Mass Transit Metro Bi-Parting Gate

Technical Specification

Drive

Highly reliable DC motor and gearbox

Materials

Casework: 2mm ASIS 303-grade grained stainless steel

Finish: Scotch Brite 4

Moving Panels: Metal core coated with energy-absorbent integral polyurethane.

- HCFC Free
- Flammability according to ISO 8191-1 and 2
- Burning Behaviour: propagation rate: ≤ 100 mm/min (ISO 3795).
- UV Resistance: behaviour to UVA light: ≥ 5 Blue scale, UVA exposure: 150 h at a temperature of 50°C (ASTM G53-84).
- Abrasion Resistance: 1000 turns according to ISO 12947-2
- Hardness: 37+-5 Shore A

Smart Intrusion Solutions

Dimensions

Height:	1072 mm
Length:	1932 mm
Width:	300 mm

Clear Passageways

Standard STD	550 mm
Disabled WIDE	900 mm

Operating Modes

Controllable via interface connection 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)*

Ticketing Peripherals

The gate is designed to accommodate and interface to many different types of reading platforms:

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

Operating Speeds

STD lane	opening and closing 0.5 milliseconds
Wide passage	opening and closing 0.7 milliseconds

Passage Control Board (PCM)

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

- Designed for reliable and maintenance-free operation
- Remote download of application firmware
- Extended I/O capability to suit every integration need

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, control and setting to negate software rewriting
- More than 40 different passage scenarios handled in addition to single authorised passage:
  - Wrong way detection
  - Tailgating
  - Passenger with hand carried luggage
  - Passenger with wheeled trolley luggage
  - Baby in pushchair *(concession option)*
  - Wheelchair *(concession option)*
  - Assisted wheelchair user *(concession option)*
- Detection rates in >95% even in complex scenarios at 150mm distance
- Support for child detection through reflective sensors
  - Remote activation of child detection
  - Remote parameterisation of detection sensitivity

Safety

- Dedicated independent fail-safe safety detection circuit 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 mounted onto a steel core to limit potential damage to passenger
- Dynamic impact force complaint with EN16005
- Anti-panic breakthrough force limited to a max 325N
- Finger entrapment complies to EN16005

Vandalism

- Construction from 2mm stainless steel
- Moving panels resistant to lateral 800N impact force without loss of functionality

Power Failure

- The moving panels can be configured to automatically fail open or remain closed dependent on whether failsafe mechanism is chosen.
- Fail-lock model available, 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

- 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 75 passengers/minute throughput *(Dependent upon reading technology and response times)*
- Authorisation stacking up to 8 authorisations

Environment Requirements

- Operating Environment Temperature: 0 to 45 °C;
- Relative Humidity: 95 % max, without condensation;

IP Rating

Degree of protection of the enclosure: IP 43

NOTE: The casework (cabinet) provides an IP43 rating for the electronic equipment installed inside. Water and dust can enter from the functional openings (e.g. flap apertures) without harmful or dangerous effects on the mechanical and electrical equipment.

Mains Power

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

Power Consumption

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

Logic Voltage

- 24VDC

Maintenance

- MCBF/MTBF 12M cycles
- MTTR <30min
- Running cost <0.5%/pa of installation base *(Based upon actual 12 month field survey data)*

Maintenance Access

- Access to ticket controller and gate management system via slide out end panels mounted on heavy duty guide rails
- 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 61000-6-4	Emission standard for industrial environments
EN 61000-3-2	Emission of harmonic currents
EN 61000-3-3	Emission of voltage fluctuations and flicker

EN 55022	Emission of mains terminal disturbance voltage (continuous disturbance)
EN 55022	Electromagnetic radiated field disturbance emission test
EN 61000-4-3	Immunity to radiated RF electromagnetic field
ENV 50204	Immunity to electromagnetic fields radiated from GSM
EN 61000-4-2	Immunity to electrostatic discharge (EDS)
EN 61000-4-4	Immunity to fast transient / bursts
EN 61000-4-5	Immunity to surge
EN 61000-4-11	Immunity to voltage dips / short interruptions
EN 61000-4-6	Immunity to conducted RF disturbances (common mode)

Low Voltage Directive

EN AS/NZS 60335-1	Specification for safety of household and similar electrical appliances. General requirements

Machine Directive

EN 1050	Safety of machinery. Principles for risk assessment
prEN 16005-1	Building hardware – Powered pedestrian doors – Part 1: Product requirements and test methods
prEN 16005-2	Building hardware – Powered pedestrian doors – Part 2: Safety at powered pedestrian doors

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

Improving mobility

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