



Electronic Access Control Turnstile Integration Specification Guidance Document

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Specification for the installation of turnstiles, and their integration with UCL's Gallagher access control system

Contents:

1.0	General requirements
2.0	Power supplies
3.0	Interconnection with fire alarm / Break glass operation
4.0	Console operation
5.0	Reader operation
6.0	Notes on containment
7.0	Project process
Appendix A	Gunnebo technical data

1.0 General requirements:

- 1.1 UCL's standard requirement is for Gunnebo FP/FPW SpeedStiles. These are available with glass panels in 1200mm or 1800mm heights. They are available in a variety of finishes and in a standard (550 CO) and MIP access (900 CO) widths.
- 1.2 These are supplied with plain glass panels – manifestations must be supplied and fixed by alternative arrangement.
- 1.3 The Gunnebo FP SpeedStiles must be specified with COM/1 expansion cards – this provides the additional connectivity required for fire, console and reader release of the SpeedStile.
- 1.4 The SpeedStiles would normally have free 'break-beam' exit, unless otherwise specified.
- 1.5 The SpeedStiles must:
 - 1.5.1 All open in the event of a fire alarm.
 - 1.5.2 Have local control in the form of a console at the local reception desk. The functionality of this would be specified on a per-job basis.
 - 1.5.3 Operation would also be controlled by Gallagher readers mounted in the SpeedStile units.
 - 1.5.4 Have green break-glass units to release the SpeedStiles. These should be flush-mounted onto the end of the SpeedStiles on the secure side, and should open all turnstiles.
 - 1.5.5 Have front and rear leg-mounted LED pictogram way-mode indicators, to indicated operation, as per fig.1



FIG.1

2.0 Power supplies:

2.1 Each turnstile requires a 230V, 6A, 50Hz supply.

2.1.1 One 6A fused, unswitched mains fuse connection unit should be provided for each turnstile, wired as ring or radial on dedicated circuit from local Distribution board. These shall be mounted in the most suitable location near the turnstiles (usually in the same vicinity of the Gallagher controllers).

2.1.2 Generally, buried metal conduit / trunking containment facilitates the final connection wiring to be carried out in single core cables between interface boxes and up to the master unit terminals. However should this not be the case, flexible cable connection in approved containment shall be installed from the interface boxes to each of the turnstile master unit. These should be brought up into the cable entry aperture in the base plate of the turnstiles, as per Gunnebo's drawings. This would normally be on the right hand unit of each pair, when viewed from the secure side.

2.1.3 All electrical installation works associated with providing power supply (including termination) up to the master unit shall be carried out by approved electrical contractor in accordance with current BS7671 Wiring Regulations. The installation shall be electrically tested and certified, with relevant test documents / certificates being presented to the client at handover of installation.

3.0 Interconnection with fire alarm / Break glass operation:

3.1 Each turnstile master unit requires a connection from the fire alarm system.

3.1.1 One interface per turnstile unit should be provided in a location near the units (usually near the Gallagher controllers). These should provide a normally closed, volt free pair.

3.1.2 FP cables should then be run from the interface boxes to each of the turnstile master units. These should be brought up into the cable entry aperture in the base plate of the turnstiles, as per Gunnebo's drawings. This would normally be on the right hand unit of each pair, when viewed from the secure side.

3.1.3 The installation of FA interface units and FP cable to turnstiles would be the responsibility of the main contractor / electrical sub-contractor.

3.1.4 A green double-pole break glass, with lift-up transparent cover, must be flush-mounted on each master unit. This should be wired directly into the turnstile fire input, in series with the fire alarm interface. Each break glass should release all turnstiles. The operation of the break glass unit should be monitored through the Gallagher system.

3.1.5 The aperture and single gang mounting should be factory cut out and provided by Gunnebo.

4.0 Console operation:

4.1 The desk mounted console will be free-issued by Gunnebo to the access control systems contractor. The functionality of this unit will be specified on a per-job basis, but would typically provide the following:

4.1.1 Single cycle entry operation for one of the turnstiles (usually nearest reception) - Button.

4.1.2 Two way, single cycle release of any pass gate or disability turnstile - Buttons.

4.1.3 Hold open for any pass gate or disability turnstile - key switch.

4.1.4 Hold open for all turnstiles - key switch.

4.2 All data wiring between the console and the turnstiles would be the responsibility of the access control system contractor.

4.3 The multiple control cables from the turnstiles should be terminated at a point local to the console, and a single cable, or suitable flexible trunking should be run from the joint box to the console.

