Contactless and Integrated Identification Devices for HYPER X™ Tags
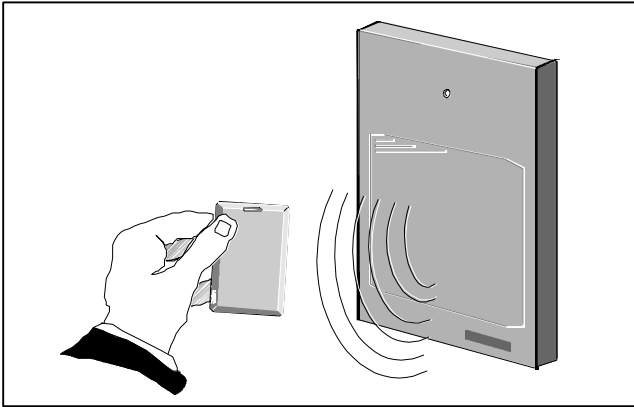
- **Integrated readers for the HYPER X™ tag**
- **Ease of use - Extended range**
- **Secure Data Transmission**
- **Parallel installation of several readers**
- **Immune to environmental disturbance**
- **Ease of installation**

Specifications do not form part of any contract and may be changed without notice

I - PRESENTATION

This reader offers an economic alternative to identify the HYPER X™ tags from 10 to 50 centimeters (0.3 to 1.5 feet) with the LPR-3010. The reading distances are user-configurable.

The compact reader box houses all operational parts of the reader : Antennas, Frequency Source, Demodulator, Processor and Communications Interface.

These readers have a relatively small footprint and a sleek design to be directly installed on walls, even on metallic surfaces. It is possible to put the reader inside a building if the materials are transparent to the 2.45 GHz band.

Outside installations need a non-metallic waterproof cover. During identification, a dual color LED situated on the reader front panel informs the cardholder of his access rights. The led also provides operational status of the reader upon power up of the unit or after processor reset.

II - OPERATING PRINCIPLE

The electromagnetic field characteristics in the 2.45 GHz frequency band allow for high data transmission rates and directional antenna beams. Tag detection is quick and immune to environmental interference.

Outside of the reader's range, the tag is electromagnetically inactive. It's unique 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 serial interface.

III - COMMUNICATION

These products can replace most of the usual card-contact readers. They only need to be connected to the host system via the available standard data links. Two standard data link types come with these readers :
• TTL links (Open Collector) : ISO2, Wiegand (26 bits)
• Computer Serial Links : RS232, RS422, RS485

In the latter case, complete dialogue can be implemented with the help of the JBUS™ /MODBUS™ protocols (by interrupt from the readers, or by polling from the system).
Moreover, the readers come with a relay which is operated either by the host system via JBUS™ link and protocol or automatically after each tag identification.

IV - POWER SUPPLY

These readers must be supplied with 12VDC.
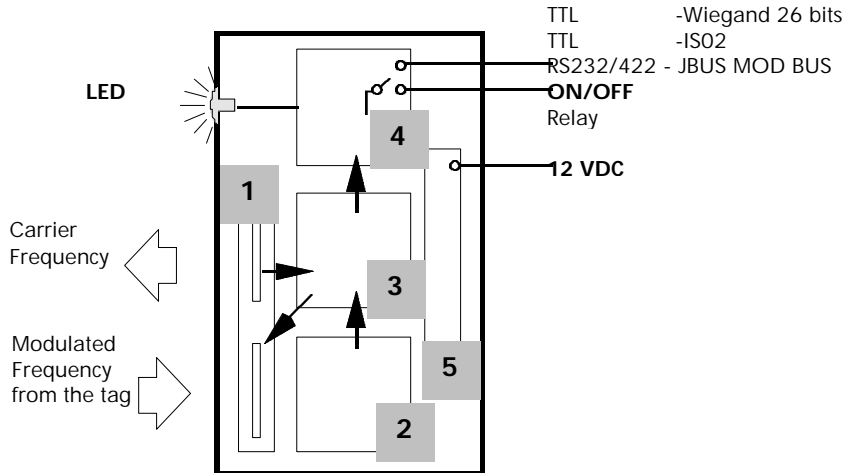Note: Power Supply is available separately.

HYPER X ™ is a trademark from BALOGH HYPER.ID

HYPER X™

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Architecture

COMPACT PROXIMITY READER - REF: LPR 3010

LED

TTL   -Wiegand 26 bits
TTL   -IS02
RS232/422 - JBUS MOD BUS
ON/OFF
Relay

12 VDC

4

1

Carrier
Frequency

3

Modulated
Frequency
from the tag

5

2

1. **Reading Antennas**
2. **Frequency Source**
3. **Demodulator**
4. **Processor and Communication Interface**
5. **12 VDC Voltage Regulator**

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Characteristics

- **Proximity Reader with a range over 0.5 meter** (1.5 feet)

- **3 Reading distances from 50Cm/1m using dip switches**

- **Directivity due to 2.45 GHz frequency band** :
  - Identification relatively immune to environment
  - Reading area can be focused to tag movement
  - Installation of reading antenna against metal walls without range reduction

- **Simultaneous multitag identification, 5 tags in one second**
  Note: Tags in Normal Mode

- **Up to 29 readers in same zone**
  - Series of gates, access control side by side

CAUTION
  - Metallic surfaces or persons coming between tags and the reading antennas could create shadow zones in the identification area.

  - The proximity of a tag and a metallic surface or a person (<5 mm) reduces the reading distance.

READING

Note: Identification without
Positioning constraint:
  - Back / Front
  - Horizontal / Vertical

50 cm
(1.5 feet)
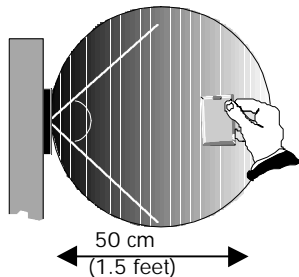
Specifications

Reader Dimensions .... 263 x 178 x 30 mm

Reader Weight ....….................1.5 kg

Operating temperature range ....- 20C to +70C
Storage temperature range …............- 25C to +80C
Relative humidity ....90% without
                                               condensation

Protection level ....IP 40

Input Voltage ....10 to 15 VDC
Current Consumption 500mA
Number of reading channels......... 29
Frequency band ....2.45 GHz

Data Rate (Between Tag & Reader) .....30 Kbps
Fault reading rate .... HDLC (1E-7)
Reading success rate 99.99%*
* In normal conditions

LPR 3010 Radiated power ....1mW - Typical
                                                E.I.R.P*

LPR 3010 Range .... 50 cm (1.5feet)

Range selected by ....2 dip switches
                                               (3 distances)

Directivity ....90 degrees

Relay power cut .... 24 VDC @ 1A

Reference for the certification ...... LPR 3010

*EIRP: Equivalent Isotropic Radiated Power

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