

SPECIFICATION

8000 Series Light Curtains

Number of beams	1 - 4
Detection height	500, 600, 900 and 1200mm
Range	Perimeter 0.5 – 40m (Model dependant) Parallel-beam muting 0.5 – 3.5m Cross-beam muting 1.25 – 3.5 m
Light type	IR 880nm
Response time	40ms
Operating temperature	0°C to +50°C
Light curtain enclosure	IP66
Power supply	24V DC 2A \pm 10%
Current consumption	250mA
Light curtain connection	Circular, bayonet locking IP68
Finish	Aluminium chromate treated, yellow polyester powder coated
Classification	BS EN 61496-1 Type 2 BS IEC 61496-2 Type 2 EN 62061 - SIL 2, EN ISO 13849 - PL d
Warranty	1 Year

OUTPUTS

Safety Outputs OSSD1 & OSSD2	2 X N/O fail-safe switching contacts each rated at 110 V 2A
Status Output Relay	1 x N/O switching contact rated at 110V 1A
Mute Output	Electronic output. MUTE ON = 0V
Status Indication	Status & condition LED's on Light Curtain

INPUTS

Safety Monitoring (EDM)	ON = +24V DC
Activate	Combined restart and override. ON = +24V DC
Muting M1 and M2	Two circular IP68 bayonet locking connectors. One for each independent muting channel
Mute Enable	3 rd mute channel ON = +24V DC
Mode select	Cross-beam mute. ON = 0V DC Parallel-beam mute. ON = +24V DC

amtri veritas Type Examined



amtri veritas[®]
Certificate Number: AV EC 2027

BSI
Report Numbers:
288/4268608
288/4260461

 **CELESTICA**[™]
Certificate Number: MCK/01/046



LIGHT CURTAINS

8000 Range of Light Curtains

Model Number	Number of Beams and beam spacing (mm)	Detection height (mm)	Overall length (M) mm	Weight (TX + RX) Kg
083-501	1 @ 500	500	572	0.7

Range 0.5 – 4 metres

Model Number	Number of Beams and beam spacing (mm)	Detection height (mm)	Overall length (M) mm	Weight (TX + RX) Kg
083-502	2 @ 500	500	572	2.0
083-602	2 @ 600	600	672	2.5
083-903	3 @ 450	900	972	3.5
083-1204	4 @ 400	1200	1272	4.5

Range 0.5 – 5metres

‘T’ mute module (Suitable for entry and exit applications)

Model number	Number of beams	Overall length (M) mm	Weight (TX + RX) Kg
083-001	2	500	1.8

Range: Cross-beam muting 1.25 – 3.5 m
Parallel-beam muting 0.5 – 3.5m

‘L’ mute module (Suitable for exit applications only)

Model number	Number of beams	Overall length (M) mm	Weight (TX + RX) Kg
083-002	2	325	1.2

Range Cross-beam muting 1 – 2.5m



LIGHT CURTAINS

8000 Range of Light Curtains for Perimeter Guarding

Model number	Number of beams and beam spacing (mm)	Detection height (mm)	Overall length (M) mm	Weight (TX + RX) Kg
085-502	2 @ 500	500	572	2.0
085-602	2 @ 600	600	672	2.5
085-903	3 @ 450	900	972	3.5
085-1204	4 @ 400	1200	1272	4.5

Range 4 - 40m

Application Specific Software

Application specific software is available, please contact your local Distributor or Smartscan Ltd for advice and pricing.

SPECIFICATION

8000 Plus Series Light Curtains

Number of beams	2 – 48
Object detection	30mm, 40mm plus 2, 3 & 4 beam perimeter systems
Detection height	330 - 1240mm
Range	<div>Perimeter</div> <div>Parallel-beam muting</div> <div>Cross-beam muting</div> <div>0.5 – 10m (Model dependant)</div> <div>0.5 – 3.5m</div> <div>1.25 – 3.5m</div>
Light type	IR 880nm
Response time	40ms
Operating temperature	0°C to +50°C
Light curtain enclosure	IP66
Power supply	24V DC 2A \pm 10%
Current consumption	750mA
Light curtain connection	Circular, bayonet locking IP68
Finish	Aluminium chromate treated, yellow polyester powder coated
Classification	BS EN 61496-1 Type 2 BS IEC 61496-2 Type 2 EN62061 - SIL 2, EN ISO 13849 - PL d
Warranty	1 Year