5.0 Reader operation:

5.1 Turnstile lanes that are designated as entry points must be fitted with a Gallagher Mifare Prox reader. These should be mounted in the integral Gunnebo reader cradle.

5.2 All reader, and access control system trigger, cabling between the turnstile and the Gallagher control equipment will be installed by the access control system contractor.

5.3 A site visit of a Gunnebo engineer should be included for commissioning, as they will need to be in attendance when the access control system contractor provides the trigger and reader connections.

6.0 Notes on containment:

6.1 Containment will be the responsibility of the main contractor / electrical sub-contractor.

6.2 Consideration MUST be given to the position of the fixing points for the turnstiles when deciding a route for the containment.

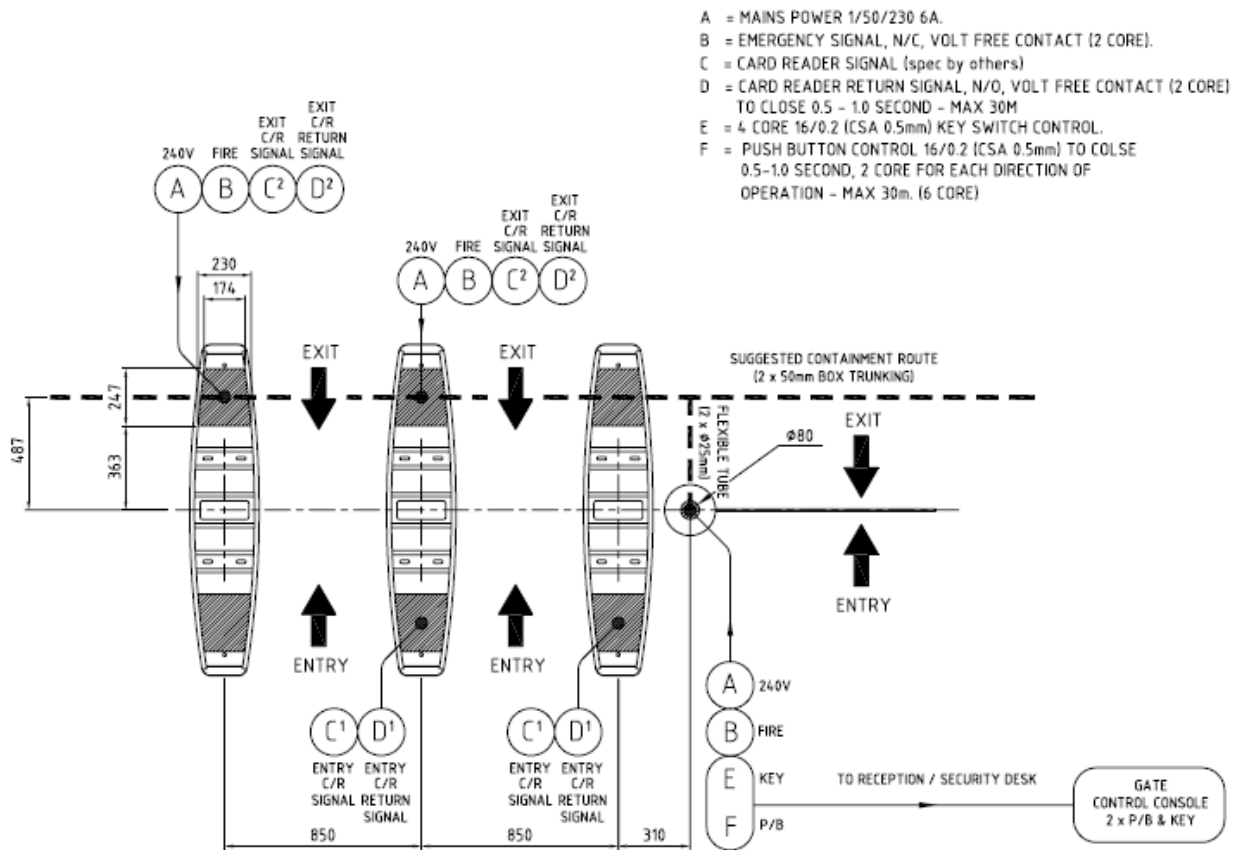
6.3 Gunnebo require containment between their master and slave units. Their drawings should be referred to for details.

6.4 Typically a 50mm / 50mm trunking would be sufficient to accommodate all the Gunnebo and access control system cables. Additional containment would be required for the power and fire connection.

