



Mass Transit MFL

Technical Specification

Drive

High performance digital servo drive – brushless servo motor and gearbox

Materials

Casework: 2mm AISI 304-grade grained stainless steel and 17mm laminated safety glass

Finish: Scotch Brite 4

Moving Panels options:

Glass: 12mm tempered clear safety glass

Soft Polyurethane: Metal core coated with energy-absorbent foamed HCFC free polyurethane.

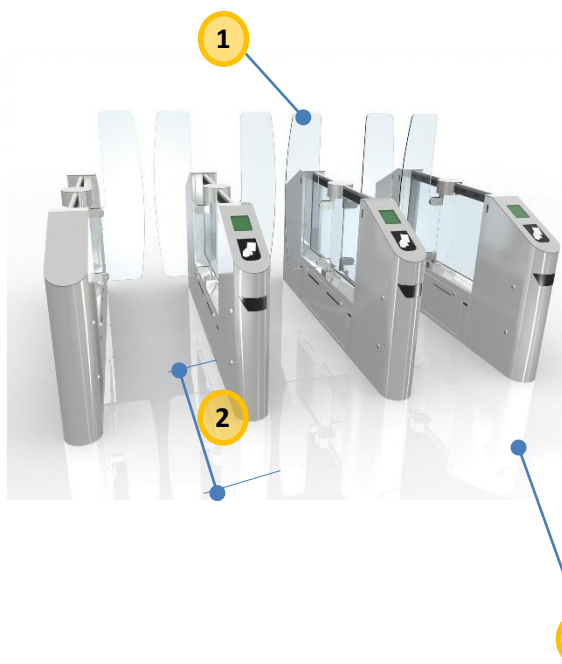
Polycarbonate: Transparent Polycarbonate panel

Dimensions

Height: 940 mm
Length: Central section 1000 mm
End cabinets – variable to suit AFC peripheral integration.
Width: 165 mm
Panel Heights 900 to 1800mm (Polyurethane Panel only available with 1200mm height)

Clear Passageways

Aisle width 550 to 900mm



- 1 – moving panel from 900 to 1800 high
- 2 – Common central section
- 3 – Custom designed end leg sections
- 4 – GED (Gate End Display)

Operating Modes

Controllable via RS232 (also RS485 available) interface connection (Modbus or proprietary protocol) to AFC control system

- Uni directional with single person detection
- Bi directional with single person detection
- Emergency, configurable to fully open or block the passageway
- Remote passage control
- Traffic way switchable during rush hours
- Passenger stacking (*up to 8 stacked transactions*)

AFC

The gate is designed around a common central mechanism section with “add on” end legs sections to accommodate the integration of different AFC ticket reading equipment.

The end legs are custom designed to suit the integration of the readers and other AFC internal hardware. Access into the cabinets are via security locked hinged access doors.

Examples of AFC peripheral readers which can be integrated:

- Token validator, reject and collection bin
- Coin acceptors
- RFID
- 2D Barcode
- NFC
- Magnetic Stripe

Operating Speeds

Different speed profiles are selectable. Depending of panel type and dimension the minimum opening time varies between 1.7s (1800mm high, wide glass panel) down to 0,7s for a standard lane polycarbonate panel.

Passage Control Board (PCM)

A microprocessor control board manages all the gate's functions.

- Designed for reliable and maintenance free operation

Passenger Fraud Sensing

Authorised person detection system and algorithms to detect authorised passage tailgate and wrong way passage.

- Strategically concealed IR Tx/Rx photocell arrays
- Parameters tuning of gate behaviour
- More than 40 different passage scenarios handled, including in addition to single authorised passage:
 - Wrong way detection
 - Tailgating
 - Passenger with a hand carried luggage
 - Passenger with wheeled trolley luggage
 - Baby in pushchair (*concession option*)
 - Wheelchair (*concession option*)
 - Assisted wheelchair user (*concession option*)

Safety Detection

- Dedicated independent safety detection circuit compliant to EN12100 and EN 13849-1 to prevent the moving panels from closing on any passenger
- IR Tx/Rx photocell array monitoring the area immediately around the moving flap
- Moving panels constructed from semi rigid polyurethane moulded onto a steel core to limit potential damage to passenger
- Safety for users (including finger entrapment) compliant with EN16005

Safe Anti Panic (optional)

When anti-panic facility is specified the output shaft of the motor is fitted with a torque limiter to facilitate the forced opening of the walkway. This is constantly monitored and outputs and alarm when activated. The gate will open to the degree of force applied and close if the force is removed.

- The torque limiter will release the drive shaft at circa 45 Nm or 110-120 N against the glass door. Maximum torque value can be adjusted at manufacturing over a wide range.

Vandalism

- Construction from 2mm stainless steel
- If no safe Anti Panic, moving panels resistant to lateral 600N impact force for Standard lane, 400N for Wide lane, without loss of functionality.

Power Failure

- The moving panels can be configured to automatically fail open or remain closed dependent upon if failsafe parameter chosen.
- Fail-lock model is standard; during power failure if panels are required to be opened this is managed via an in built battery back-up system
- In both cases upon restoration of power the gate will recycle the panels to the closed position and become available for use once the AFC system is rebooted.

Gate End Displays

- On each access of the gate there are traffic lights for passenger's reference (Red Cross and Green arrow indications).
- Remotely switchable to conform the flow of gates at peak times or to close the complete system

Passenger Information (optional)

- Top casework mounted LED display to show the passenger and/or station staff
 - Green - Authorised transit
 - Red - Non passage transit
 - Orange - Concession transit

Speed of Passage

- Up to 60 passengers/minute throughput (*Dependent upon reading technology and response times*)
- Authorization stacking up to 8 authorizations

Environment Requirements

- Operating Environment Temperature: -5 to 40 °C;
- Relative Humidity: 95 % max, without condensation;

IP Rating

Degree of protection of the enclosure: IP 54

Mains Power

- 230VAC@50/60Hz (*+/-15% of nominal values*)
110VAC version available upon request

Power Consumption

- Standby mode: 50 VA
- In Operation: 220 VA

Logic Voltage

- 24VDC

Maintenance

- MCBF/MTBF 10M cycles
- MTTR <30min

Maintenance Access

- Access to ticket controller and gate management system via access panels
- Servicing does not impinge on adjacent passageways
- Minimal removal parts to reduce mechanical failure and longevity or wear during servicing

Experience

- Over 25 years global experience within the Mass Transit market sector
- Extensive collaboration with global AFC partners and System Integrators
- International and local support infrastructure
- Dedicated specialist division to handle specialist project management needs and project customisation

Applicable Standards

Electromagnetic Compatibility Directive

EN 61000-6-2	Generic standards. Immunity for industrial environments
EN 61000-6-3	Generic standards. Emission standard for residential, commercial and light-industrial environments

Low Voltage Directive

EN 60335-1	Specification for safety of household and similar electrical appliances. General requirements
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Machine Directive

EN ISO 14121-1	Safety of machinery. Risk assessment. Principles
EN 16005	Power operated pedestrian doorsets. Safety in use. Requirements and test methods

Environment

EN 60068-2-1	Cold temperature
EN 60068-2-2	Dry heat
EN 60068-2-30	Dump heat, cyclic
EN 60529	Protection against dust and water