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8000 SERIES LIGHT CURTAINS HANDBOOK

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8000 SERIES

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SMARTSCAN

www.smartscaninc.com

Smartscan 8000 Series Light Curtains can be used in various machinery applications including:

- Packaging
- Palletizing
- Transfer Lines
- Production lines
- Robotics
- Automated Warehouses
- Specialty Machines

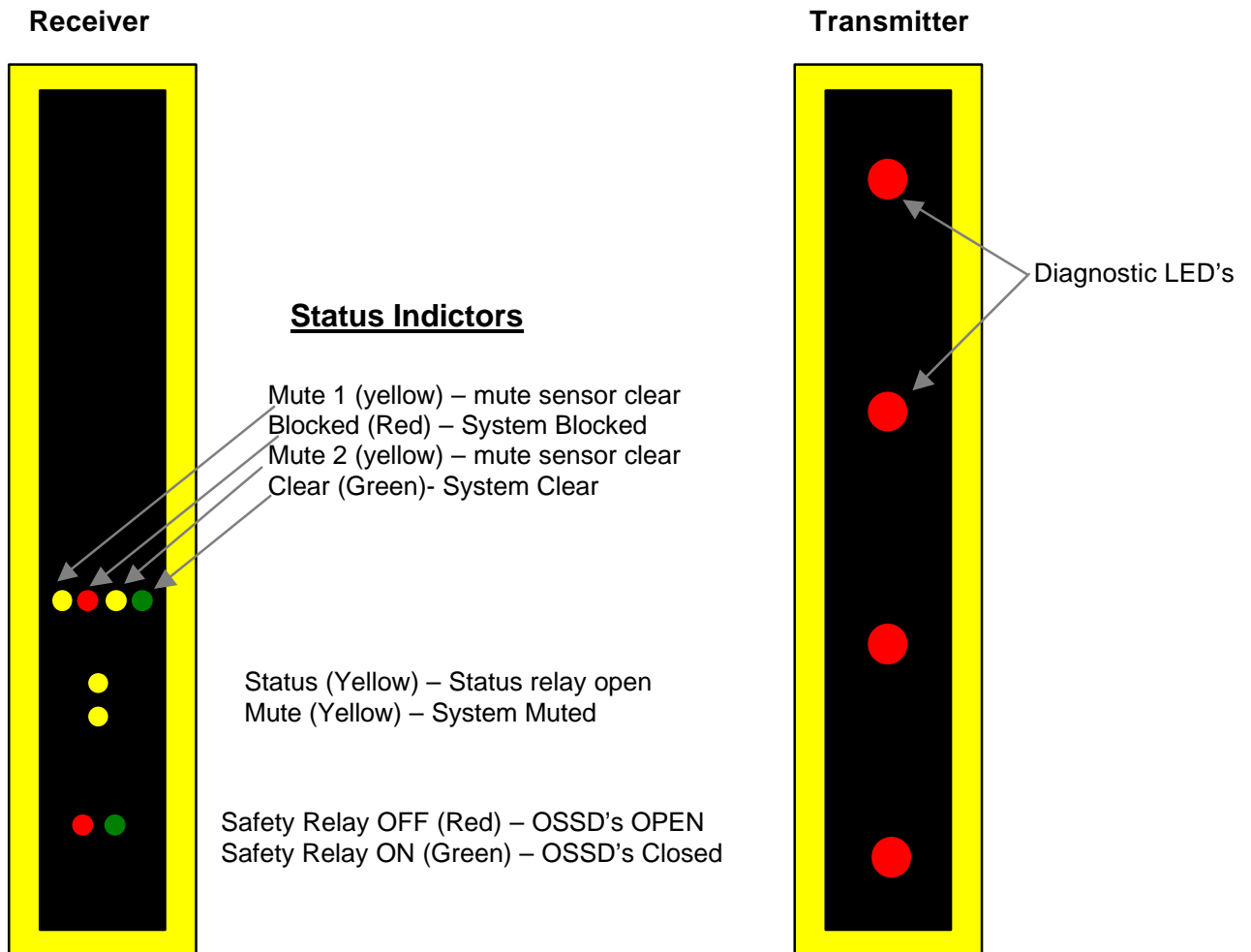
Features:

