

IDRO RFID

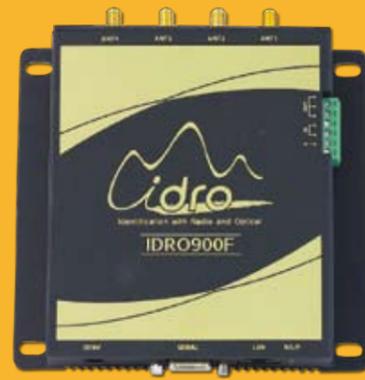


About IDRO: IDRO Co., Ltd provides high performance UHF RFID reader and reader modules. Our UHF RFID readers are the state-of-the-art for all applications and fully compliant with the FCC rules and EPC Gen2 protocol.

#703, 1017, Ingye-Dong, Paldal-Gu, SuWon-City KyeongGi-Do 442-070, Korea
Tel: +82-31-225-7881 Fax: +82-31-225-7886 <http://www.idro.co.kr>

IDRO RFID

UHF Fixed Type 4-Channel RFID Reader: IDRO900F



Product Overview

IDRO Fixed Type RFID Reader IDRO900F offers one of a kind combination of high performance and low cost. The IDRO900F delivers the following benefits:

- **Superior read range** through well designed circuits that reaches up to 12 meters (depends on tags).
- **Superior anti-collision performance** that allows up to 200 tags per second.
- **Small footprint** and mono-static antenna makes installation easy.
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2).
- **Performance optimization** achieved through power control (10 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO Fixed Type RFID Reader IDRO900F has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900F is an ideal solution for:

Application Areas

- Factory Automation Control / Conveyor Applications
- Semiconductor Process Automation
- Item Management / Asset Tracking
- Vehicle security
- Access Control

Reader Type

- Stand-alone Type
- Tag Encoders
- Smart-Shelves

Specification

Frequency	Air Interface Protocols
840MHz ~ 960MHz (Adjustable)	EPC C1G2 / ISO 18000-6C
Host Communication	Architecture
Ethernet: 10/100Mbps, RS232C: 115.2 Kbps	ARM9 Processor, Linux 2.6, 32 Mbytes RAM, 64 Mbytes Flash
5 GPIO pins	RF Output Power
Physical Dimension	Adjustable 10-30 dBm with 1 dB steps, Power Accuracy: ±0.5 dBm
Length: 136.0mm (53.6inches)	General Purpose Inputs/Outputs
Width: 126.0mm (49.6inches)	2 inputs, 3 outputs;
Height: 35.0mm (13.8inches)	SSR support - recommended
Weight: < 630g (24 oz)	Supply Voltage
Environment	+9.0 VDC
Storage Temperature: -20°C to 70°C	Hardware Connection
Operating Temperature: -20°C to 50°C	RS232C(DB-9F), LAN TCP/IP (RJ-45)
Regulatory Support	Read Performance
FCC 15.247, ETSI EN 302-208 (CE), KCC (Korea)	Read range up to 12 meters for a single tag.
Planned*: RoHS, China, Japan	Anti-collision performance up to 200 tags/second

IDRO RFID

UHF Fixed Type 4-Channel Visible RFID Reader: IDRO900V



Product Overview

IDRO Fixed Type RFID Reader IDRO900V offers one of a kind combination of high performance and low cost. The IDRO900V delivers the following benefits:

- **Target selective characteristics** with visible LED lights. Just one wanted tag or tag groups can be read using LED beam.
- **Superior read range** through well designed circuits that reaches up to 12 meters (depends on tags).
- **Superior anti-collision performance** that allows up to 200 tags per second.
- **Small footprint** and mono-static antenna makes installation easy.
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2).