6.5 If conduit is used, this should be turned up into the cable entry aperture in the base plate of the turnstile.

6.6 Typical routes for containment are shown in fig 2.

FIG. 2



7.0 Project process – The project would run typically as follows:

- 7.1 UCL or Main Contractor contact Gunnebo and access control contractor.
- 7.2 Meeting arranged between all parties to discuss requirements.
- 7.3 Site visit arranged and attended.
- 7.4 Gunnebo to provide quotation and layout drawings to UCL or main contractor.
- 7.5 Access control contractor to provide quotation for control equipment to main contractor or UCL.
- 7.6 If there are no revised drawings or quotations – UCL sign off.
- 7.7 Order raised for Gunnebo and access control contractor, to be received from Main Contractor or UCL.
- 7.8 Site visit for survey from Gunnebo project Manager.
- 7.9 Gunnebo manufacture equipment.
- 7.10 Installation onsite with access control contractor present so they can install their equipment.
- 7.11 Commission of all equipment.

Note: A commissioning day with both access control contractor and Gunnebo in attendance must be allowed for.

Appendix A



SpeedStile FP

Full Panel Gate for Internal Installation

Technical Specifications

Unit Dimensions:	Casework Length (Normally Closed) 1448mm (Normally Open) 1932mm Casework Height 950mm Casework Width 300 mm Clear Walkway 550mm Panel Height 1200mm or 1800mm
Drive:	Motorised
Materials:	Top: Painted Polyurethane finished Front: Painted Polyurethane finished Standard Finish: Cobalt blue, metallic grey or stainless steel construction. Wing Housing: Painted Steel finished to match Top and Front Inlay: 304 grade grained Stainless Steel Panels: 12mm Tempered Glass Side Doors: Cobalt Grey 8.5mm 3 ply laminate safety glass Plinth: 304 grade grained Stainless Steel
Function:	Passage in both directions electronically controlled. The SpeedStile is available in Normally Open (N/O) or Normally Closed (N/C) mode. In N/O the SpeedStile provides an always open walkway in rest position and will only close at unauthorised entry or tailgating attempts. This provides high flow rates and increased MTBF times. In N/C the SpeedStile provides a closed walkway and will only open on acceptance of an authorised signal.
Drive Mechanism:	The panels are moved by two linked mechanical arms. The arms are rotated by a torque shaft connected to the drive unit. The drive unit is a DC motor connected to a worm reduction gear and a bi-directional encoder. A microprocessor control system guarantees the precise movement and positioning of the wings. The opening and closing speeds of the Panels are adjustable. A safety photocell prevents the Panels from closing on an obstruction. Should the normal panel operation be stopped by an obstruction, the controlling logic detects an abnormal condition and reverses. The panels are locked in the open and closed positions by means of a mechanical system. When closed they can not be forced open.
Method of Operation:	On receiving a signal from the access control system, or push button, the panels will open. If an unauthorised person tries to tailgate or attempts to enter from the opposite direction, the system detects the unauthorised passage and activates the in-built alarm system. Presence sensing is achieved by 6 No. infrared sensors for the N/C version and 14 No. for the N/O.
Status Lights:	50mm diameter LED display Status Lights flush mounted within the SpeedStile lid top face. The Green badge symbol is continuously illuminated indicating passage is available. Upon authorisation a Green Arrow will illuminate in the

direction of passage authorisation whilst in the opposite direction a Red cross symbol will illuminate to indicate the unit is not available for use or is already in use.

Power Failure: In the event of a power failure the panels will remain in the current position
Fire Alarm: Input facility is available for voltage free contact supplied by others to effect fail state.

Power Supply: 115/230 Volts AC 50/60 Hz

Power Rating: Stand by 10 VA
In operation 300 VA

Logic Voltage: 24 Volt DC

Installation Details: The SpeedStile is delivered as a fully assembled unit and may require lifting gear off loading.

Approximate Weight: NC - Left or Right cabinet (L or R) circa 160 - 170Kg per cabinet (EF - EFF)
NC - Centre cabinet (C) circa 210 - 220Kg per cabinet (EF - EFF)

Accessories and Optional Extras

Alternative Materials, Finishes and Custom Design

- Refer to Gunnebo Entrance Control Ltd for specific material design requirements.
- Alternative PUR RAL colours, finishes and effects.
- Inlay material options.

Cardreader Mounting (Please refer to Gunnebo Entrance Control Ltd for feasibility)

- Integration of customer supplied readers into the SpeedStile Top or Front inlays.
- Cardreader Pedestals.

Battery Back Up

- On power failure, the battery back-up option will allow the wings to open (or close), stop and become inactive.
- The wings will remain in this position until power is restored.

Push Button Control

- Simple console to control SpeedStile wing release.
- Remote console to specific requirements.
- Casework mounted push button.