- Muting
- Mute status output
- Diagnostic and status indicators
- Cross-beam or parallel beam muting
- Automatic or Manual restart modes
- Safety monitoring feedback loop
- Status output contact
- Manual Override
- Up to 30m scanning range on select models
- Simple installation and alignment
- Heavy duty enclosures rated IP66
- Third party approved

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Safety Relay Outputs OSSD1 and OSSD2

All 8000 series systems have on-board cross-monitored output switching relays. These safety outputs respond to interruption of the light curtain (unless muted). LED indicators mounted in the receiver column show the status of the OSSD switches. The relays maximum switching power is 110VAC@2A.

Green LED's ON (relays closed) = OSSD1 and OSSD 2 active ON
Red LED's ON (relays open) = OSSD 1 and OSSD 2 inactive OFF

Status Relay Output

A relay switching contact is provided for guard status indication. The status output contact from this relay is non-safety. The status relay indicates when the safety relays are “CLOSED”, An LED indicator mounted in the receiver column shows the status of the status output. The maximum switching power of the relay is 110VAC@ 1A.

Yellow LED ON (relay open) = Status Output inactive OFF
Yellow LED OFF (relay closed) = Status Output active ON

Mute Output

A transistor output is provided for mute status. The mute output indicates when the light curtain is muted. An LED indicator mounted in the receiver column shows the status of the mute.

Yellow LED ON = Muting ON
Yellow LED OFF = Muting OFF

Mute Inputs (M1, M2)

Mute inputs (M1, M2) are for connecting the L & T muting modules, or external mute sensors. When both inputs are active ON, the light curtain will mute, e.g. the guard output switches will not respond to an interruption of the light curtain. There are mute input LED indicators located in the receiver column that extinguish when the mute signals are applied. **Note: Mute Enable must be applied in conjunction with mute inputs M1 & M2 in order to mute.**

Yellow LED's ON = Mute inputs M1, M2 **NOT** applied (sensor clear)
Yellow LED's OFF = Mute inputs M1, M2 applied (sensor blocked)

Mute Enable (Global Mute Enable)

Muting is not allowed unless this signal is applied. It may be used as a 3rd mute signal. This signal adds an additional level of safety to the muting circuit.

Mode

The mode input is used to select the style of muting either parallel-beam (T style only) muting or cross-beam muting (T & L Style).

Guard Override Function

This function is a temporary suspension of the safety outputs (OSSD's), following a tripped condition, during the period when the light curtain is obstructed. The suspension is limited to 3 minutes. Once 3 minutes is surpassed, the signal has to be removed and then reapplied to get another 3 minutes. As soon as the obstruction clears the light curtain the safety system will automatically reactivate (OSSD's Closed) to a 'fully guarded' condition.

Activate (Manual Start/Restart) Input

This input is use to manually start/restart the system upon initial power up, after a trip or recovery from a fault.

AUTO Restart Input

This input is use to put the light curtain in an Automatic start/restart mode. The system will automatically reset itself upon initial power up and after a trip.

EDM (External Device Monitoring)

EDM is a means of detecting faults in equipment external to the light curtain that is involved in achieving the machine stop condition. For instance, if external relays are used it may be necessary to ensure the relays respond each time the light curtain is interrupted.

8000 Series Light Curtains

Number of beams	2 - 4
Detection height	500, 600, 900 and 1200mm
Range	Perimeter 0.5 – 30m (Model dependant) Parallel-beam muting 0.5 - 10m Cross-beam muting 0.5 – 2.5m
Light type	IR 880nm
Response time	40ms
Operating temperature	0°C to +50°C
Light curtain enclosure	IP66
Power supply	24V DC 1A ±10%
Current consumption	250mA
Light curtain connection	Circular, bayonet locking IP68
Finish	Aluminum chromate treated, yellow polyester powder coated
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 non-safety 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 = +24V DC Parallel-beam mute. ON = 0V

