RFID READER UHF

SHORT RANGE READER BLUEBOX

PRODUCT DESCRIPTION

The UHF Short Range Reader BLUEBOX 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 UHF Short Range Reader BLUEBOX is available with a CANbus (SAE J1939 or CANopen) interface.

The UHF Short Range Reader 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.

APPLICATIONS

- **Parking Automation**
- **Logistics**
- **Robotics**
- **Data Collection**

FEATURES

- **Integrated Antenna**
- **Upgradeable FW**
- **M12 Connector**
- **RS232/RS485**
- **Optional: CANbus (SAE J1939 or CANopen)**
- **IP65 Protection Class**

RFID OPTIONS

- **UHF (EPC C1 GEN2 / ISO 18000-63)**

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

Phone:+49 (0)621 66 900 94-0
Mail: info@idtronic-group.com
Web: idtronic-group.com

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 in 1 dB steps
Input Sensitivity	-51 dBm … -87 dBm, software programmable in 1 dB steps
Operating Distance	up to 3 meters*
Communication Interface	Serial RS232 | RS485 Optional: CANbus (SAE J1939 or CA-Nopen)
Status Display	1 LED, Buzzer
Interfaces	Serial RS232 | RS485 Optional: CANbus (SAE J1939 or CANopen)
Connector	1 M12 Connectors (5-poles A-coded male for power supply and serial interface)

ANTENNA SPECIFICATIONS	
Antenna	Integrated
Antenna Gain	3.4 dBic
Beam Width	115°
Axial Ratio	< 3 dB
Polarization	18 MHz

MECHANICAL CONDITIONS	
Material	Plastic, ABS (Acrylonitrile Butadiene Styrene)
Dimensions	120 × 122 × 37 mm
Weight	400 g
Protection Class	IP65

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

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

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 2	EC Guideline 2011/65/EU and amendment 2015/863/EU, updated by 2017/2102/EU EN 50581:2012 (valid till 2024-07-07) EN 63000:2018
REACH	EU Guideline 1907/2006, updated by 2020/171/EU
Certificates	FCC, CE

SUPPORTED STANDARDS / TAGS
Standard ISO 18000-63 (EPC Class 1 Generation 2) E.g.: Alien Higgs 2/3/4, Impinj Monza, NXP UCODE, etc.

Reading distance depends on tag, antenna and environmental conditions

ORDER CODES

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UHF Short Range Reader BLUEBOX - RS232/RS485	R-IN-UHF-5721U
UHF Short Range Reader BLUEBOX - SAE J1939	On Request (MOQ: 20 Units)
UHF Short Range Reader BLUEBOX - CANopen	On Request (MOQ: 20 Units)

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