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Description

Applications

This tag can be used in applications where long range, multi-read, high-speed identification is required.

- § Transport Management - specifically designed for windscreen attachment
- § Can be used on non-metallic objects e.g. books

Chipset

X2 (EM4122)

Tag Construction

- § Tag consists of a glob-topped chip on a flexible transparent printed antenna substrate, 170mm x 10mm x 0.1mm
- § Adhesive strip for windscreen mounting; minimal skill required to affix
- § Antenna tuned for operation on glass
- § Cut-line to prevent removal of intact tag



ENP tag on windscreen

Key Features

- § Available for most spectrum allocations, including FCC, ETSI, ICASA, ACA, WPC, etc
- § Tuned for windscreen glass
- § Anti-tamper feature (breaks if removed)
- § Long read range
- § Robust anti-collision protocol – more than 30 tags can be read simultaneously
- § Compatible with all IP-X Read/Write and Read-Only tags in mixed populations
- § Compatible with all IPICO UHF readers
- § Factory programmed 64 bit ID number
- § High tag read rate – about 200 tags/sec in a multi-read application
- § Fast moving tags can be read – up to 300 km/h
- § Passive – no battery
- § High tag data transmission rate – 256 kbit/sec typical
- § Frequency independent chip – (used at frequencies from 315 MHz to 2.45 GHz)
- § -40 to +85° C

Multi-Read Performance (Tag numbers & Tag Speed)

Speed version	Data rate	Maximum interval	Tag Speed	Number of tags readable
V109	256 kbit/s	4 kbits	360 km/h (100 m/s)	1
			36 km/hr (10 m/s)	20

Version V109 is available as a standard device, but other versions can be produced as custom products. Enquiries should be directed to IPICO SA.

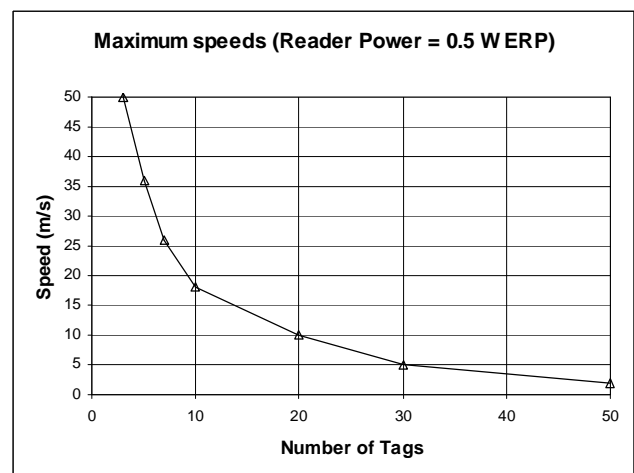
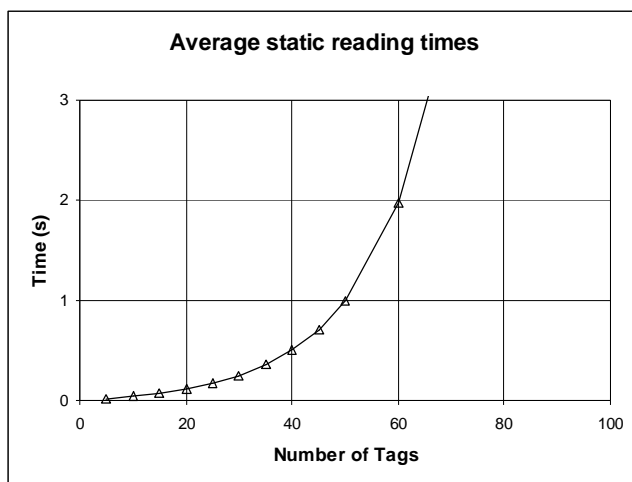
The maximum number of tags readable at a certain tag speed is determined by protocol saturation. See graph "Maximum speeds (Reader Power = 0.5 WERP)" on next page.

Specifications

Device name	IP-X UHF Smartlabel
Part Description	IP-X X2-V109-rff-S170x10x0.3-ENP
Power requirements	No batteries (passive back-scatter)
Read Range	2 - 7 m (Depends on reader power output and configuration)
Tag Data rate	256 kbit/s typical
Max Tag speed	Depends on number of tags present simultaneously. See Multi read Performance Table on page 1 and graph below
ID Length	64 bits (16 bit CRC)
Protocol Saturation	<ul style="list-style-type: none"> • Protocol optimised for high speed applications (i.e. few fast moving tags in the reader beam) • Interval 4kbit • Data rate 256kbit/s
Multi-read rate	Up to 240 tags/s (Average ID reading rate is nearly 200 tags/s)
Antenna	Printed antenna on flexible substrate
Programmability	Factory programmed Read-only ID
Life Expectancy	Virtually indefinite
Environmental	Operating temperature range: -30 to +70C Storage temperature range: -40 to +85C Humidity: 5 to 95% non-condensing
Physical	Standard 170mm x 10mm x 0.1mm, with adhesive strip. Mass of roll (2,500 tags) = 1.50 kg

Typical read range

Reader power	0.5W ERP	1 W EIRP	4 W EIRP	8 W EIRP
Region/Regulator	Europe/ETSI	Australia/ACA	South Africa/ICASA USA/FCC	
Read range (m)	1 - 2	2 - 3	6 - 8	10



Ordering Information

Product name	Ordering code	Description
X2 UHF tag,170x10 ENP RO	IP3407	IP-X X2-869-V109-S170x10x0.85-ENP
X2 UHF tag,170x10 ENP RO	IP3131	IP-X X2-915-V109-S170x10x0.85-ENP