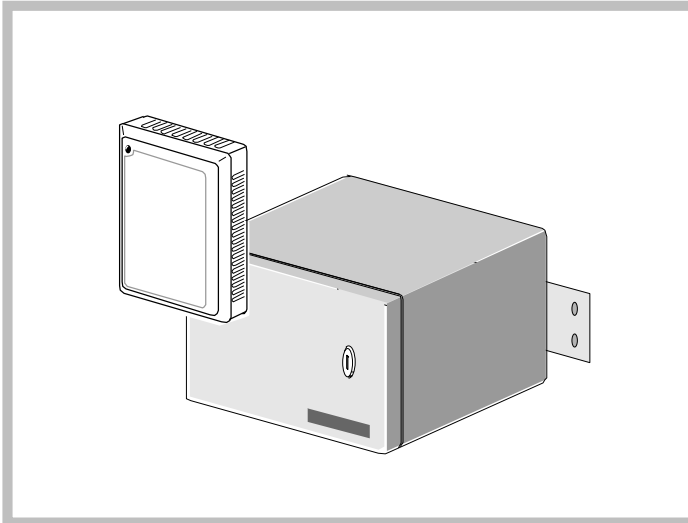


**Modular READER**  
**2 Meters (6 feet) Range**  
**Up to 20 Km/h (15miles/h)**

LML-3013

**Identification with a total freedom of movement**



- Hands Free Identification,
- Ease of use : 2 meters (6 feet) range
- Multitag identification,
- Tag identification behind the windshield
- Identification checking by protocol
- Parallel installation of several readers
- Robust, Weatherproof
- Small Antenna,

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

**I - PRESENTATION**

The antenna shown above is the visible element of this reader. It is small and can be installed against a metallic wall, inside or outside of a building. The purpose of this element is to read the tags which enter the reading area.

During identification, a two-colour LED situated on the antenna front panel informs the cardholder of his access rights.

This antenna is connected to a chassis by means of coaxial cables (supplied). The chassis houses the different electronic modules which perform the signal processing and transmit the codes to the user interface.

The chassis comes in a model short closed box - 42E (/C)

The modular frame of the chassis coming with standard dimension Europe boards offers advantages for maintenance and product evolution.

**II - OPERATING PRINCIPLE**

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

Outside of the reader's range, the tag is electromagnetically inactive. Its 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 standardized serial interface.

**III - COMMUNICATION**

These products can take the place of most of the usual card-contact readers. One only has to connect them 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, a complete dialogue can be implemented with the help of the JBUS™ /MODBUS™ protocols (by interruption from readers, or by polling from the system).

Moreover, the readers come with a relay which are operated either by the host system via JBUS™ link and protocol or automatically after each tag identification.

**IV - POWER SUPPLY MODULES**

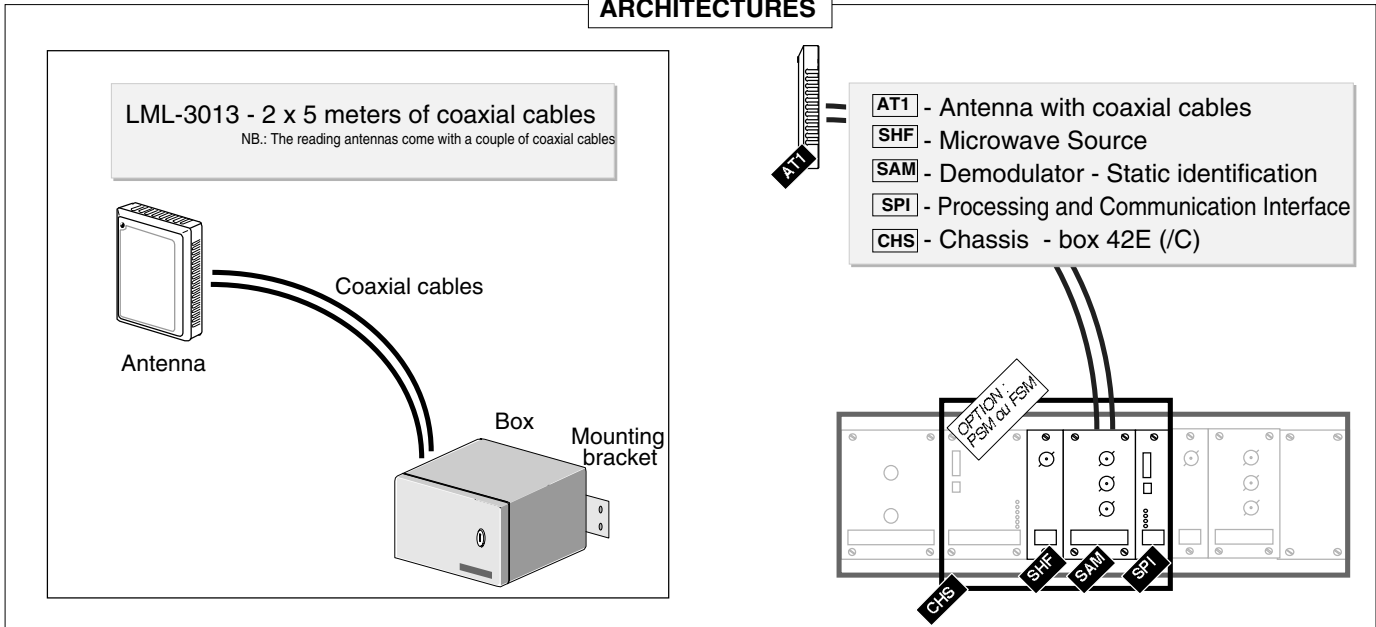
The readers come with a power supply module. This is a filter board which allow use of the available secondary source of 12VDC in the installation.