OUTPUTS

Safety Outputs OSSD1 & OSSD2	2 X N/O fail-safe switching contacts each rated at 110 V 2A
Status Output Relay	1 x N/O switching contact rated at 110V 1A
Mute Output	Relay output. MUTE ON = 0V
Status Indication	Status & condition LED's on Light Curtain

INPUTS

Safety Monitoring (EDM)	ON = +24V DC
Activate	Combined restart and override. ON = +24V DC
Muting M1 and M2	Two circular IP68 bayonet locking connectors. One for each independent muting channel
Mute Enable	3 rd mute channel ON = +24V DC
Mode select	Cross-beam mute. ON = 0V Parallel-beam mute. ON = +24VDC

Safenet Type Examined
Registration No. 1674

Safenet
Certificate Number: 519040609

 **CELESTICA.**
Certificate Number: MCK/01/046

 Report Numbers:
288/4268608
288/4260461



LIGHT CURTAINS

8000 Plus Range of Light Curtains

Model number	Number of beams	Detection zone (K) mm	Overall length (M) mm	Weight (TX + RX) Kg
089E412	12	330	400	3.6
089E518	18	480	550	5.0
089E724	24	630	700	6.3
089E1036	36	930	1000	9.0
089E1348	48	1230	1300	11.7

Range 0.5 – 5m

Model number	Number of beams	Detection zone (K) mm	Overall length (M) mm	Weight (TX + RX) Kg
1089E412	12	340	400	3.6
1089E518	18	490	550	5.0
1089E724	24	640	700	6.3
1089E1036	36	940	1000	9.0
1089E1348	48	1240	1300	11.7

Range 4 – 10m

‘T’ mute module (Suitable for entry and exit applications)

Model number	Number of beams	Overall length (M) mm	Weight (TX + RX) Kg
083-001	2	500	1.8

Range Cross-beam muting 1.25 - 3.5m
 Parallel-beam muting 0.5 - 3.5m

‘L’ mute module (Suitable for exit applications only)

Model number	Number of beams	Overall length (M) mm	Weight (TX + RX) Kg
083-002	2	325	1.2

Range
 Cross-beam muting 1.0 - 3.5m

LIGHT CURTAINS

8000 Plus Range of Light Curtains for Perimeter Guarding

Model number	Number of beams	Detection height (mm)	Overall length (M) mm	Weight (TX + RX) Kg
089E502	2 @ 550	630	700	7.3
089E1003	3 @ 450	980	1050	9.0
089E1204	4 @ 400	1280	1350	10.6

Range 0.5 – 5m

Model number	Number of beams	Detection height (mm)	Overall length (M) mm	Weight (TX + RX) Kg
1089E502	2 @ 550	640	700	7.3
1089E1003	3 @ 450	990	1050	9.0
1089E1204	4 @ 400	1290	1350	10.6

Range 4 – 10m

Application Specific Software

Application specific software is available please contact your local Distributor or Smartscan for advice and pricing.

CABLES

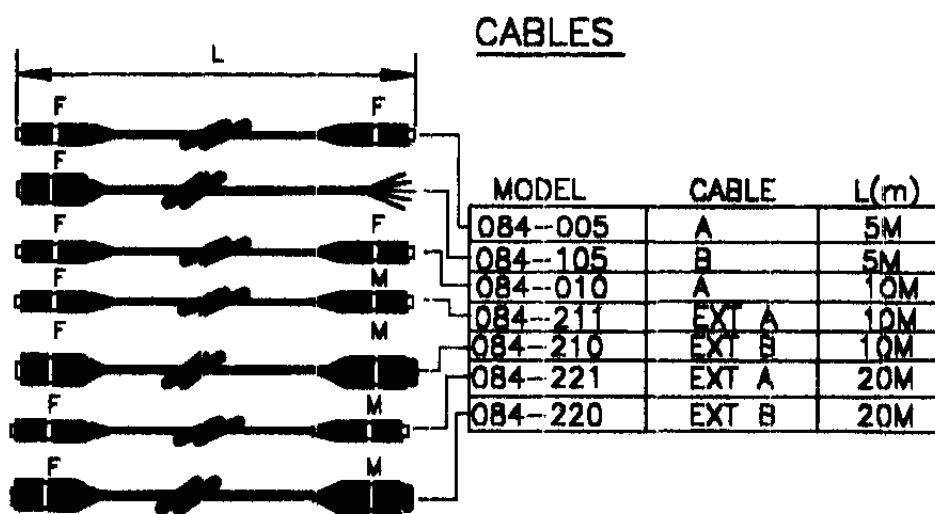
Model number	Description	Overall length (L) m
084 - 005	Cable A	5m
084 - 105	Cable B	5m
084 - 010	Cable A	10m
084 - 211	Extension (Cable A)	10m
084 - 210	Extension (Cable B)	10m
084 - 221	Extension (Cable A)	20m
084 - 220	Extension (Cable B)	20m

Cable A

Connects the transmitter (Tx) column to the receiver (Rx) column. It has an 8 pin circular, bayonet locking connector at each end.