Additional Interface

- RS 485 Serial Interface

Traffic Flow Control

- LED Way Mode Indicator - Switching Red cross and Green arrow to indicate the unit is available for use
- Remote switching of unit for Traffic Flow.

Counting

- LCD Counter
- Electro-mechanical Counter

DDA access and pass gate

Gunnebo UK SpeedStile FPW. This is a wide lane for DDA access. It has a 900mm wide walkway and comes in various finishes. The cabinets on these are 480mm wide where the SpeedStile BP cabinets are 300mm wide. The FPW can work alongside a suite of SpeedStile FP's.



Another option for DDA compliance is to have a GlaStile GSS pass gate:



Rotor Wings:	One (1)
Drive:	Motorised
Orientation:	Pass Left or Pass Right
Materials:	Rotor Column 220mm dia, 304 Grade Grained Stainless Steel (EN 10088-2 Grade 1J/2J.) Ref. GM Type 2
	Rotor Wing 10mm thick clear toughened frameless glass giving 1000mm clear opening

Function:	Passage in both directions, electrically controllable.
Method of Operation:	On receiving a signal from the access control system or pushbutton, the unit will unlock and drive through 90 degrees away from signal direction. Should the wing meet any resistance it will stop and nudge forward. If obstruction continues the unit will alarm and free wheel. An auto Reset will re-establish control
Power Failure:	In the event of an emergency or isolation of power supply, unit will fail-safe i.e. rotor will turn freely in both directions. Fire Alarm – Input facility is available for voltage free contact supplied by others to effect fail state.
Control:	Unit is electrically controlled in both directions via two remote attendant operated pushbutton and override key switch.
Interface:	Potential-free contact provided by either a card reader or pushbutton input. Card reader inhibit and reset output signals available as standard. Unit has an adjustable time out facility if required. i.e. Go signal will be cancelled if passage through turnstile is not completed within pre-set time. i.e. 5 – 30 secs.
Power Supply:	230 Volt AC 50Hz
Power Rating:	80 VA per Walkway
Logic Voltage:	24 Volt DC

Status Light User Instructions (Dedicated user handout templates are available from Gunnebo Entrance Control Lts)

Normal Use



Green Card (Rest mode)

- Present personal security card to the reader mounted on the unit for authorisation.
- Wait for the Green Arrow to illuminate and the barrier to open.



Green Arrow (Authorised use or designated free passage)

- Proceed through the unit.

Note - For FREE PASSAGE configuration, authorisation is not required and is normally used for EXIT only.



Red Cross (Unit in use or no passage)

- Wait until the passageway has been vacated and either the Green Card or Green Arrow to illuminate.
- (See above)

Alarm Conditions



Flashing Red Cross and Audible Alarm (Fraudulent condition)

- This alarm mode will be activated via the following scenarios;

Passageway is already in use and a second person has attempted to follow through without authorisation.

(Tailgating) OR Passageway is currently in use and you do not have right of passage.

- **Do not panic.**
- Vacate the passageway.
- Wait for the flashing Red Cross to stop flashing and the Audible Alarm to cease.
- Wait for the Green Arrow to illuminate to indicate who has the right of passage.



Flashing Green Card (Incorrect use mode)