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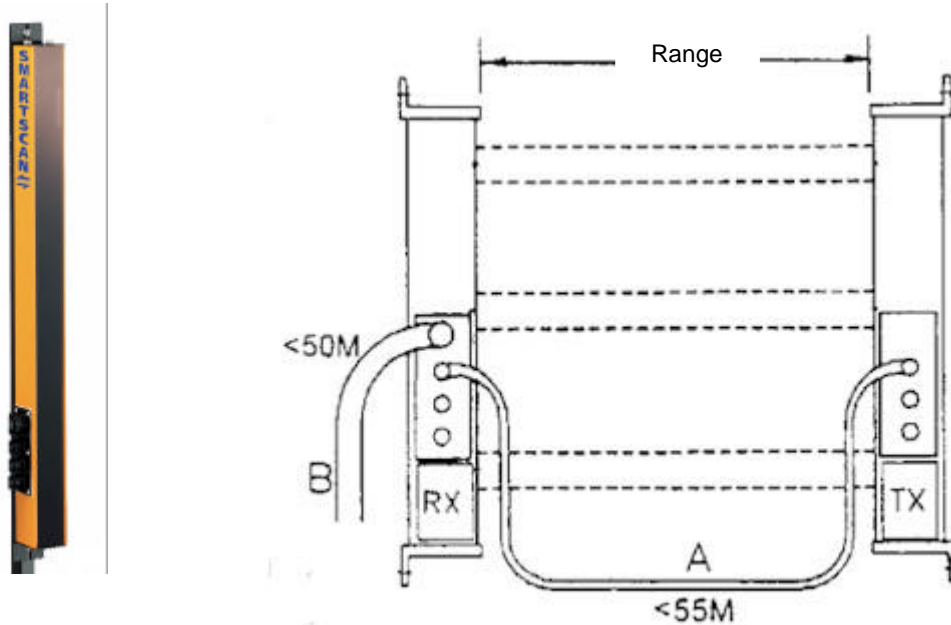
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BSI
Report
Numbers:
288/4268608

CELESTIC
Certificate Number:
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FM27829



8000 Series Straight Light Curtains Range: .5 – 5 meters

Model Number	Order Code	Approximate Height (inches)	Detection Height K (mm)	Centers (C) mm	Extrusion Length (M) mm
8000-600-24M	083-M502	24	600	702	672
8000-600-24	083-M602	24	600	702	672
8000-450-36	083-M903	36	900	1002	972
8000-400-48	083-M1204	48	1200	1302	1272

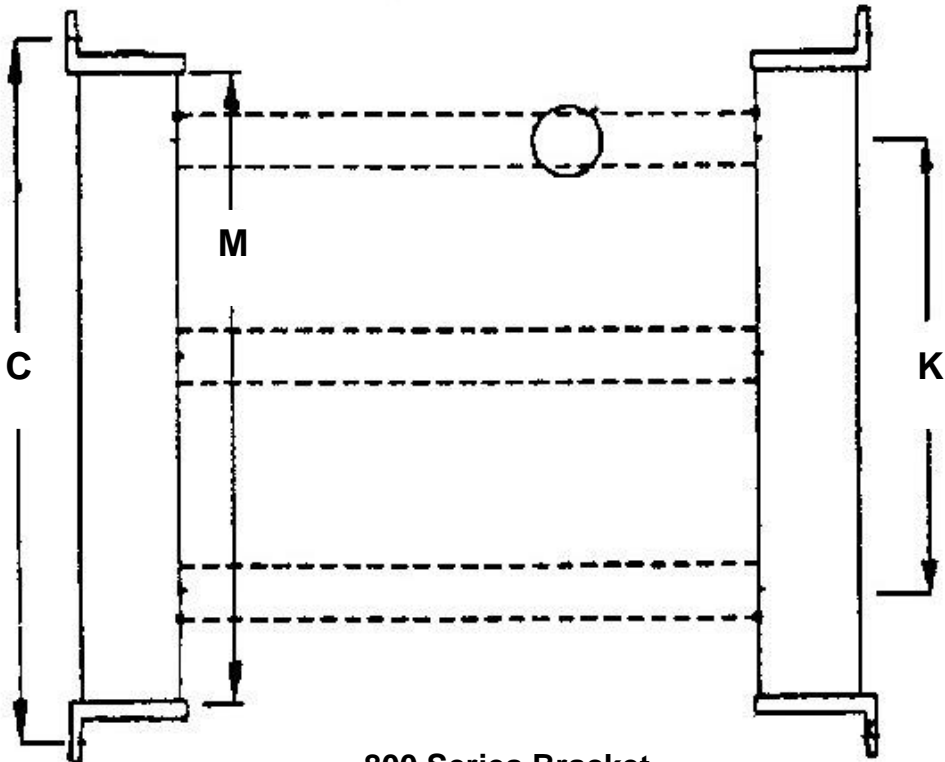
8000 Series Perimeter Straight Light Curtains Range 4 – 30 meters