Applications

The IDRO Fixed Type RFID Reader IDRO900V has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900V is an ideal solution for:

Application Areas

- Factory Automation Control / Conveyor Applications
- Semiconductor Process Automation
- Item Management / Asset Tracking
- Vehicle security
- Access Control

Reader Type

- Stand-alone Type
- Tag Encoders
- Smart-Shelves

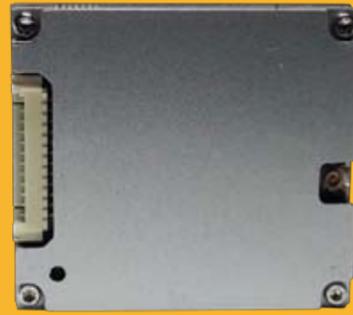
Specification

Frequency	Air Interface Protocols
840MHz ~ 960MHz (Adjustable)	EPC C1G2 / ISO 18000-6C
Host Communication	Architecture
Ethernet: 10/100Mbps, RS232C: 115.2 Kbps	ARM9 Processor, Linux 2.6, 32 Mbytes RAM, 64 Mbytes Flash
5 GPIO pins	RF Output Power
Physical Dimension	Adjustable 10-30 dBm with 1 dB steps, Power Accuracy: ±0.5 dBm
Length: 136.0mm (53.6inches)	General Purpose Inputs/Outputs
Width: 126.0mm (49.6inches)	2 inputs, 3 outputs;
Height: 35.0mm (13.8inches)	SSR support - recommended
Weight: < 630g (24 oz)	Supply Voltage
Environment	+9.0 VDC
Storage Temperature: -20°C to 70°C	Hardware Connection
Operating Temperature: -20°C to 50°C	RS232C(DB-9F), LAN TCP/IP (RJ-45)
Regulatory Support	Read Performance
Panned*: FCC 15.247	Read range up to 12 meters for a single tag.
Planned : ETSI EN 302-208 (CE), KCC (Korea), RoHS, China, Japan	Anti-collision performance up to 200 tags/second

Software

API for C/C++, C#.NET
IDRO Protocol
Reader@express Demo SW

UHF RFID Reader Module: IDRO900MI-m



Product Overview

IDRO module IDRO900MI-m offers one of a kind combination of medium performance, low cost, and compact size. The IDRO900MI-m delivers the following benefits:

- **Medium read range** through well designed circuits that reaches up to 3 meters.
- **Medium anti-collision performance** that allows up to 50 tags per second.
- **Small size**, with approximately 50% smaller footprint than most other 1 watt reader modules.
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2) protocol.
- **Performance optimization** achieved through power control (0 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO900MI-m has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900MI-m is an ideal solution for:

Application Areas

- Access Control
- Item Management
- Asset Tracking
- Animal Tracking

Reader Type

- Handheld / Mobile Readers
- USB Readers
- Printers / Tag Encoders

Software

API for C/C++, C#.NET
IDRO Protocol
Reader@express Demo SW

Specification

Frequency	840MHz ~ 960MHz	Air Interface Protocols	EPC C1G2 / ISO 18000-6C
Host Communication	UART(TTL): 115.2 Kbps 8 data bits / No parity / 1 stop bit	RF Output Power	Adjustable 0-30 dBm with 1 dB steps Power Accuracy: ±0.5 dBm Power On/Off control for shut down
Physical Dimension	Length: 40.5mm (1.58inches) Width: 35.8mm (1.42inches) Height: 7.4mm (0.3inches) Weight: 18.0g (0.66 oz)	Average Current Consumption	Scan Mode: 1.5 A @ 30 dBm
Environment	Storage Temperature: -20°C to 70°C Operating Temperature: -10°C to 50°C	Supply Voltage	4.0 V, (3.7V~4.2V)
Regulatory Support	Planned*: FCC 15.247, RoHS, ETSI EN 302-208 (CE), China, Japan	Antenna Connection	50 Ω port with CMP (Coaxial Micro Plugs) VSWR 1.5:1 or lower for best performance
		Read Performance	Read range up to 3 meters for a single tag. Anti-collision performance up to 50 tags/second

UHF RFID Reader Embedded Antenna: IDRO900EA



Product Overview

IDRO Antenna Embedded RFID Reader IDRO900EA offers one of a kind combination of high performance and high stability. The IDRO900EA delivers the following benefits:

