



# TRAFFIC TECH

Civil Engineering & Traffic Technology

# ARMB<sup>®</sup>

AUTOMATED RAPID MOVABLE BARRIER

## PRODUCT DESCRIPTION

The Automated Rapid Movable Barrier System “ARMB<sup>®</sup>” is a revolution in traffic management and safety. Perfect for use in:

- Control of Tidal Flow/Reverse Flow (RF) Traffic lanes
- Rapid closure of tunnel entrances, in case of emergency or scheduled maintenance
- In conjunction with movable concrete barriers such as the Zipper

## FEATURES

- Robust Design
- Easily and quickly installed
- Operating System can interface to any user’s control system
- Automated repositioning system – see over

## BENEFITS

- Remote controlled – safer, with no workers on the road
- Reduced labour costs
- Tried and tested technology
- Auto location repositioning system, if hit and displaced
- High driver awareness with LED Lighting
- Very low profile for emergency vehicle access



## SPECIFICATIONS

- Made up of 2 different modules – a Drive/ Control and a Slave.
- Module Dimensions: Standard Module is 3.0m long, 615mm wide and 185mm high (from road surface)
- Module Weight: Drive module is approx. 230kg, with Slave module approx. 200kg.

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- **Construction:** Galvanised sheet steel with heavy duty internal frame. Rollers are heavy duty polyurethane to minimise marking the pavement.
- **Drive System:** A low height 240VAC electric motor drive system provides optimal mechanical performance and reliability.

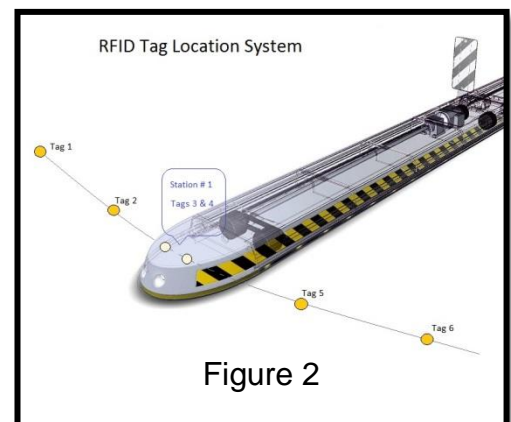
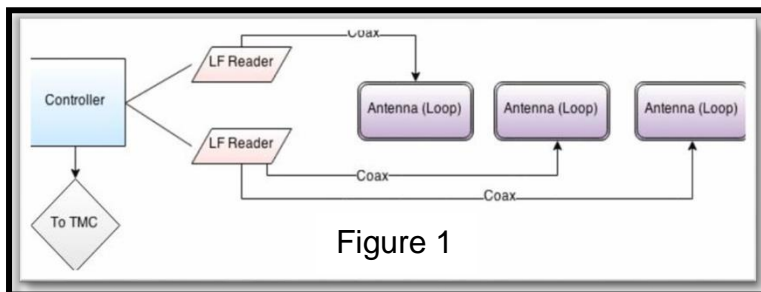
## RFID Location System (RFLS)

### Radio Frequency Identification System and Radio Frequency Location System

This system operates as the slave in a master-slave relationship. The master is the ARC operating system of the ARMB<sup>®</sup>, which is also responsible for actuating motors in the ARMB<sup>®</sup>, and creating a user interface for operators at the TMC. The flow of information is unidirectional, meaning that the master will listen to position updates from this system and act accordingly.

Figure 1 shows a system diagram for the positioning system inside the ARMB<sup>®</sup>. The controller manages the connection to the TMC. The connection is via an Ethernet TCP/IP connection. The controller will periodically update the TMC as to the position of each “smart” ARMB<sup>®</sup> section. The LF readers are slave devices used to extract information from RFID tags. Some LF readers can have multiple connected antennas. Both reader and controller reside in the control box.

Figure 2 shows the physical layout of an ARMB<sup>®</sup> positioning system. In this diagram, there are five discrete positions of the boom. Each position has a unique RFID tag embedded in the road, approximately 70mm below the road surface. Each RFID tag has a unique ID. The ARC knows these unique IDs and can map them to the real position of the ARMB<sup>®</sup>. The reader reports the ID of the tag to the ARC (in this case, the ID of the tag at position 1). If the position changes, the controller will report a different RFID Tag ID, and therefore the operating system will know the arm has moved.



## Integrated Gantry Signaling System

Figure 3 The ARMB<sup>®</sup> traffic guidance system may be supplemented by the installation of overhead “gantry” signaling and guidance lights to help drivers identify the correct lane configuration.