Cable B

This cable connects the light curtain to the user equipment e.g. control panel. At one end it has a circular 18 pin socket enabling it to be plugged into the receiver (Rx) and the other end has open wires to connect to the control panel.



ACCESSORIES

Remote Control Stations

Remote control stations offer additional flexibility to the 8000 Series system by providing control functions from a remote location including restart and guard override. Each unit comes with an integrated 5m user cable extension as standard.

- ❑ Plug-in system for ease of installation
- ❑ Trip indicators
- ❑ Push button or key activate options

083 - 301



Model Number	Description
083 – 301	Key Operated Unit (Cross-beam, 24V) – restart / override & trip indicator
083 – 302	Push Button Unit (Cross-beam, 24V) - restart / override & trip indicator
083 – 303	Key Operated Unit (110/230V AC) - restart & trip indicator
083 – 304	Push Button Unit (110/230V AC) - restart & trip indicator
083 – 305	Key Operated Unit (Parallel-beam, 24V) – restart / override & trip indicator
083 – 306	Push Button Unit (Parallel-beam, 24V) - restart / override & trip indicator

Cable Junction Unit

This unit offers connection for external mute inputs into the 8000 and 8000 Plus Series safety light curtains as well as the user cable connection back to the Receiver (Rx) unit. (Integrated cables are 600mm long.) A multi-core cable on the unit provides all the necessary interface together with muting signals to the machine control system on a single cable.



083 - 310

Model Number	Description
083 - 310	Rx Cable Junction

ACCESSORIES

Remote Mounting Stackable Beacons

A range of Stackable Beacons are available with the 8000 Series.

They are typically used where the machine application requires visual indication of control functions from a single location. The translucent plastic lenses provide all round light visibility and can be programmed to provide either flashing or a steady output. The bright LED's are supplied in a variety of colours as listed below.



Model 083-502 with Integrated Mute Beacon



Smartscan Remote Mounting Stackable Beacons

Integrated Monitored Mute Beacon

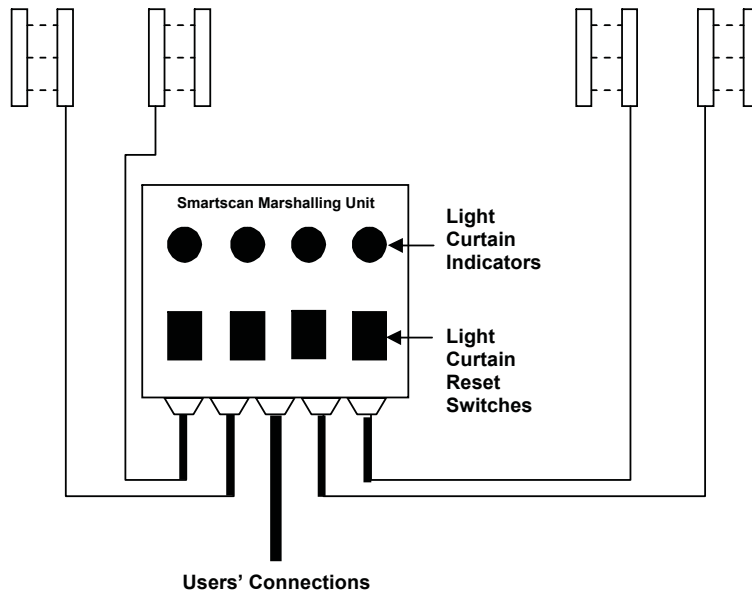
An integrated mute beacon (105 – 804) can be supplied for direct integration onto the light curtain receiver column, or as a separate self-contained unit for mounting remotely. In order to meet the European requirements for monitoring the mute indicator a special monitor module can be provided (105 – 810). The mute beacon monitor module is factory fitted inside the receiver column of an 8000 Series light curtain.