Model Number	Order Code	Approximate Height (inches)	Detection Height K (mm)	Centers (C) mm	Extrusion Length (M) mm
8000P-600-24M	085-M502	24	600	702	672
8000P-600-24	085-M602	24	600	702	672
8000P-450-36	085-M903	36	900	1002	972
8000P-400-48	085-M1204	48	1200	1302	1272

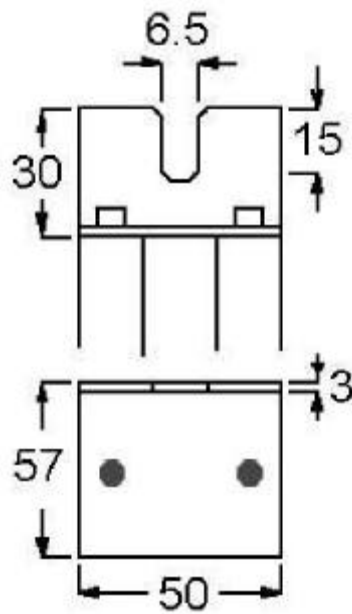
8000 Series

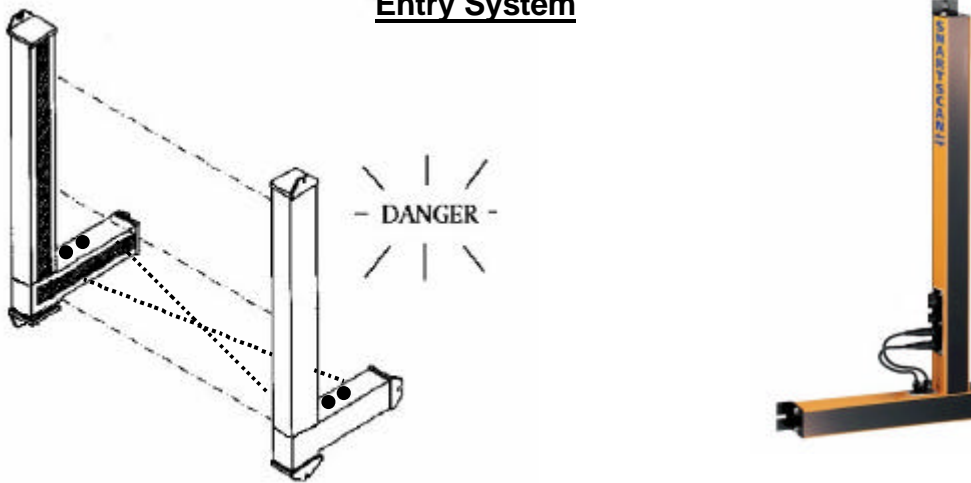
Straight Light Curtains

