iDTRONIC

PROFESSIONAL RFID

UHF Industrial Reader

Cylindrical Reader **M30**
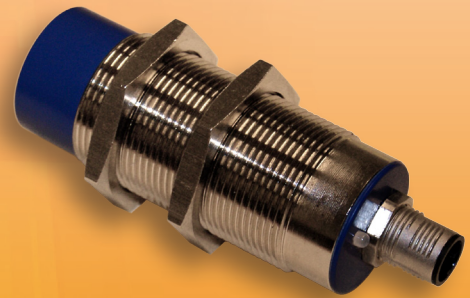
Applications

- · **Industrial Automation**
- · **Material Handling**
- · **Tracking & Tracing**
- · **Attachement Identification**
- · **Production Control**

Features

- · **RS232, RS485,**
  CANbus (SAE J1939 or CANopen)
- · **10 to 36 V Power Supply**
- · **Up to 40 cm Reading Distance**
- · **Compact Cylindrical Housing**
- · **IP65 rated**

RFID Option

- · **UHF** (EPC C1 GEN2 / ISO18000-63)

DESCRIPTION

The BLUEBOX M30 UHF reader/writer is a fixed and compact all-in-one UHF RFID reader for industrial automation processes.

It has an power output of up to +24 dBm / 250 mW. The power setting can be set in 1 dBm steps starting from 10 dBm. In combination with the integrated circular antenna and a gain of -8 dBi, M30 UHF Cylindrical Reader can achieve reading distances of up to 40 centimeters within industrial environments.

Typically this device will be used within the industrial automation at production lines and conveyor belt systems. Another wide spread application is the identification of tool attachment at construction, municipal and farming vehicles.

The device comes with a RS232, RS485, CANbus (SAE J1939 or CANopen) interface and a power supply of 10 to 36 V. This RFID device allows a flexible and fast integration into many existing applications with its easy to install cylindrical M30 housing and standardized M12 connectors.

iDTRONIC's BLUEBOX M30 UHF Reader/Writer supports the well known BLUEBOX SDK with demo and setup tools. The Windows based tools support all operating systems starting from XP up to Windows 10. Combined with C++, C# and a ASCII command protocol the software development kit offers an easy option to integrate this UHF reader into any environment.

Further customization of firmware and hardware is possible on request and on a project basis.

APPLICATION EXAMPLE - IDENTIFICATION OF FITTINGS & TOOLS

► Construction Site

This cylindrical reader is applicable for construction site machines. The different materials on a construction site require a variety of additional equipment.

Thanks to the cylindrical reader, the additional excavator buckets or drills are immediately ready for use. The specific user data are stored on the transponder on the excavator bucket.