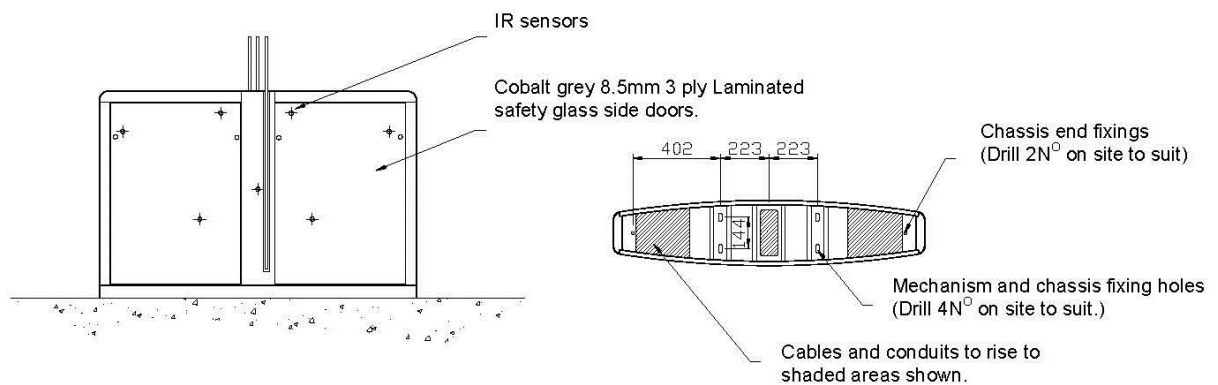
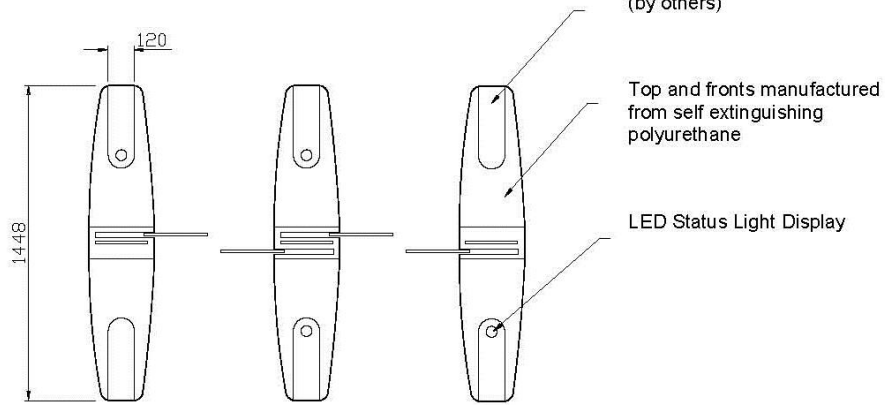
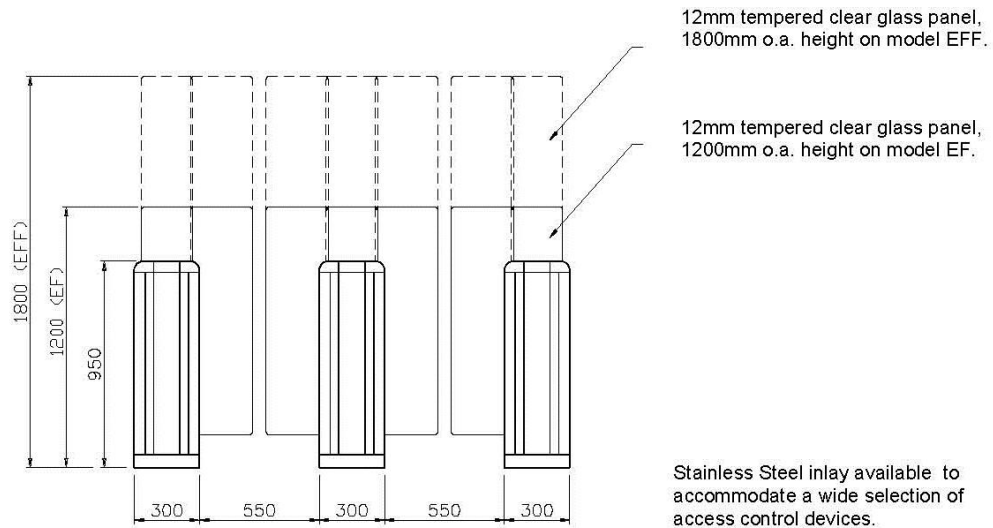
- **Do not panic.**
- Remain in the walkway and present personal security card to the reader mounted on the unit for authorisation.
- Authorisation of passage will cancel the alarm condition.



Flashing Green Arrow (Emergency / Fire Exit)

- **Do not panic.**
- There is FREE PASSAGE to evacuate through the gate

Site Preparation SpeedStile BP
 Short Cabinet Normally Closed only
 (Panels shown in closed position in Left, Centre and Right configuration)



Concrete to BS 5328:1997 specification, type ST5. Base to be flat and level to +/- 5mm over the SpeedStile footprint area.
 2000 x 500 x 150 deep min, per cabinet

IMPORTANT

- Any horizontal pipe or conduit runs below the SpeedStile must be at least 140mm below FFL.

Flow Rates

Reader Device	Number per minute
Insertion type	30
Insertion type with PIN code keypad	20
Swipe type	25
Swipe type with PIN code keypad	20
Proximity 'Hands Free'	40

- Please note the figures are approximate and must be confirmed with Gunnebo Entrance Control Ltd. Figures quoted are for one person per complete passage per walkway and per minute. It is assumed the access control authorisation response is instantaneous. Flow rates will increase with multiple passage use.

For sales enquiries please contact:



Competence Centre Entrance Control

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Note: In pursuit of its policy of continuous refinement and improvement, Gunnebo Entrance Control Ltd reserves the right to modify design and details.