Range: up to 30 meters

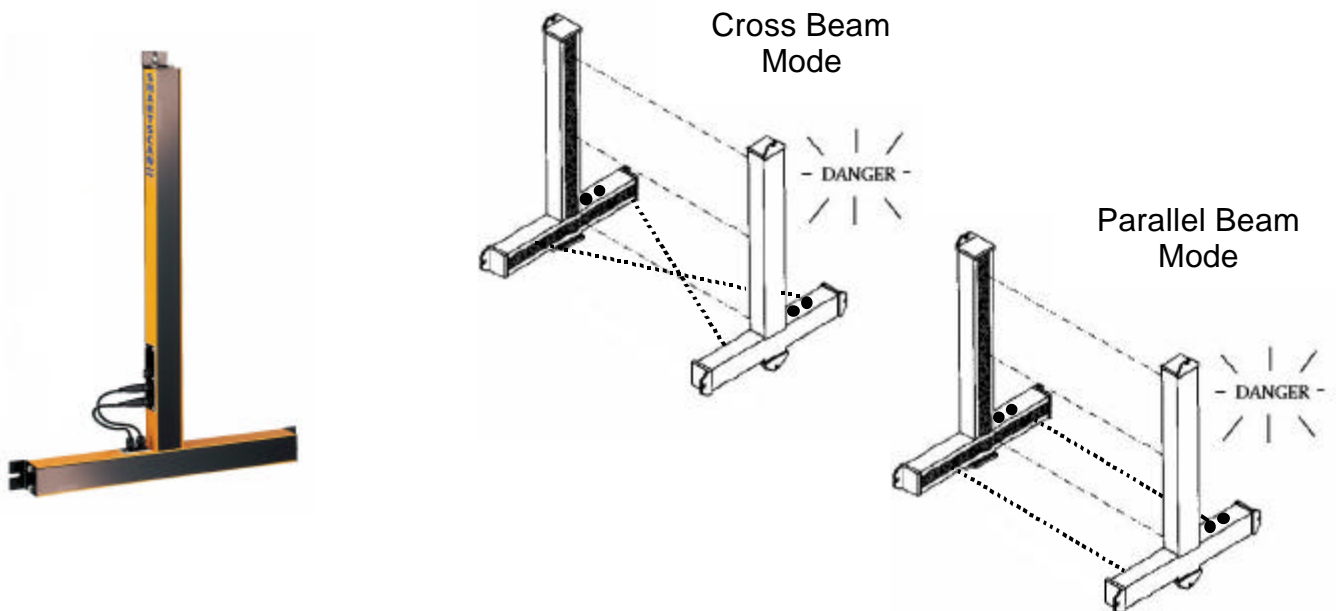


800 Series Bracket Dimensions (mm)



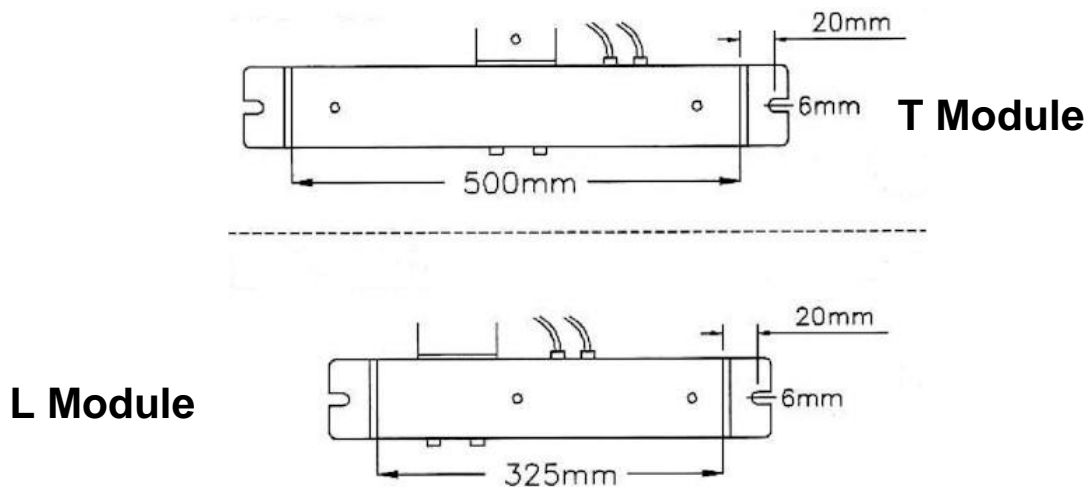
Entry System

L type (exit) light curtains are normally used to safeguard an “Out feed” zone. When product (typically pallet loads) travels OUT from the danger area, the cross-beam intersection point is positioned inside the danger area.