The cylindrical reader is very robust and durable thanks to the IP 65 protection class. Therefore it is well suited for the construction site.
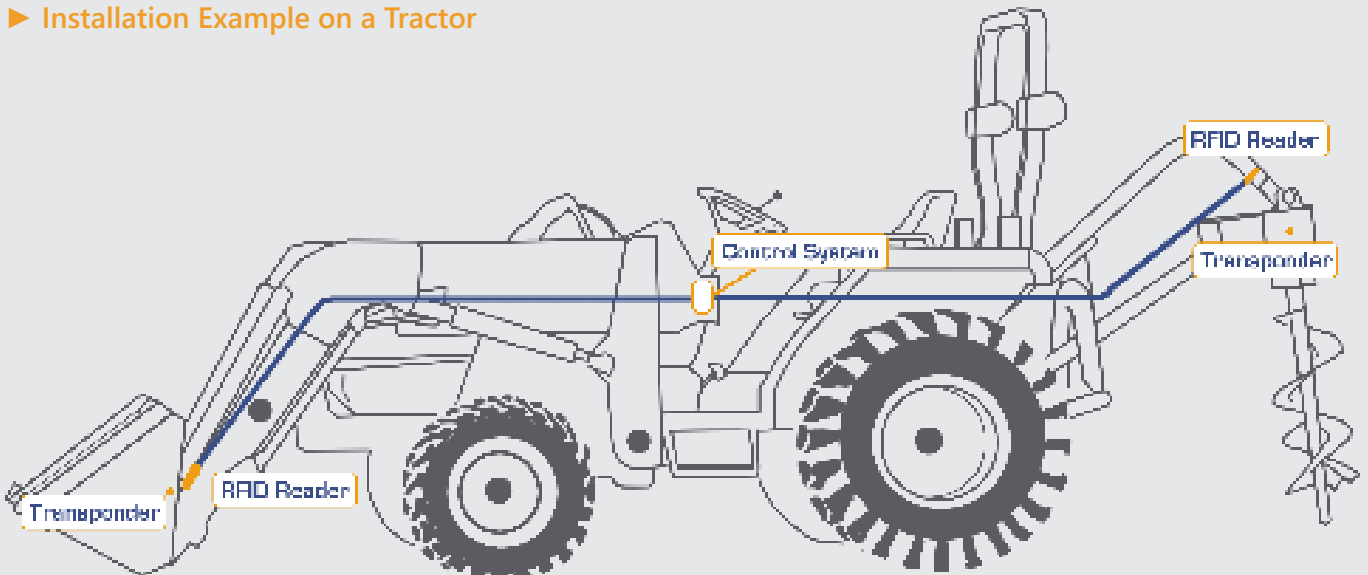
► Agriculture

The cylindrical antenna is well suitable for agriculture applications on corn fields or acres.

The device with reading distances of up to 40 cm can detect various attachments such as harvester or drills. The automatic identification allows the vehicle control system to detect and set all necessary controls within a blink of a second. Therefore an automated setup can be ease the use of various machines for different users.

Weather-related ground wetness or heat will not harm the antenna. The operating temperature for the use is from –20 to +55 °C.

► Installation Example on a Tractor

The cylindrical reader M30 is perfectly for the identification of attachements in agricultural machines.
The antenna is mounted on the gripping arm of the vehicle. It identifies various external parts with attached transponder such as excavator bucket or drills. Next to the steering wheel is mounted a control system controller. The transponder contains data on the attached part and transports it with the antenna on the gripper arm to the control system.

TECHNICAL DATA

Electrical Specifications

Power Supply	10...36 Vdc
Power Consumption	+24 dBm / 250 mW
Operating Frequencies	865 – 868 MHz (ETSI) 902 – 928 MHz (FCC on request)
RF Output Power	max. 0.5 W (+27 dBm), software configurable
RF Input Sensitivity	−87...−51 dBm, software configurable
Antenna	Integrated
Operating Distance	up to 40 cm*
Communication Interfaces	RS232 (R-IN-UHF-5224U) RS485 (R-IN-UHF-5225U) CANbus (SAE J1939 or CANopen)
Status Display	1 bicolor LED
Connector	5 pin M12 A-coded male connector

Antenna Specifications

Antenna Gain	-8 dBic
Beam Width	100° / 170°
Axial Ratio	< 1.5 dB
Polarization	circular

Mechanical Specifications

Housing Material	Nickelled brass + PC
Overall Dimensions	M30 × 1.5 × 90.65 mm
Weight	115 g
Protection Class	IP65

Environmental Conditions

Operating Temperature	−20 to +55 °C
Storage Temperature	-40 to +65 °C
Humidity	up to 95 %, non-condensing

Supported Standards / Tags

Standard ISO 18000-63 (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	CE

SDK Information

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

*Reading distance depends on tag, antenna and environmental conditions

ORDER CODES

Version	Order Code
M30 (RS232)	R-IN-UHF-5224U
M30 (RS485)	R-IN-UHF-5225U
M30 (SAE J1939)	R-IN-UHF-5226U
M30 (CANopen)	R-IN-UHF-5227U

For further information & prices, please contact info@idtronic-rfid.com