Model number	Description
105 - 801	High intensity LED stackable beacon kit - Red
105 - 802	High intensity LED stackable beacon kit - Orange
105 - 803	High intensity LED stackable beacon kit - Green
105 - 804	High intensity LED stackable beacon kit - Blue
105 - 810	Monitored mute beacon module

ACCESSORIES

Safety System Control Units

Smartscan's Marshalling Units can be used for connecting a number of light curtains and miscellaneous devices, such as gate switches. The Marshalling Units give a number of dual channel safety inputs and outputs. In addition, panel mounted reset switches and status indicators can also be provided.

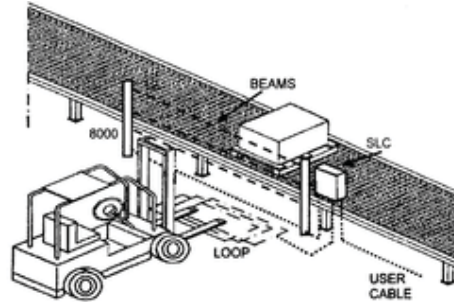


The Marshalling units can include up to 18 dual inputs and 6 dual outputs. Please contact your local Distributor or Smartscan Ltd for advice and pricing.

ACCESSORIES

Inductive Loop Controllers

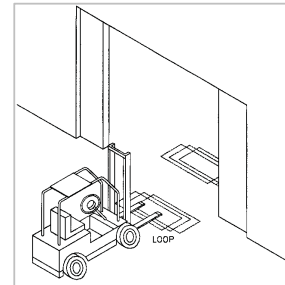
Smartscan inductive loop controllers have been designed for use in conjunction with Series 8000 and 8000 Plus entry/exit safety light curtains.



Smartscan dual loop controllers are used in a number of machine safety applications wherever the presence of fork lift trucks or other industrial vehicles needs to be detected, for example, when entering safe-guarded access ways or at pallet conveyors for loading and unloading. The system thus provides safe operation of fully automatic end-of-line packaging machines at the in-feed and out-feed zones of automated warehouses.

Loop Controller, Model SLC4, is available for Category 4 control integrity as defined in EN 954.

As a loaded pallet moves along the conveyor away from the dangerous machinery it enters the load/unload area at which point the conveyor stops. This load/unload area is safe guarded by a Smartscan light curtain that is positioned to detect personnel accessing the potentially dangerous machinery.



As the forklift truck enters the area it passes over the under floor mounted dual inductive loops which detect it's presence and provide output signals via the inductive loop controller to mute the light curtain. After inserting or unloading the loaded pallet from the conveyor, the forklift truck moves out of the area and therefore off the inductive loops. At this point the muting signals are removed and the light curtain becomes fully active again, thus providing fully automatic control of the machine and safety system.



083 - 320

Inductive Loop Controller

Model number	Description
083 - 320	SLC4 Inductive Loop Controller (CAT 4) Cross-beam

Mute Connection Cable

Model number	Description
084 – 360	5m Inductive Loop Mute Connection Cable

For more information refer to the section 'Application Overview'.