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HYPER X



## ARCHITECTURES



## CHARACTERISTICS

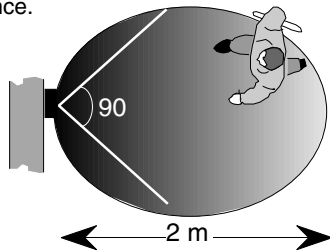
- **Hands Free Reader with a range over 2 meters;**
  - Reading distance suitable for pedestrians,
- **Reading distance adjustment from few centimeters to several meters using a potentiometer;**
- **Special features of Microwaves :**
  - Identification relatively insensitive to environment,
  - Orientable reading area toward the crossing line,
  - Tag identification behind a vehicle windshield ,
  - Installation of reading antenna against metal walls without range reduction,
- **Simultaneous multitag identification 5 tags in one second**  
(Tags in Normal Mode)
  - Traffic statistics
  - Obstacle-free access control
  - Multi-tags applications - e.g.: Driver and vehicle to manage a fleet
- **Coexistence of 31 readers in same zone**
  - Series of gates, access control side to side

### CAUTION

- 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 (<5 mm) reduces the reading distance.

### READER ANTENNA BEAM

- NB.: Identification without positioning constraint
- Back / Front,
  - Horizontal / Vertical



## SPECIFICATIONS

- **Chassis dim. - 42E closed box :** 240 x 170 x 270 mm
- **AT1 Antenna dim. (without swivel)...**: 108 x 174 x 29 mm
- **Weight of the closed box (C) :** 4.2 Kg
- **Weight of AT3 Antenna .....**: 0.8 Kg
- **Operating temperature range :** -20C to +70 C
- **Storage temperature range .....**: -25C to + 80C
- **Relative humidity .....**: 90% without condensation
- **Protection level - 42E (C) .....**: IP 55
- **Protection level - AT1 Antenna :** IP 55
- **Consumption**  
with FSM-2550 (12VDC 0/+3VDC)...: 900 mA
- **Frequency band .....**: 2.45 GHz
- **Number of reading channels ...:** 31
- **Data Rate (between Tag&Reader) .....**: 30000 bauds
- **Error detection .....**: HDLC
- **Fault reading rate .....**: 1E-7
- **Detected reading rate .....**: 1E-4
- \*In the normal conditions of use
- **RF power emission .....**: <20mW E.I.R.P. \*
- **Suitable range up to .....**: 2 meters (6 feet)
- **Relay - Maximum power .....**: 24VDC & 1A
- **Reference for FCC Certification:** LML-3013

(\*) EIRP: Equivalent Isotropic Radiated Power

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BALOGH  
 7699 Kensington Court  
 Brighton, Michigan 48116-8561  
 Phone: 248-486-RFID Fax: 248-486-0404  
 E-mail: balogh@balogh-group.com  
 Web: http://www.balogh-group.com

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