

# AXIOME OEM TLT-1V2 Tag Reader



## Characteristics

- Multi-tag reading and writing (Philips, Telefunken, Sokymat)
- Standard frequency of 125 kHz
- Very small dimensions
- An integrated antenna
- Very low power consumption
- TTL serial interface

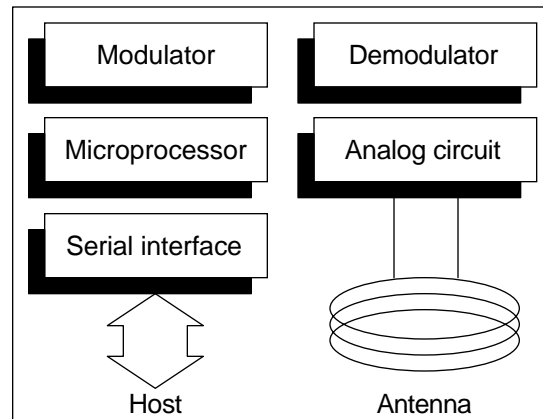
## Description

Thanks to an extremely small volume and power consumption, the tag reader TLT-1 is ideally suited for OEM integration into hand-held portable readers.

The TLT-1 communicates to the terminal via a serial interface. The command set allows reading and writing a large number of different tags in the 125 kHz frequency range.

## Operating principle

The diagram below describes the main elements that compose the TLT-1.



When a read or write command is received, the microprocessor generates a chain of basic commands that are sent to the tag via the modulator and antenna. The tag draws energy from the electromagnetic field created by the antenna and returns an information which is then demodulated and formatted before being sent on the serial communication line.

## List of compatible tags

The TLT-1 reader is capable of reading and writing the following tag types.

Type	Memory	Manufacturer
HITAG 1	2 kbit R/W	Philips
Temic 5550	264 bit R/W	Telefunken
Temic 5551	264 bit R/W	Telefunken
Temic 5552	992 bit R/W	Telefunken
Nova	160 bit R/W	Sokymat

## Command set

The TLT-1 tag reader responds to two ASCII characters followed by one or more arguments. The arguments are separated by a comma and represent hexadecimal values. A command line is always terminated by the character "carriage return" ↵.

Syntax :

Command<Argument #1>,<Argument #2>, ...↵

### Command set

- TT Tag type
- V ? Firmware version
- TC Try count
- TO Timeout
- RD Read
- WR Write
- PO Polling mode
- PI Infinite polling mode
- PW Set password
- LI Login
- WP Write password

After having executed a command, the TLT-1 tag reader returns a reply that begins with an error code which is followed, possibly, by data. The reply is always terminated by the character "carriage return" ↵.

Syntax :

ErrorCode,<Data #1>,<Data #2>, ... ↵

### ErrorCode list

- 0 OK
- 2 Unknown command
- 3 Argument error
- 4 Execution error
- 5 Timeout error
- 6 Transaction error
- 7 Transaction aborted
- 8 Login error

Example : 0,3142↵ OK and data

## Electrical

### Character specifications

- Supply voltage 5VDC +/- 5%
- Current consumption 18 mA
- Operating frequency 125 - 135 kHz
- Serial interface
  - TTL levels (5V)
  - 9600 bps E,7,1
  - Rx Receive data
  - Tx Transmit data
  - Gnd Ground
  - Vcc Power supply

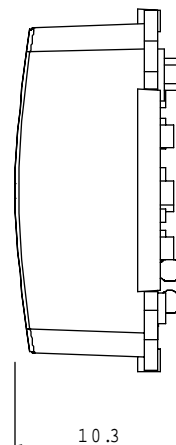
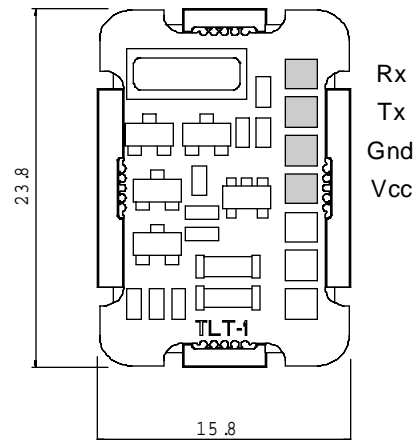
- Power On delay 80 ms
- Reading distance (Tag Ø 45mm) 28 mm

## Environment

- Operating 0 to +70 °C (32 to 158 °F)
- Storage -20 to +70 °C (-4 to 158 °F)

## Mechanical dimensions

- Case dimensions 23.8 x 15.8 x 10.3 mm
- Contacting Pads 2.0 x 2.0 mm
- Pads pitch 2.5 mm



## Approval

CE (submitted)  
ETC 300 (submitted)  
MicroCID

## Contact

Axiome Alpha SA  
Rue de la Gare 5a  
CH-2035 Corcelles  
Switzerland

tel. +41 (0)32 730 46 20  
fax +41 (0)32 731 64 93  
e-mail [axiome@access.ch](mailto:axiome@access.ch)  
Internet [www.axiome.ch](http://www.axiome.ch)