2.45 GHz

Low cost
Multi tag ID

LPR_3011

Preliminary

Compact Reader - 2.45 GHz
Range : 1m - Antenna Pattern : 90°x 90°

HIGH SPEED IDENTIFICATION

DEPENDABLE IDENTIFICATION

MULTIPLE READERS

EASY AND QUICK INSTALLATION

LOW ENVIRONMENTAL
INTERFERENCE

INTERFACES :

TTL version: **WIEGAND 26bits,**
ISO2 (Clock & Data)

RS version : **WIEGAND 26bits,**
ISO2 (Clock & Data)
RS232, RS422/485

I - INTRODUCTION

The HyperX™ LPR 3011 compact readers enable high speed identification of all tags in the HyperX™ product range. These readers are available in 2 versions with a fully integrated small design.

The compact design contains all the functional parts of the reading unit: antenna, RF source, demodulator, processor, and interface modules.The electronics is totaly integrated into a robust ABS casing.

The readers can be mounted against walls or metallic surfaces and should be mounted on a support that can be adjusted to direct the identification field toward the direction of the tags.

The housing is suitable for outdoor installation. Each reader has a bicolor LED to inform tag holders of identification.

II - OPERATING PRINCIPLE

Electromagnetic radiation characteristics in the 2.45 GHz frequency band allow high data transmission rates and directional antenna beams. Tag detection is therefore very rapid and relatively insensitive to environmental interference.

The HyperX™ tag is electro-magnetically inactive when outside of the reader's range. It's state-of-the-art feature (registered patent) is its capacity to reflect incident microwaves - a tag receiving a 2.45 GHz carrier will echo this signal, modulated by its individual identification code, back to the reader. The reader receives and processes this signal, sending the data to a host system via a standard interface.

III - COMMUNICATIONS

These readers can substitute for most of the traditional contact and proximity card readers. Connection is made to the host system via the available standard data links.

Two models are available
- TTL links only (Open Collector) :
        ISO2, Wiegand (26 bits)
- TTL + Computer Serial Links :
        Add RS232, RS422, RS485

For computer serial links, a complete dialogue can be implemented utilizing the ModBus™ protocol (by interruption from readers or by polling from the host system).
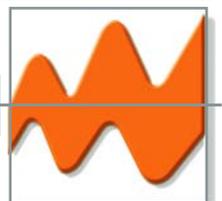
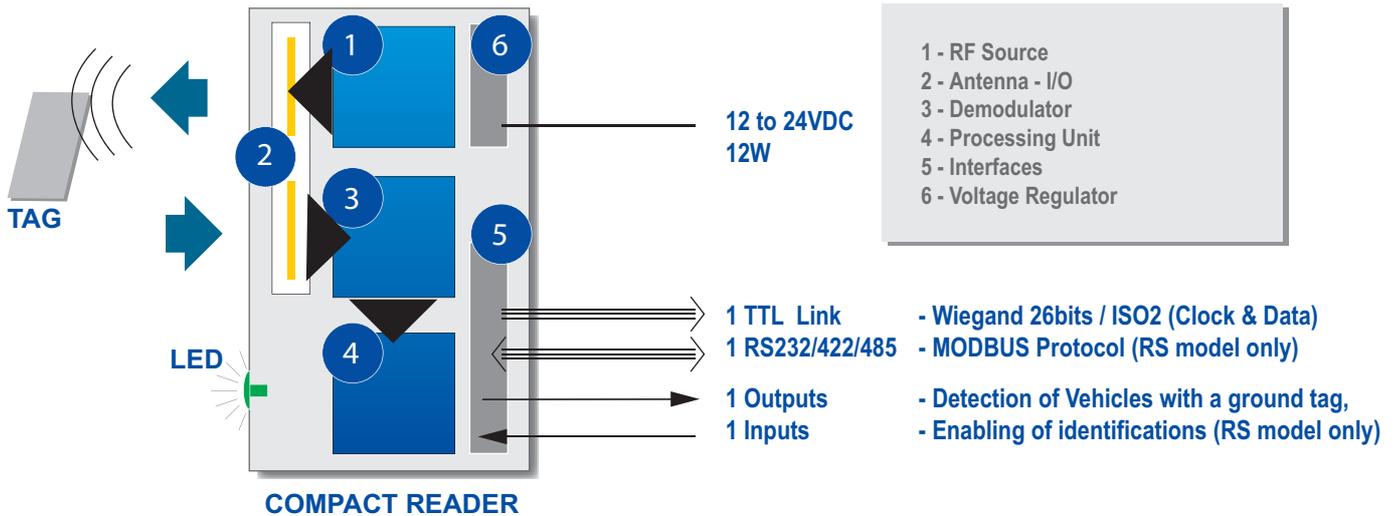## IV - INTERFACES

These readers dispose of :
 - 1 optocoupled OUTPUT that commute when the host system send ModBus™ commands or automatically for each identification according to set-up .
 - 1 optocoupled INPUT (RS model only) that enable validation or interpretation of identifications in real time.

VI -POWER SUPPLY

These readers have an integrated regulator that is powered from 12 to 24VDC.
A switch-off device puts the reader in standby mode when the voltage is insufficient.
Connection to the mains is made with an external 12W power supply (not included).

Identification Systems

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ARCHITECTURE

TAG

LED

COMPACT READER

12 to 24VDC
12W

1 - RF Source
2 - Antenna - I/O
3 - Demodulator
4 - Processing Unit
5 - Interfaces
6 - Voltage Regulator

1 TTL Link	- Wiegand 26bits / ISO2 (Clock & Data)
1 RS232/422/485	- MODBUS Protocol (RS model only)
1 Outputs	- Detection of Vehicles with a ground tag,
1 Inputs	- Enabling of identifications (RS model only)

TECHNOLOGY

APPLICATIONS

Access control and people/asset tracking
- Automate accesses (as with a detector)
- Simultaneous identification of all tag holders
- Many readers can be installed in the same area

Anti-theft
- Identify the stolen objects - e.g. Laptops,
- Differentiate the real owners and the thieves.
  eg : association of laptops and the owner ID

Secure the special patients in the hospitals
- Prevent the special patients from crossing the hospital exits.
  e.g.- Block doors to these patients only.

Vehicle access control & narrow lane
- High speed identification of tag behind windshield
- Conditional identifications when vehicles enter reading field
- Tag installation in the central location of windshields.
NB - necessity with the athermic windshields.

CHARACTERISTICS

Dimensions	108 x 174 x 29 mm
Weight	1.5 Kg
Color	Light Grey
Operating temperatures	- 20C° to +50C°
Storage temperatures	- 40C° to + 80C°
Protection level	I.P. 65
Relative humidity	95% without condensation
Power supply	12 to 24 VDC - 12 W
Frequency band	2.45 GHz
Data Rate (Between Tag&Reader)	30000 bauds
Number of reading channels	31
Fault reading protocol	HDLC
Modulation type	BPSK
Rate of (Fault reading/Failure reading*)	1E-7/1E-4*
Radiated power	10mW
Reading distances	1m
Approvals	EN 60950, EN 300 489 1&3, ETS 300 440

(*) Normal conditions of use
(**) Specifications do not form part of any contract and may be changed without notice

Models:
TTL interfaces only :   LPR 3011-TTL
TTL + RS interfaces :   LPR 3011-RS

C A U T I O N

- Metallic surfaces or persons coming between tags and the reading antennas create shadow zones in the identification area.
- The proximity of a tag and a metallic surface or a person (<5mm) reduces the reading distance.

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