IP-X™ UHF Single Antenna Reader

Standard with Ethernet/RS422/RS232/Wiegand Connectivity

Integrated Antenna / Reader

Description

The UHF Single Antenna Reader can be configured in a wide range of power and frequency settings, and complies with ETSI (Europe) and FCC (USA) standards. The power level is factory set from 0.1 W to 2 W ERP, and the frequency from 860 to 960 MHz, fixed or hopping.
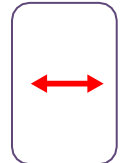
The data output is Ethernet/RS422/RS232 and Wiegand(26/34bit) and is set internally by connecting the cable ends to the appropriate connection points for the desired output format. All valid IDs received are date- and time-stamped in the reader, and immediately output via the cable.

Power supply is external 12 VDC.

This reader can read both Read-only and Read/Write tags, can read all the data pages transmitted by tags operating in "TTO**" mode, and perform all read, write, and control functions associated with the operation of Read/Write tags.

The antenna used is linearly polarized, and for best results the tags should be aligned parallel to the short axis of the reader.

The Readers are shipped without a connecting cable, which must be provided by the user, and attached to the relevant connector points depending on the required I/O format.

TOTAL* RFID Compliant

Linear Polarized

Key Features

- Complies worldwide i.e USA, European, China, Australian and RSA
- UHF band (860 – 960 MHz) up to 2 W ERP
- Multiple reader deployment in confined space can operate asynchronous
- Integrated antenna/radio/communication design
- Read/Write, compatible with EM4122, 4222, 4444 and 4445 chip sets
- Long range (7 m+ depending on TX power and tag type)
- Robust anti-collision protocol (up to 240 tags read simultaneously)
- High tag read rate – up to 200 tags/sec in multi-read application
- Standard outputs: Ethernet /RS422/ RS232 and Wiegand
- Real time clock (RTC)
- IP-65 enclosure and connectors
- Software, hardware and diagnostics control
- Built-in test and diagnostics
- Status LED's and Buzzer
- Buzzer and LEDs under software control
- Tag ID codes are CRC-validated.
- User Data –R/W Tags – can be CCITT CRC validated.
- R/W up to 14 pages (64 bits each) of User Data.
- Read up to 14 page of TTO** data.
- Several operating modes and selectable message formats
- Code repeats are suppressed if operated in "Event" mode (only one code per tag is sent to the host)
- Fast deployment
- Reverse polarity and DC overvoltage protected up to 70 VDC.
- ISO 18000-6D "TOTAL" compliant.

Applications

- Proximity range applications, e.g. Access Control
- Electronic Vehicle tolling
- People and Asset registration and tracking
- Supply chain management
- Industrial control

Contact Information

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Item	Specifications		
Power supply	Input: 12Vdc @ 2A max; The max current depends on the RF Output Power setting. Ripple less than 100mV at the reader (or as low as possible). Devices are reverse voltage protected. Provision must be made for additional surge protection and regulated power (if necessary).Power supply not included.		
Transmitter power	Max 2 W ERP		
Operating frequency	USA/Other unlicensed: Frequency hopping in the 902-928 MHz ISM band European: Frequency Hopping 865-868 MHz European unlicensed: Fixed frequency in the 869.4 MHz band South Africa: Fixed frequency at 919.2-921 MHz		
Antenna type	Internal 8 dBi linearly polarised		

Read range (Wintag)	Power Setting	**0.5 W ERP**	**2W ERP**
	Read Distance	1-3m	3-5m

Protocol	IP-X™ and ISO 18000-6D "TOTAL". Compatible with EM4122, EM4123, EM4232, EM4432, EM4444 and EM4445	

Forward Link (Reader to Tag)		IP-X	18000-6D
	Modulations	ASK	N/A
	Encoding	PPE	N/A
	Error Detection	CRC5	N/A
	Data Rate (bps)	16k	N/A

Reverse Link (Tag to Reader)	Modulation	ASK	ASK
	Encoding	PPE	PPE/Miller-2
	Error detection	CRC16/CCITT	CRC16/CCITT
	Data Rate (bps)	32/64/128/256k	256k
	Read/Write Word Length (bits)	64	64

Communication	Ethernet/ RS422/RS232 and Wiegand.		
Data storage	Standard: Internal circular FIFO spool buffer for 64 tags. This data is transmitted as a free running stream and needs to be captured externally by a PC, or other device. Reader can be configured to send only the first instance of each tag ID it receives, with a settable time-out.		
Electrical interface	12 way multi-core twisted pair cable for power & data communications Typical: 0.8mm (20 AWG) multi-core screen cable with an outdoor specification		
Environmental	Operating temperature range: -20 to +55 ºC, Storage temperature range: -30 to +85 ºC. For extreme temp additional heating/cooling maybe required. Please consult IPICO account manager. Humidity: 5 to 95% non-condensing, IP rating: IP 65, UV protection: Yes		
Physical	Dimension: 320 (W) x 200 (L) x 100 (H) mm Weight: Approx. 4 kg Packed for shipping.		
Mounting	Pole-mounting brackets for poles < 50 mm diameter		
Approvals	EMC: a. Class B of EN55022 : 2006 and FCC Part15, Subpart B. b. EN 302 208-2 V1.2.1 (2008-01) Safety: IEC 60950-1:2001		

TOTAL* : Tag Talks Only After Listen complies with ISO 18000-6D
TTO** : Talk Talks Only - Unique IP-X way to read User Data from the tag, without the reader modulating READ commands to the tag.
EVI*** : Electronic Vehicle Identification
Write Range is typically 1/3 of the Read range.

Ordering Information

Description	Product Code	Product Name
UHF Single Antenna Reader	IP3222	IP-X URDR-SANT-rrf-rfp-12V-R/E/W-RW rrf* = frequency – to be specified by client rfp**=power – to be specified by client