- **Superior read range** through well designed circuits that reaches up to 10 meters (depends on tags).
- **Superior anti-collision performance** that allows up to 100 tags per second.
- **Compact design** with simple and elegant features go really well with natural environments
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2) and ISO 18000-6B protocols.
- **Performance optimization** achieved through power control (13 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO Embedded Antenna Type RFID Reader IDRO900EA has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900EA is an ideal solution for:

Application Areas

- Car Parking Management
- Vehicle security
- Item Management
- Asset Tracking
- Animal Tracking
- Access Control

Reader Type

- One Channel Fixed Type Readers
- Tag Encoders
- Smart-Shelves

Software

API for C/C++, C#.NET
IDRO Protocol
Reader@express Demo SW

Specification

Frequency	840MHz ~ 960MHz	Air Interface Protocols	EPC C1G2 / ISO 18000-6C, ISO 18000-6B
Host Communication	RS232C: 9.6 Kbps 1 programmable GPIO pins	RF Output Power	Adjustable 13-30 dBm with 1 dB steps Power Accuracy: ±0.5 dBm
Physical Dimension	Length: 260.3mm (10.24inches) Width: 260.4mm (10.24inches) Height: 40.0mm (1.58inches) Weight: < 850g (31 oz)	Average Current Consumption	Scan Mode: 1.3 A @ 30 dBm
Environment	Storage Temperature: -20°C to 80°C Operating Temperature: -20°C to 50°C	Supply Voltage	9.0 VDC
Regulatory Support	Planned*: FCC 15.247, RoHS, ETSI EN 302-208 (CE), China, Japan	Hardware Connection	RS232C(1 Tx, 1 Rx, VCC(+5V), GND)
		Read Performance	Read range up to 10 meters for a single tag. Anti-collision performance up to 100 tags/second

IDRO RFID

UHF RFID Reader Module: IDRO900MA



Product Overview

IDRO module IDRO900MA offers one of a kind combination of high performance, low cost, and compact size. The IDRO900MA delivers the following benefits:

- **Superior read range** through well designed circuits that reaches up to 6 meters.
- **Superior anti-collision performance** that allows up to 100 tags per second.
- **Small size**, with approximately 50% smaller footprint than most other 1 watt reader modules.
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2) and ISO 18000-6B protocols.
- **Performance optimization** achieved through power control (13 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO900MA has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900MA is an ideal solution for:

Application Areas

- Item Management
- Asset Tracking
- Animal Tracking
- Access Control

Reader Type

- Handheld / Mobile Readers
- USB Readers
- Printers / Tag Encoders
- Smart-Shelves

Specification

Frequency	840MHz ~ 960MHz	Air Interface Protocols	EPC C1G2 / ISO 18000-6C, ISO 18000-6B
Host Communication	UART(TTL): 115.2 Kbps 8 data bits / No parity / 1 stop bit	RF Output Power	Adjustable 13-30 dBm with 1 dB steps Power Accuracy: ±0.5 dBm
Physical Dimension	Length: 33.0mm (1.30inches) Width: 39.0mm (1.536inches) Height: 7.5mm (0.3inches) Weight: 15.0g (0.55 oz)	Average Current Consumption	Idle/Sleep Mode: < 600µA Scan Mode: 1.3 A @ 30 dBm
Environment	Storage Temperature: -20°C to 80°C Operating Temperature: -20°C to 50°C	Supply Voltage	4.0 V, (3.7V~4.2V)
Regulatory Support	FCC 15.247, KCC(Korea) Planned*: RoHS, ETSI EN 302-208 (CE), China, Japan	Antenna Connection	50 Ω port with CMP (Coaxial Micro Plugs) VSWR 1.5:1 or lower for best performance
		Read Performance	Read range up to 6 meters for a single tag. Anti-collision performance up to 100 tags/second

IDRO RFID

UHF RFID USB Writer: IDRO900RW



Product Overview

IDRO UHF USB Reader/Writer IDRO900RW offers one-of-a-kind combination of medium performance and low cost. The IDRO900RW delivers the following benefits:

- **Medium read range** through well designed circuits that reaches up to 1 meters (depends on tags).
- **Superior anti-collision performance** that allows up to 20 tags per second.
- **Compact design** with simple and elegant features go really well with natural environments
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2) and ISO 18000-6B protocols.
- **Performance optimization** achieved through power control (13 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO USB Writer/Reader IDRO900RW has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900RW is an ideal solution for:

Application Areas

- Tag Writer/Encoder
- Item Management
- Asset Tracking
- Animal Tracking
- Access Control

Reader Type

- One Channel Fixed Type Readers
- Tag Encoders

Specification

Frequency	840MHz ~ 960MHz	Air Interface Protocols	EPC C1G2 / ISO 18000-6C, ISO 18000-6B
Host Communication	RS232C: 115.2 Kbps	RF Output Power	Adjustable 13-30 dBm with 1 dB steps Power Accuracy: ±0.5 dBm
Physical Dimension	Length: 84.0mm (3.31inches) Width: 97.0mm (3.82inches) Height: 37.0mm (1.58inches) Weight: <350g (13 oz)	Average Current Consumption	Scan Mode: 0.6 A @ 20 dBm
Environment	Storage Temperature: -20°C to 80°C Operating Temperature: -20°C to 50°C	Supply Voltage	5.0 VDC
Regulatory Support	Planned*: KCC, FCC 15.247, RoHS, ETSI EN 302-208 (CE), China, Japan	Hardware Connection	USB
		Read Performance	Read range up to 10 meters for a single tag. Anti-collision performance up to 20 tags/second

Software

API for C/C++, C#.NET
IDRO Protocol
Reader@express Demo SW

UHF Stand-alone RFID Reader : IDRO900S



Product Overview

IDRO Stand-alone type RFID Reader IDRO900S offers one of a kind combination of high performance, and compact size. The IDRO900S delivers the following benefits:

- **Superior read range** through well designed circuits that reaches up to 5 meters.
- **High anti-collision performance** that allows up to 100 tags per second.
- **Preventing reader collision** at the dense reader environments by using photo sensor. Sensor based operation helps reader to read tags well without reading failure.
- **Simple system integration** by using IDRO API, a library that simplifies protocol functions from the host system.
- **Firmware upgradability** through serial port that allows for future tag introductions and protocol enhancements.
- **Broad compatibility** support for broad vendor's tags of ISO 18000-6C(EPC Gen. 2) protocol.
- **Performance optimization** achieved through power control (0 ~ 30 dBm) at multiple or dense reader environments.

Applications

The IDRO900S has been created specifically for several applications and use cases that share common requirements for tag support, protocol and performance. The IDRO900S is an ideal solution for:

Application Areas

- Process Management
- Production Management
- Pharmaceutical Industry
- Library Management
- RFID Dense Reader Environments

Reader Type

- Stand-alone Readers
- USB Readers
- Tag Encoders

Software

API for C/C++, C#.NET

IDRO Protocol

Reader@express Demo SW

Specification

Frequency
840MHz ~ 960MHz
Host Communication
UART(TTL): 115.2 Kbps
8 data bits / No parity / 1 stop bit
Physical Dimension
Length: 137.4mm (5.41inches)
Width: 97.2mm (3.83inches)
Height: 31.5mm (1.24inches)
Environment
Storage Temperature: -20°C to 70°C
Operating Temperature: -10°C to 50°C
Regulatory Support
Planned*: FCC 15.247, RoHS, ETSI EN 302-208 (CE), China, Japan
Air Interface Protocols
EPC C1G2 / ISO 18000-6C

RF Output Power
Adjustable 0-30 dBm with 1 dB steps
Power Accuracy: ±0.5 dBm
Average Current Consumption
Scan Mode: 1.5 A @ 30 dBm
Supply Voltage
5.0 V
Reader Operations
Two Operation Mode: Sensor based mode and normal operation mode
Sensor Operations
Detection range: 15cm (Adjustable)
Read Performance
Read range up to 5 meters for a single tag.
Anti-collision performance up to 100