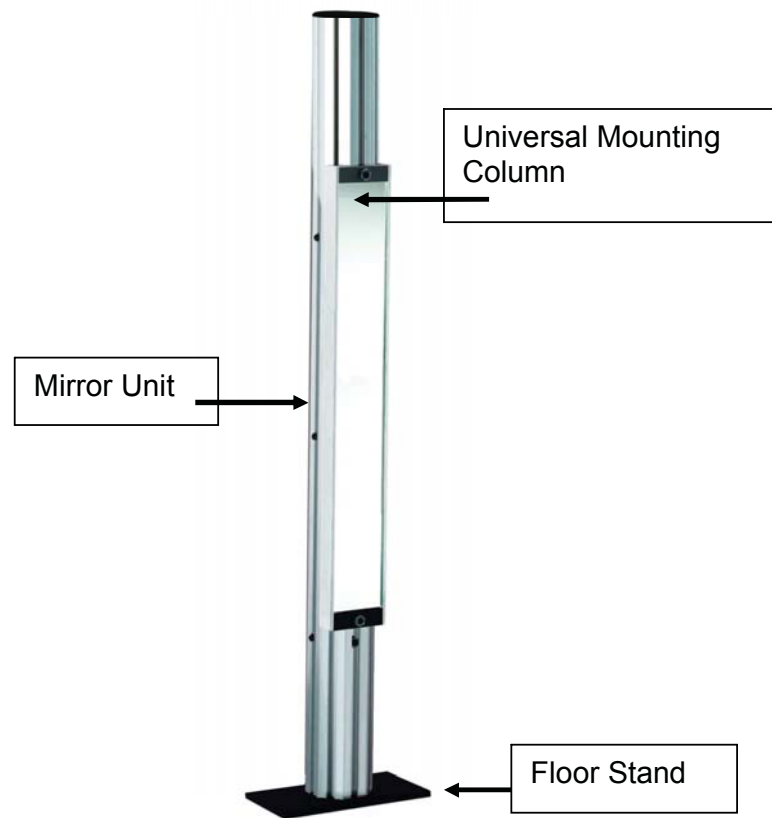
ACCESSORIES

Mirror Units

Two or three sides of a machine can be safeguarded with a single light curtain by using mirrors to deflect the light curtain's infra-red beams.

The Smartscan mirror system provides a sturdy floor mounting kit together with an aluminium column for mounting the mirror. The mirror assembly simply slots onto the column and can be adjusted to the height required for the application.

The special mounting stand enables the mirror unit to be rotated through 360 degrees while also allowing full adjustment in all axes.



Note: Mirrors cause a reduction in optical efficiency, reducing the effective range of the light curtain. Contact Smartscan Ltd or your local Distributor for guidance.

ACCESSORIES

Maximum Range of the light curtain	Maximum range through 1 mirror	Maximum range through 2 mirrors
40m	30m	15m

Mirrors

Model number	Description
044 - 252	600mm x 110mm wide mirror unit
044 - 249	900mm x 110mm wide mirror unit
044 - 250	1200mm x 110mm wide mirror unit
044 - 253	1400mm x 110mm wide mirror unit

Note: Mirror length must be a minimum of 100mm longer than the overall length of the light curtain to be installed

Column & Floor Stand

Model number	Description
044 - 256	1.1m aluminium universal mounting column
044 - 257	1.3m aluminium universal mounting column
044 - 258	1.6m aluminium universal mounting column
044 - 247	1.8m aluminium universal mounting column
044 - 262	2.0m aluminium universal mounting column
044 - 248	Floor stand

Note: A universal mounting column and floor stand is required for each mirror unit.

ACCESSORIES

Power Supplies



If a suitable stabilised 24V DC 2.5A power supply is not available the following unit is recommended. A 24V DC 1A power supply option is also available.

Model number	Description
112-027	Power supply Input 85 - 264V AC Output 24V DC, 2.5A
112-028	Power supply Input 100 – 240V AC Output 24V DC, 1.1A

Features

- ❑ High reliability
- ❑ High efficiency, low working temp
- ❑ Built in EMI filter, low ripple noise
- ❑ Compact size, lightweight
- ❑ Short circuit, over load, over voltage protection
- ❑ Approvals: UL, TUV, CB and CE



Specification 112-027

Type	Switch mode
Input Voltage	85 - 264V AC
Input frequency	47-63HZ
Inrush current	Cold start, 24A, 115V & 50A, 230V
Output voltage/current rating	24V DC, 2.5A
Operating temperature	0°C to 50°C
Storage temperature	-10°C to +70°C
Connection	5P/9.5mm pitch terminal block
Enclosure	160x98x38mm Din rail mounting
Weight	0.5 Kg

Specification 112-028

Type	Switch mode
Input Voltage	100 - 240V AC
Input frequency	50-60HZ
Inrush current	Cold start, 15A, 115V & 30A, 230V
Output voltage/current rating	24V DC, 1.1A
Operating temperature	0°C to 50°C
Storage temperature	-10°C to +70°C
Connection	5P/9.5mm pitch terminal block
Enclosure	99x97x35mm Din rail mounting
Weight	0.37 Kg

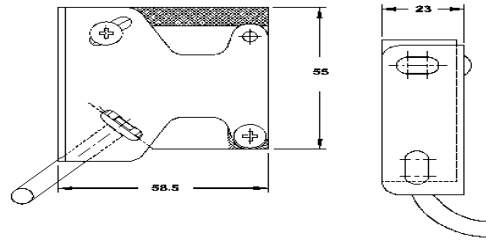
ACCESSORIES

Mute Signalling Photocell Type 109-016A

The polarised retro-reflective photocell can be used in conjunction with all 8000 Series safety light curtains to provide the mute initiating signals.



