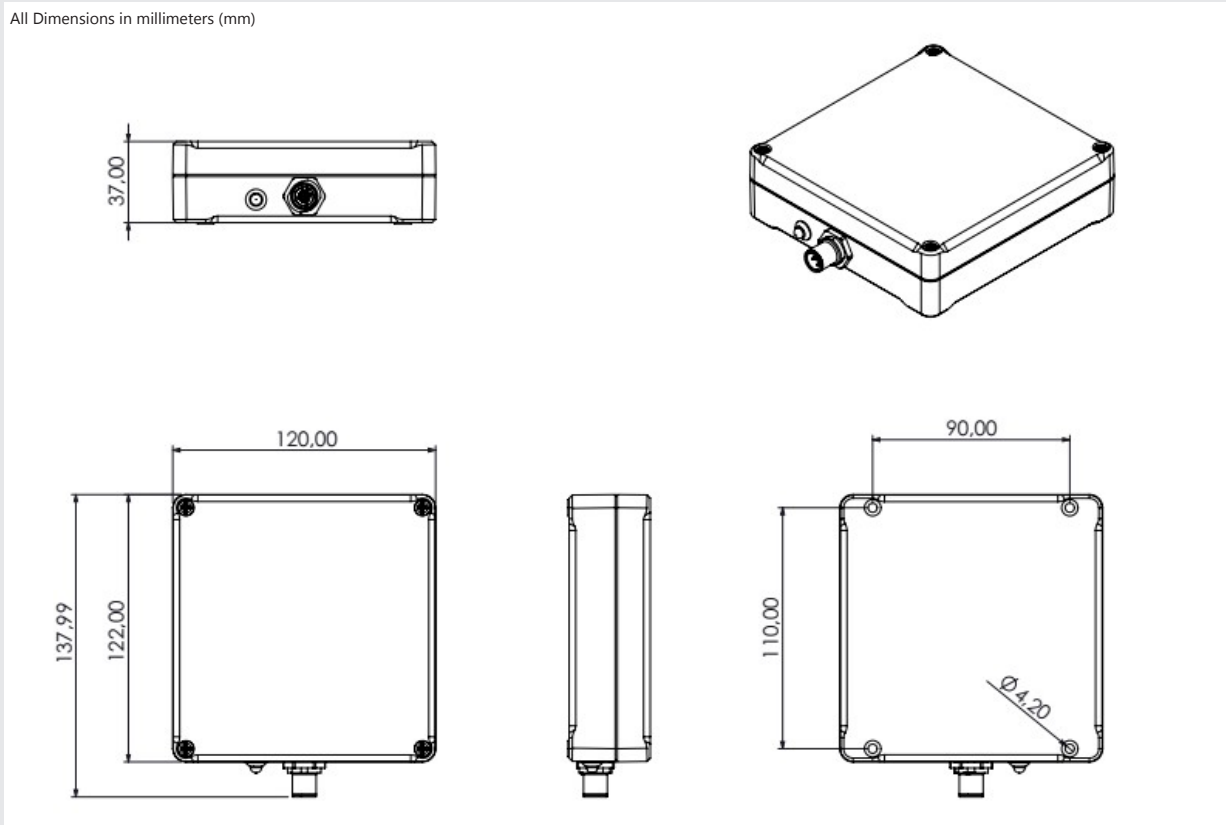
The **BLUEBOX MICRO IA UHF** may be optimally integrated into this process thanks to its compact design. The production of an automobile comprises an integrated process, having different requirements at each production step. From the foundry to the paint shop, high temperatures require the use of heat-resistant equipment. Thanks to its IP65 protection class, the **BLUEBOX MICRO IA UHF** is ideally suited for this purpose. The reader can **withstand temperatures from -40 °C up to + 85 °C** without any problems.

The reader can be easily mounted through prefabricated drill holes - even outside the production line. Thanks to the **large 3-meter reading range**, the parts can be assigned contact-free within the chassis production up to the exterior equipment.

The material flow within the production of a motor vehicle requires flexibility and robustness. The **BLUEBOX MICRO IA UHF** can be used to optimally allocate the various variants. The detection of several screws or threads is guaranteed by bulk detection.

## MECHANICAL VIEW

All Dimensions in millimeters (mm)



## ORDER CODES

VERSION	ORDER CODE
BLUEBOX Micro IA (RS232/RS485)	R-IN-UHF-5721U
BLUEBOX Micro IA (SAE J1939)	On Request (MOQ: 20 Units)
BLUEBOX Micro IA (CANopen)	On Request (MOQ: 20 Units)

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