



## Product Overview

# IP-X™ DF Registration Reader

With USB/RS422 Connectivity

Low cost, low power and ease of use

## Description

IPICO's low cost Dual Frequency (DF), Read/Write and TTO\*\* enabled, registration readers use the same IP-X protocol as all the other IPICO readers. The DF readers operate at 125 kHz for power-up and 6.8MHz for the return signal. The USB interface allows the reader to be powered from the host. USB/RS422 interfaces allows for bi-directional communication between the reader and host. The reader is typically used as a desktop registration reader or as a validation reader depending on how it is integrated into the host application. The RS422 interface allows for integration into industrial control systems.

*TTO\*\*: Unique IP-X way to read User Data from the tag, without the reader modulating READ commands to the tag*



## Key Features

- Complies with USA, European, Australian and RSA spectrum regulations.
- Robust anti-collision protocol
- High tag bit rate : 128 kbit/sec.
- 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 3 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)
- Range (CR80 Tag): up to 40 mm
- Ergonomic, light-weight desktop design
- Powered via the USB port
- Bi-directional communications using USB/RS422 interface
- TX ON/OFF under software control
- Buzzer and LEDs under software control
- Audible beep indicates valid code received
- Compatible with EM 4322 (X3 R/O), EM4522 (X5 R/W, TTO), EM 4321(X8) tags
- High impact ABS housing
- Custom colour schemes available (MOQ will apply)
- Wall mount bracket included for semi permanent installations
- Carry pouch included
- Reliable and Low cost

## Applications

- Proximity range applications, e.g. Desktop tag registration
- People and Asset registration and tracking
- Supply chain management
- Industrial control

## Contact Information

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## Item

## Specifications

|                            |  |   |
|----------------------------|--|---|
| <b>Power Source</b>        | USB interface: 5VDC @ 500mA max from Host PC<br>RS422 interface: 5VDC +/- 5% @ 500mA max from Ext Power supply   |   |
| <b>Operating Frequency</b> | Transmit 125 kHz , Receive 6.8 MHz   |   |
| <b>Transmitter Power</b>   | < 62 dBuAm @ 10m   |   |
| <b>Read Range</b>          | Up to 40 mm using a IP3278 CR80 card. Ranges may differ due to tag size, environment and EMI   |   |
| <b>Communications</b>      | IP-X ASCII/Binary serial protocol on USB or RS422 interface (typically 9600 baud rate).  |   |
| <b>Protocol</b>            | IP-X™ Compatible with EM 4322 (X3 R/O), EM4522 (X5 R/W, TTO), EM 4321(X8) tags   |   |
| <b>Data storage</b>        | 8 M byte for internal program/config memory  |   |
| <b>Indicators</b>          | Orange LED flashing: Power ON, Reader Ready<br>Green LED flashing randomly: Reading valid tags<br>BUZZER: Reading valid tags   |   |
| <b>Reader Controls</b>     | RF is ON by default but can be switched OFF with a SW command –RS422   |   |
| <b>Reader Modes</b>        | Normal mode: Reader transmits all received valid codes to host<br>Event mode: Reader transmits one code only for each different ID received (repeats are suppressed)<br>Tag ID: 64 bits including 16-bit CRC<br>User Data pages: R/W 1-14 pg's x 64 bits, with or without CCITT CRC<br>TTO User data: up to 3 pg's with or without CCITT CRC<br>Reader Modes are SW configurable |   |
| <b>Physical</b>            | Dimensions: 128x116x25mm (LxWxH)<br>Weight: Reader approx 130gr, Packaged with all Accessories approx 310gr  |   |
| <b>Interface</b>           | RS422:<br>600mm fly-lead not terminated<br><br>Red = +5VDC<br>Black = GND<br>Screen = GND<br>White = TX+ (RX+ on Host)<br>Yellow = TX- (RX- on Host)<br>Orange = RX+ (TX+ on Host)<br>Brown = RX- (TX- on Host)  | USB:<br>600mm USB cable (terminated with USB type A connector) + 1.5m Extension cable |
| <b>Environmental</b>       | IP rating: IP65; Humidity – 5% to 95% non-condensing, UV protected.  |   |
| <b>Temperature Limits</b>  | Operation: -20 to 40 °C,<br>Storage: -40 to +85 °C   |   |
| <b>Accessories</b>         | 1x Wall mount bracket for semi-permanent installations<br>4x M3x20 mm Philips screws<br>1x CD with manuals and USB driver files<br>1x Quick start manual<br>1x 1.5m USB extension cable (IP3491-1 only)  |   |

## Ordering Information

| Description                            | Product Code | Product Name              |
|--|--------------|---------------------------|
| IP-X Registration Reader (DF) USB v2   | IP3491-1     | IP-X DFRDR-RR-USB-RWTT0   |
| IP-X Registration Reader (DF) RS422 v2 | IP3491-2     | IP-X DFRDR-RR-RS422-RWTT0 |

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