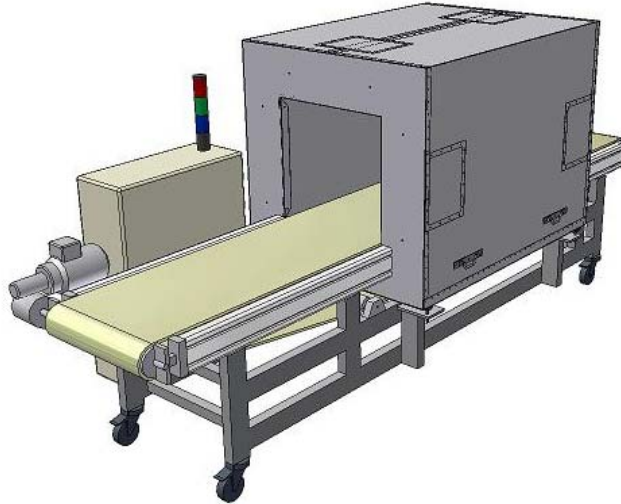


3 System Overview



The CONVEYOR TUNNEL READER is intended for Original Equipment Manufacturer (OEM) and end users applications.

It is designed to identify batches of tagged carried by a conveyor through the tunnel. Items can be either in bulk (in a box, a bag ...), or in stacks.

It incorporates hardware and software to manage the Radio Frequency (RF) interfaces as:

- power supply
- data exchange
- RFID reader communication protocols
- PLC (Programmable Logic Controller to control the conveyor).

When delivered, the CONVEYOR TUNNEL READER is set in standalone mode (ready to work) with the application settings.

Customized software can also be developed and downloaded to fit with application command set of the RFID reader and the conveyor.



Whatever the configuration, the CONVEYOR TUNNEL READER will be installed and set up by a CIT (Certified Integrators by TAGSYS).

3.1 Features

- Optimized design for ISO15693 chips (370DL Laundry Tag, C370 chip based tags)
- Included 13.56-MHz RF multi-channel packaged long-range reader
- Shielded arrangement and antenna arrangement to guarantee a 3D reading in any tag orientation
- 110VAC/60 Hz and 230VAC/50Hz power input versions
- Automatic start and stop of the RFID reading operation each time a batch of items tagged enter and exit the tunnel

- Configurable standalone mode settings (reader and multiplex settings, conveyor speed, ...)
- Serial port for the communication with the RFID reader (RS-232)
- Ethernet port available for the industrial PLC (for customized conveyor command)
- Parallel port to monitor the RFID reader
- Stacklight indicators (optional)

3.2 Brief Conveyor Tunnel Reader Description

Figure 1 : Conveyor Tunnel Reader



Being a standalone solution, TAGSYS Conveyor Tunnel Reader does not require additional equipment to operate.

The CONVEYOR TUNNEL READER is made of three parts:

- The Tunnel (Electromagnetic shielded antenna arrangement)
- An electric cabinet including the RF reader and electrical devices to manage the conveyor. The RF reader is based on the L200 TAGSYS reader with specific hardware and software improvement for tunnel application.
- The Conveyor, with a soft PVC belt or a plastic modular belt.



To operate, the Conveyor Tunnel Reader needs a power supply single-phase 110-120V AC / 60 Hz or 230V AC / 50Hz (depending on the version). Power consumption is less than 500W.

A RS232 serial cable is provided to connect the tunnel reader to the host PC, to collect and manage data from the read tags.

Also provided, an Ethernet crossed cable for PLC command, and a DB25 parallel cable for RF reader monitoring.

TAGSYS Medio L200 Reader for Tunnel (included in the electrical cabinet) is optimized for use with TAGSYS TUNNEL antennas only.



The reader and the tunnel are fit together and cannot be used independently.

The antennas are factory-calibrated to an impedance of 50 Ohms/ 0° that offers optimal performances.



It is advised not to open tunnel to modify the antennas arrangement at the risk of losing performance and may conduct the TAGSYS TUNNEL READER to be unserviceable.

2 different mode to operate the CONVEYOR TUNNEL READER:

- standalone mode
- slave mode

They are described in following chapter.