The mute signalling photocells offer the user an additional muting option configuration. The mute signalling photocells plug directly into the 8000 Series safety light curtain, which uses the signal from the photocells for the mute control sequence instead of the 'L' unit (083 – 002) or 'T' unit (083 – 001). The photocells are positioned to scan across a conveyor to detect loaded pallets prior to the load interrupting the light curtain.



Type 109-016A photocell has a maximum sensing range of 4 metres.

Each photocell comes complete with 1.5m cable and a 4 pin bayonet locking connector for directly connecting to Smartscan 8000 Series light curtains. A mounting bracket and retro-reflective mirror is also supplied.

Model number	Description
109-016A	Polarised retro-reflective photocell

(Each kit contains 1x photocell , 1x mounting bracket 1x reflector mirror)

Sensing Distance	4m
Transmitter Diode	Red Light
Protection Rating	IP65
Operating Voltage	12-240V dc, 50/60Hz
Output	Relay
Current Consumption	2VA max
Response Time	15ms
Enclosure	Intensive ABS
Cable	1.5m length with 4 pin circular bayonet locking connector
Operating Temp	-20°C to +60°C
Humidity	35% to 85%
Weight	145g

ACCESSORIES

Mounting Stands

Designed to accommodate the Smartscan 8000 Series Straight, L and T shaped safety light curtains.

The **Adjustable Stand** (50mm x 50mm) offers the user a flexible mounting option for all your end-of-line applications. The stand has adjustable brackets that allow the safety light curtain to be mounted at different positions to suit a specific application. Brackets for mounting mute signalling photocells on the stand are also available.

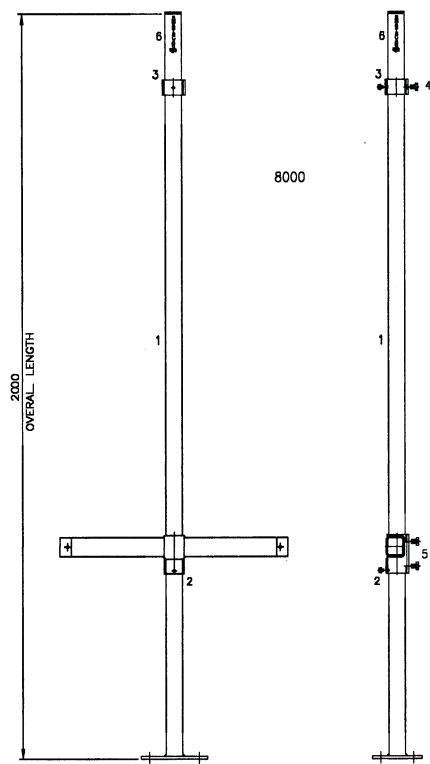
The **Channel Stand** allows the user to mount the safety light curtain inside a protective housing. This provides protection on three sides to give a more robust installation. Channel stands would typically be used where the safety light curtain is at risk of damage from fork lift truck operations, or in the case of end-of-line applications damage from falling pallet loads. The stands are custom made to suit the application requirements for either the straight, L or T shaped safety light curtains. (Please contact your Distributor or Smartscan Ltd directly for further information on this product).

ACCESSORIES

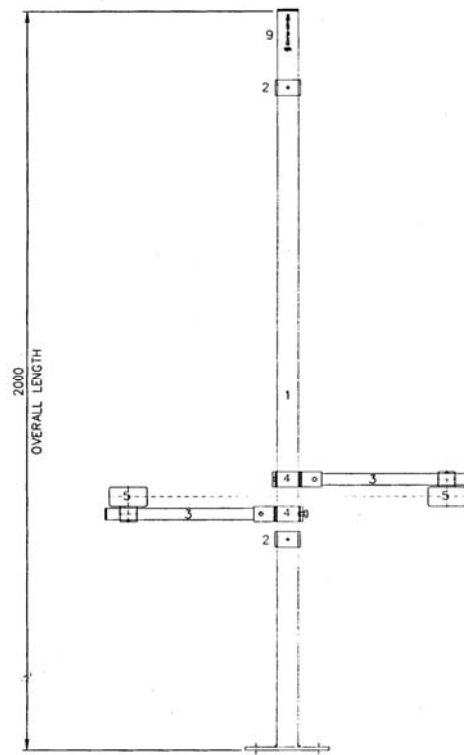
Adjustable Mounting Stands

T stands (entry / exit systems)

