TIM-004

Smart Card Dispensing Module

Technical Manual

1 General description

Smart card dispensing module as a device used for card dispensing is one of the key modules in intelligent transportation equipment. The module can not only issue ticket but also transmit the invalid ticket to the reject bin to ensure the reliability.

The card magazine has lock sets to prevent cards being removed during shipping and maintenance as well as make sure the tickets piled neatly during shipping. The card magazines have RFID to record their relevant information.

2 Module number

TIM-004

3 Term

Output tray: the export to send out the tickets;

Transport unit: the aisle between the output tray and the ticket magazine, which is responsible for ticket data handling and transmission;

Ticket reading/writing area: the area in the transmission aisle for the ticket reading and writing;

Pickup rear: the rear which can pick up and send the ticket to the transmission aisle

Ticket division gear: the rear that can make sure only one ticket is dispensed at one time; **Electric tags:** RFID used for recording the relevant information of the ticket box;

Magazine A: the ticket box near the ticket reading area, which is used for contain the tickets specified for the reading area;

Magazine B: the ticket box next to ticket magazine A, which is used for contain the tickets specified for the reading area;

Reject Bin: the container used for contain the tickets which cannot be recycled or unauthorized;
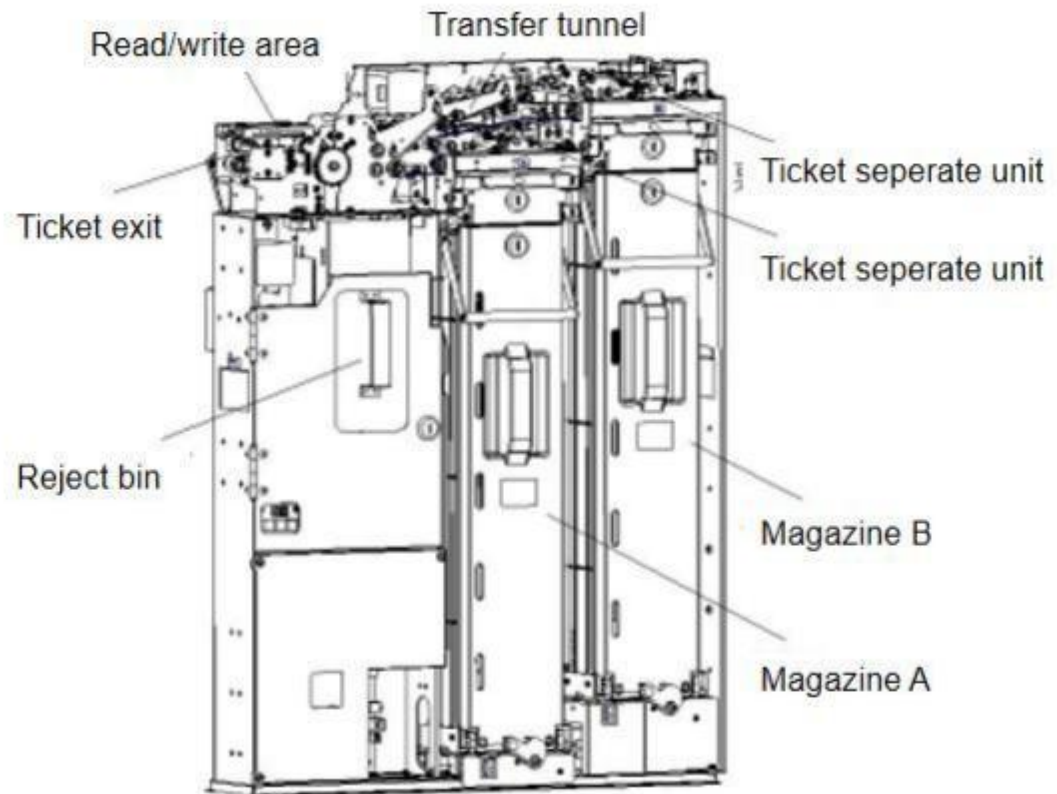
4 Overview

