

Railway Solutions

AUTOMATIC IDENTIFICATION AND POSITIONING

- TRAIN AND TRAFFIC MONITORING
- QUALITY CONTROL
- ON BOARD SOLUTIONS
- REAL TIME INFORMATION

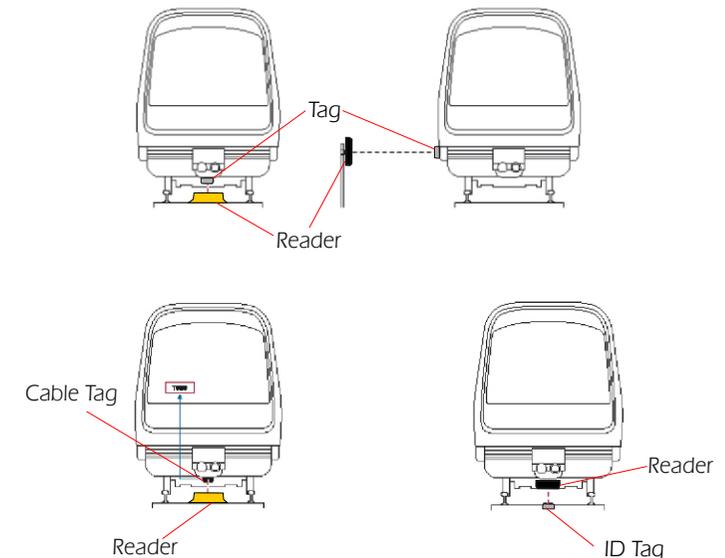
TagItalia offers a wide range of solutions for **automatic identification** and **positioning** for the transportation industry using TagMaster RFID products. TagMaster delivers accurate information for maintenance and quality control, traffic and passenger information and onboard management systems.

For applications requiring **automatic identification** or **position** of a passing train at **full line speeds** a TagMaster **ID Tag** is mounted directly on to the wagon or the locomotive and the RFID reader is mounted either on the trackside or on the sleepers.

For applications requiring the **precise identity of each passing locomotive, wagon or carriage** TagMaster **ID Tag** is typically mounted directly on to the wagon or the locomotive and the reader is mounted either on the trackside or on the sleepers.

For applications where determining the **trains position** along the track is requested, the **accurate positioning** ability of the reader can be used for precise calibration of automatic train control systems for accurate stopping. In this type of application the RFID Reader is usually mounted directly under the train and the ID Tag is fixed on the sleepers. The ID-tag is read as the train passes over it at speed, allowing the reader to automatically update on-board systems with the tag read event. This read event is then used by the onboard system to take certain actions depending on the application.

For applications where transfer **real-time** information from **track to train** or vice versa is requested the TagMaster CableTag can be used. A CableTag is physically connected to the external system via a cable which provides the power and serial interface connections. The interface allows the programmable memory area in the tag to be dynamically updated by the external system. In this way dynamic information on the train can then be passed on to signalling systems for further processing or some data can be passed by the track up to the passing train.



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ID & SEQUENCE CONTROL

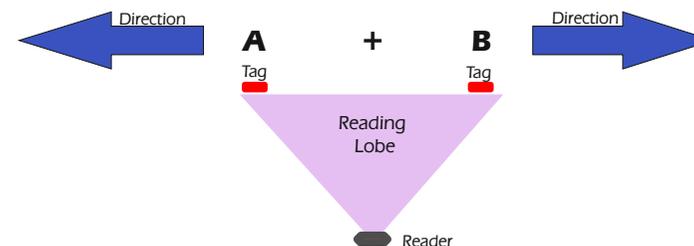
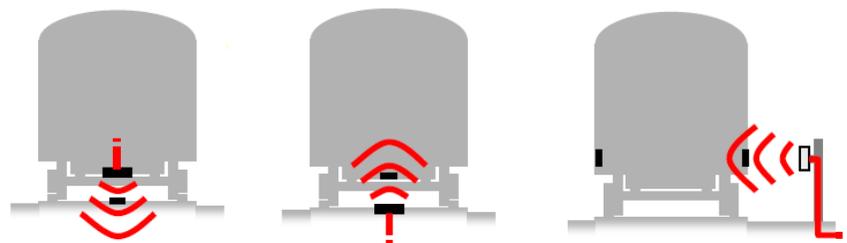
An efficient **Direction Detection** can be obtained using two Tags placed on the same side of the wagon at min 2m distance and implementing a **Sequence Control** on the Reader Application software.

The Reader can detect the train direction and provide two relay outputs to signaling different directions: A+B or B+A.

A train or wagon identification can be obtained simply using the ID of the read Tag.

With TagMaster 2.45GHz Semi-Passive RFID products we are able to read Tags traveling up to **400km/h** if using MarkTag HDS or up to 90km/h if using MarkTag HD.

NOTE: when reading a RFID tag travelling at high speed we must consider the period the Tag is in the Field of View of the Reader. To calculate maximum speed allowed for Tag detection we must consider maximum reading distance where the reading lobe wide is max.



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PRODUCTS FOR DEMANDING APPLICATIONS

2.45GHz



TagMaster LR-6 HD

For track-side installations. The readers can be installed at key locations such as stations, terminal entrances or maintenance centres. The reader identifies ID-tags at a range of up to 6 metres and at passage speeds of up to **400 km/h**.



TagMaster Heavy Duty Reader

TagMaster Heavy Duty readers are designed to withstand environmental factors such as temperature, moisture, shock and vibration. This allows them to be mounted directly on the outside of vehicles. This reader can be used to provide positioning information for onboard systems on a train.



TagMaster Heavy Duty Track Reader

The HD Track Reader is specially designed to withstand the tough requirements of being directly mounted on the sleeper. The unique built-in doppler radar can be used to determine the direction of a passing train, even in cases where the train is not equipped with an ID-tag.



TagMaster Heavy Duty ID-tag

The Heavy Duty ID-tags are mounted on the front, side, top or underneath each individual vehicle. They can also be mounted on the sleepers in special ID-tag fixings. The ID-tag is extremely resistant, totally encapsulated and maintenance free. It has a predictable life of 10 years (depending on model and settings).



TagMaster Cable Tag

The CableTag is a heavy duty tag which is programmable via a serial interface. The cable tag is designed for applications where variable data from an external system needs to be stored in the tags memory. The CableTag provides demanding transportation applications with a reliable means of transferring dynamic data from one system to another

UHF



TagMaster XT-3 HD

The XT-3HD Reader is a fully functional EPC Gen 2 (ISO 18000-6C) compliant UHF heavy duty RFID Reader with integrated antenna. This reader is primarily intended for track-side installations in asset tracking applications within the railway industry where EPC Gen 2 UHF ID-Tags are mounted on passing trains or wagons.