Model number	Description	Height
084 – 410	Pair of adjustable 8000 Series 'T' style stands (with complete bracket set)	2m
044 - 400	Pair of adjustable 'T' style stands (with external mute sensor bracket set)	2m



084 - 410

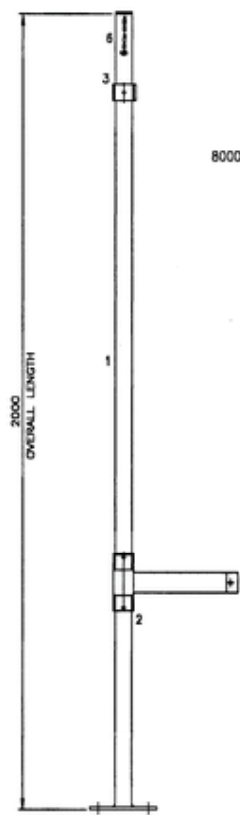


044 - 400

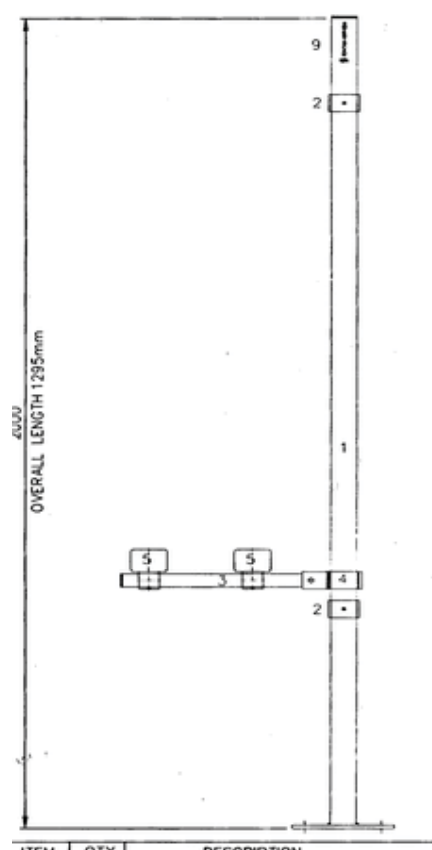
ACCESSORIES

L stands (exit systems)

Model number	Description	Height
084 - 409	Pair of adjustable 8000 Series 'L' style stands (with complete bracket set)	2m
044 - 412	Pair of adjustable 'L' style stands (with external mute sensor bracket sets)	2m



084 - 409

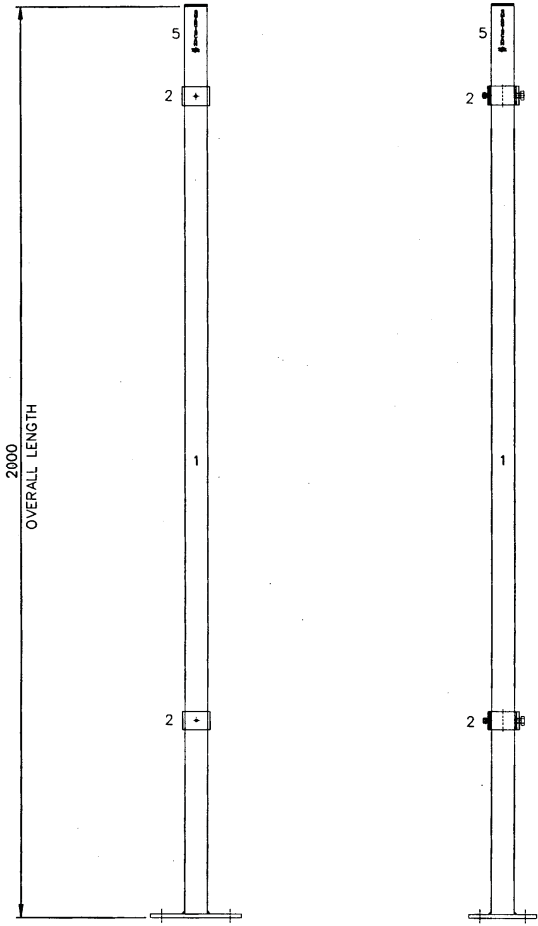


044 - 412

ACCESSORIES

Straight stands

Model number	Description	Height
044 – 408	Pair of adjustable straight stands (with complete bracket set)	2m



044 - 408