MASTER 01

Universal RFID UHF reader

Product family: SMART RFID

APPLICATIONS:

ACCESS CONTROL

RETAIL

LOGISTICS

CAR PARK SYSTEMS

Master 01, an universal and modular RFID UHF reader, is the most often awarded RFID device in Central and Eastern Europe.

This is the first reader in world that uses all key technologies of Internet of Things: RFID UHF, Bluetooth, GMS/GPRS, WiFi and ZigBee. It is a perfect tool for car parks, retail, access control and many other.

Plug and play: easy to install, simple to launch and comfortable in everyday use with its five working modes.

TECHNICAL PARAMETERS:

Parameter	Value
Supported protocol	ISO18000-6C (EPC Global Gen2)
Operating frequency	UHF EU ETSI 865,6~867,6 MHz, UHF US FCC 902~928 MHz
Transmiting power	5-30 dBm
Max readout range	up to 20 m*
Antenna outputs	2 x SMA (available on request 4 x SMA or 8 x SMA)
Working mode	polling, autorunning, autorunning+, autonomous, SMART MODE
Communication interfaces	Ethernet 10/100, RS485, RS232, Wiegand, WLAN, Bluetooth, GPRS
Indicators	sound signal, LED
Inputs / outputs	4x NO relay, 8x GPO, 4x GPI
Interface	PC Application or webserver embedded
Power supply	12 V DC or POE IEEE 802.3af
Power consumption	10 W
Housing	aluminum
Working temperature	-20~+55 °C
Dimensions	220 x 210 x 30 mm
Weight	1 kg

* depending on antenna, ID tag and weather conditions

FIRMWARE

- Real Time Operating System (RTOS), fully integrable with other systems.
- Operating modes:
  - polling;
  - autorunning;
  - autorunning+
    - automatic readout of EPC and TID;
  - autonomous
  - the first protected mode in the market: SMART MODE
    - smart recognition of tags assigned to a system (regardless of EPC and TID), no database required;
    - effective protection against fake tags and tag reprogramming.

HARDWARE

- Supported protocol: ISO18000-6C (EPC Global Gen2).
- Operating frequency: UHF EU ETSI 865,6~867,6 MHz, UHF US FCC 902~928 MHz.
- Antenna outputs: 2 / 4 / 8 x SMA.
- Communication interfaces: Ethernet (UDP, TCP), RS-232, RS-485, WLAN, Bluetooth, GPRS, Wiegand.
- Power supply: 12 V DC or PoE IEEE 802.3af, can be powered directly from a 12 V battery.
- Other digital inputs/outputs: 8x GPO, 4x GPI, 5V TTL.
- Relay outputs: 4 x NO, 12 V / 1 A load capacity.
- RFID UHF transmitter power: 5–30 dBm.
- Modulation: PR-ASK.
- RFID UHF receiver sensitivity: -85 dBm.
- RFID UHF module operating mode: monostatic.
- Power consumption: 10 W.

MANAGEMENT

- Via a website (from a computer, tablet or smartphone).
- Via an application.

SOFTWARE

- SDK:
  - Windows drivers in .Net;
  - a library compatible with all languages supported by the CLI runtime (ECMA-335);
  - example source code available in C++ and C#.
- Fully documented protocol.

CONFIGURATION

- Network settings:
  - static or DHCP setup;
  - selectable communication port (UDP/TCP);
  - SNTP time server settings;
  - selectable web server port.

- RFID:
  - selectable frequency channels (4, 7, 10, 13) – guarantee correct operation of multiple readers in parallel;
  - individual power settings for each antenna (for read and write operations);
  - configurable separate durations for individual read and write operations;
  - definition of the set of tags identified by the reader based on a selected memory bank (EPC, TID, USER MEMORY);
  - fully configurable Gen2 protocol parameters (Session, Target, M value, Q value);
  - programming or reprogramming of any or selected tag (based on EPC, TID or USER MEMORY) – also via a website;
  - preview of read tags via a website;
  - deactivation (kill) and password protection of a selected tag;
  - system calibration with clear RSSI graphs.

- Wiegand:
  - fully configurable interface parameters (mode and time characteristics);
  - configurable number of channels (1 to 4);
  - mapping of specific antennas to channels (1 to 1, 2 to 1, 4 to 1 and 8 to 1);
  - configurable lockout time for a transmitted identifier;
  - 5 V logic.

- Autonomous mode:
  - configurable prefix and identifier lenght for a group of tags (1 to 4 bytes);
  - software NC relay mode available;
  - mapping antennas to relays;
  - configurable relay closed (open) time to adjust it to any system;
  - optional additional conditions before granting access (such as signal from an induction loop or a photocell);
  - logs for each event, also via a website.

- Other:
  - bootloader firmware upgrade by the user.

MASTER 01

Universal RFID UHF reader

DESIGN

- Aluminium housing.
- Installation: DIN rail or installation openings on the housing.
- Weight: 1 kg.

AWARDS AND DISTINCTIONS

- Bridge to MassChallenge.
- Polish Tech Night.
- Start Jerusalem Competition.
- Retail Innovation.
- Innovation Laurel.
- Leader in New Technologies.
- Product of the Year.
- Good Design.

AVAILABLE MODELS:

Model	Relay outputs	Ethernet 10/100	POE	RS232	RS485	Wiegand	RFID	Bluetooth/ Beacon	GPRS/ GSM
Master 01 - 2.0 - 2 antenna outputs	4	✓	✓	✓	✓	✓	✓	✗	✗
Master 01 - 4.0 - 4 antenna outputs	4	✓	✓	✓	✓	✓	✓	✓	✗
Master 01 - 8.0 - 8 antenna outputs	4	✓	✓	✓	✓	✓	✓	✗	✓
	4	✓	✓	✓	✓	✓	✓	✓	✓

MASTER 01 is:

UNIVERSAL
- number of models in various configurations
- variety of communication interfaces
- ability to direct control gate / barrier / electric lock
- ability to connect to any computer system

EASY TO INSTALL
- no need to install additional network line
- durable and resistant housing
- seamless integration with Time and Attendance and Access Contol systems

ECONOMIC
- POE power supply type can reduce installation costs
- no need to install additional controller to control the barrier
- ability to connect up to 8 antennas to one reader

Standards compliance: EN 302-208, EN 301-489, EN 60950, EN 50364