MI1605

1 or 2-port RFID UHF reader with on-board computer and open Linux OS

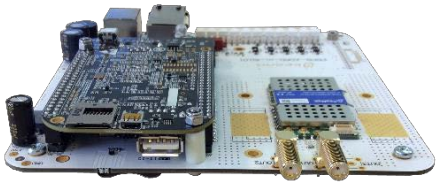
Product overview

MI1605 is a flexible UHF reader with an on-board microcomputer and a fully open Linux operating system.

MI1605 comes with **two models**:

- 1-port, 27 dBm maximum output power
- 2-port, 30 dBm maximum output power

Thanks to its on-board microcomputer, MI1605 can work **stand-alone**, without needing to be connected to an external computer, thereby reducing equipment costs, installation costs, and maintenance costs.



Additional product features

MI1605 is also very flexible in terms of **inputs** and **outputs**:

- 5 x digital outputs and 1 relay output
- 2 digital/analog inputs
- Direct LED connections
- Loudspeaker: 8 ohm/2 W

MI1605 includes several **actuators** and **indicators** on-board:

- On-board buzzer
- On-board LED indicators for: power on (white), RF Tx (red), RF Rx (green), status (orange), etc.

MI1605 has small form factor (137x137x25mm) and can be used in any RFID application.

Benefits:

- High flexibility (1 or 2 ports)
- On board computer with fully open Linux OS
- Small form factor
- 2 digital/analog inputs.
- 5 digital outputs and 1 relay output
- Acts as HID USB device
- Reduces time and cost of developing RFID systems
- Direct connection to an external loudspeaker

Applications:

- Smart shelves
- Smart display fixtures
- Smart surfaces
- RFID portals
- RFID tunnels
- Point of Sales
- Loss prevention systems
- In general, any RFID application

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Common RF specifications of all MI1605 models:

Air Protocol Interface	EPC global UHF Class 1 Gen 2 / ISO 18000-6C
Supported regions	FCC (NA, SA) 902 MHz - 928 MHz ETSI (EU, IN) 865.6 MHz - 867.6 MHz MIC (KR) 910 MHz - 914 MHz SRRC-MII (P.R.China) 920 MHz - 925 MHz Brazil: 902-907,5 MHz and 915-928 MHz (by using channel selection) ACMA (AU, NZ) 920 MHz – 926 MHz Open region
Max tag read distance	Up to 9 m (33 feet) with 6 dBi gain antennas

Common software Specifications of all MI1605 models:

On-board intelligence	ARM board • Cortex A-8 CPU (1 GHz) • 512 MB RAM • 4 GByte ROM with Operating System • 1 x USB connector
On-board software	AdvanNet: advanced driver platform for Keonn components and systems Debian Squeeze (Debian 7.4) based distribution
External software development	AdvanNet based: • Test and deploy web-based GUI utility (AdvanNet Monitor) • REST interface that can be used in any development environment
Internal development environments	Java development C development
Operating system	Fully open

Common electrical, communication and mechanical specifications of all MI1605 models:

Data communications	Ethernet: IEEE 802.3 up to 100 Mbps Wi-Fi through a USB dongle: a list of compatible USB dongles is available Wi-Fi USB dongle not included
Power supply	Power Over Ethernet (PoE): IEEE 802.3af and 802.3at (Type 1 & Type 2) On board battery for RTC chip
Output power	5 V (DC) @ 200 mA non-isolated power supply to feed external devices and circuitry
On-board sensors and actuators	Buzzer
On-board LED indicators	LED ON (White LED) LED status (Orange LED) LED M6e Rx line (Green LED) LED M6e Tx line (Red LED)
Inputs	2 x digital/analog inputs, 10 bits resolution Inputs accepted in the range: • 0 V - 3 V (Input 1) • 0 V - 10 V (Input 2)
Outputs	4 x digital outputs (higher power): • OUT1, OUT2, OUT3, OUT4 • Non isolated • Maximum output current 100 mA 1 x digital outputs: • OUT5 • Non isolated • Sink up to 8mA 1 x relay output: • OMRON G5V-1 5DC • Max current 1 A • Max voltage: • 24 V (DC) • 125 V (AC) Other outputs : • Loudspeaker: 8 ohm/2 W
Temperature	-20 °C to +50 °C
Size	137 mm x 137 mm x 30 mm (5.39 in x 5.39 in x 0.95 in)
Weight	220 g (7.9 oz)

Specifications of MI1605 with one port

RF connections	One 50 ohm SMA connectors for monostatic antennas
RF Power	Programmable from 0 dBm to 27 dBm in 0.5 dBm steps (Maximum power may have to be reduced to meet regulatory limits)
Max tag read throughput	Up to 50 tags/second
Power consumption	Idle consumption < 3 W Max consumption (@27 dBm) < 7 W

Specifications of MI1605 with two ports

RF connections	Two 50 ohm SMA connectors for monostatic antennas
RF Power	Programmable from 0 dBm to 30 dBm in 0.5 dBm steps (Maximum power may have to be reduced to meet regulatory limits)
Max tag read throughput	Up to 50 tags/second
Power consumption	Idle consumption < 3 W Max consumption (@30dBm) < 9 W