4.1 Construction

Figure 1

4.2 Overall dimensions
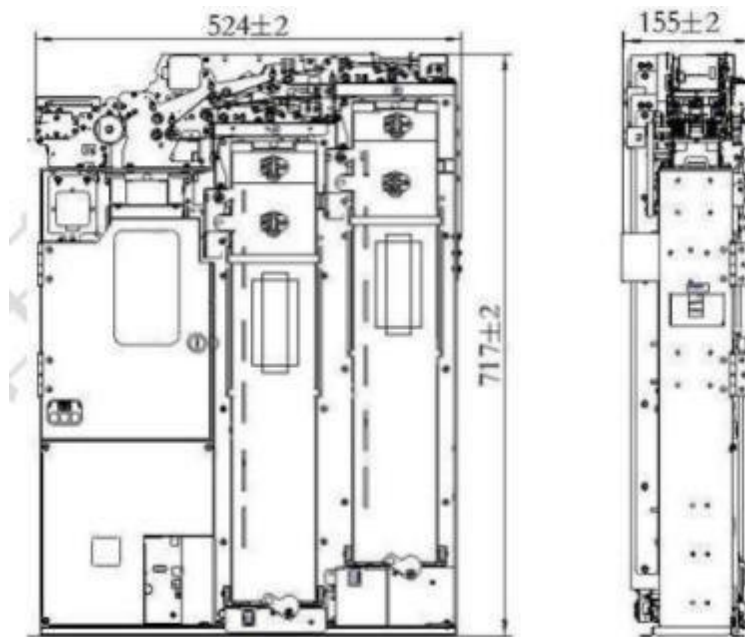

Figure 2

Module overall dimensions: $524\,mm(L)\times155\,mm(W)\times717\,mm(H)$

5 Functional Performance

- Dispensing function: send the ticket from specified magazine(including the ticket magazine A and ticket magazine B) to the reading area;

- Ticket transport function: sent the ticket from the reading area to the output tray;

- Ticket capturing function: send the invalid ticket from the reading area to the reject bin;

- Clearing aisle function: send the blocked tickets or tickets left in the aisle for other reasons back to the reject bin. The function is used for eliminate faults and rehab the module to normal service state.;

- Information recording function: the ticket boxes have RFID as their own electric tags to record their relevant information;

- Ticket box self-locking function : ticket box cannot be removed unless the cover is shut and locked;

- Anti-disorder function: if the ticket box is removed when it is not full, the tickets in the box can be piled neatly during the removal.

6 Feature

- Easy operation and friendly maintenance: Use lifting handle and wheel for maintenance. The average MTTR is less than 15 minutes;

- Fast ticket handling speed: average ticket dispensing speed≤1s (including the reading/writing time: 0.3s per sheet);

- Ticket safety: The ticket boxes have lock sets to prevent ticket being removed without using keys during shipping as well as make sure the tickets piled neatly;

- Fault-tolerant ability: Module itself can handle general abnormalities. The abnormalities the module cannot handle itself will be informed to upper level for related treatment;

- Information well-preserved: Taking RFID as electric tag so that the information can be well-preserved;

- Long life span: The module has at least a life span of 5 years.

7 Technical Parameters

7.1 Electric specifications

Chart 1

Item		Specifications
Power supply	Working voltage	24VDC±10%
	Standby power	8W
	Max power	110W
Environmental requirements	Working temperature	0 ~ 60°C
	Working humidity	20% ~ 95%
	Storage temperature	-20 ~ 65°C
	Storage Humidity	10% ~ 95%
Communication interface		RS-232，57600bps
Weight	Module	Module：21kg
	Ticket box	3.5 kg（Empty）;Totoal weight 35kg (full)
Overall dimensions		524mm(L)×155mm(W)×717mm(H)

7.2   Performance specification

Chart 2

Item	Specifications
Magazine capacity	1000 cards per magazine thickness 0.5mm
Reject bin capacity	50 cards

Average ticket vending speed	Magazine A: ≤1s per sheet(Including 300ms read time)

7.3   Ticket specification

Item	Specifications
L	85.5±0.2mm
W	54±0.2mm
T	0.3~0.8±0.05mm

Chart 3

NOTE: The gap of the output tray can be regulated according to the thickness of the ticket.