Entry / Exit System

T type (entry/exit) light curtains are normally used to safeguard an “INFEED” zone, or when product (typically a pallet load) is required to travel in both directions through the light curtain. The T type system can be used in either cross-beam or parallel beam mode.

To create an 8000 Series “L” or “T” type self-muting system. An 8000 series straight light curtain (not perimeter style) is connected to an L or T module via bottom-mounted bolts. The electrical connections between the sensing unit and the module are done via molded cable connector assemblies attached to the module.



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

Model Number	Order Code	Overall Length (mm)
8000-T-KIT	083-001	500

Range

Cross-beam muting: 0.5 – 2.5m

Parallel-beam muting: 0.5 – 10m

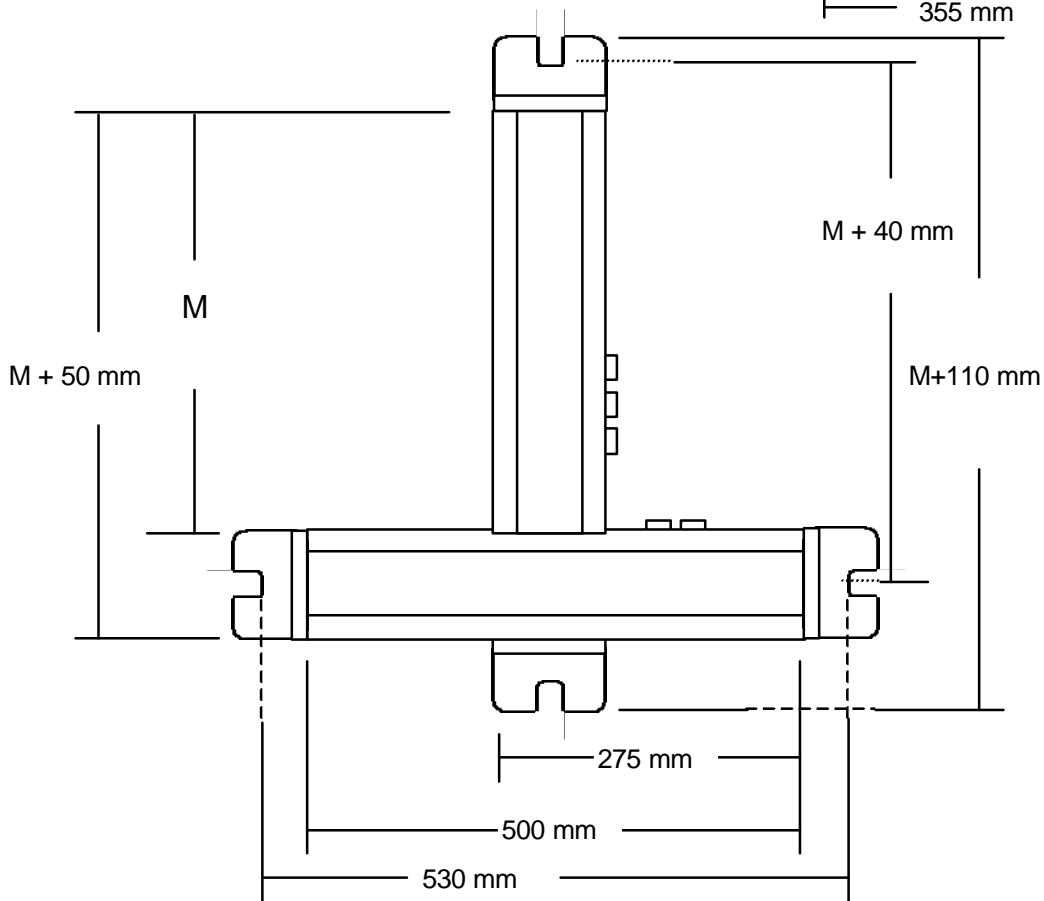
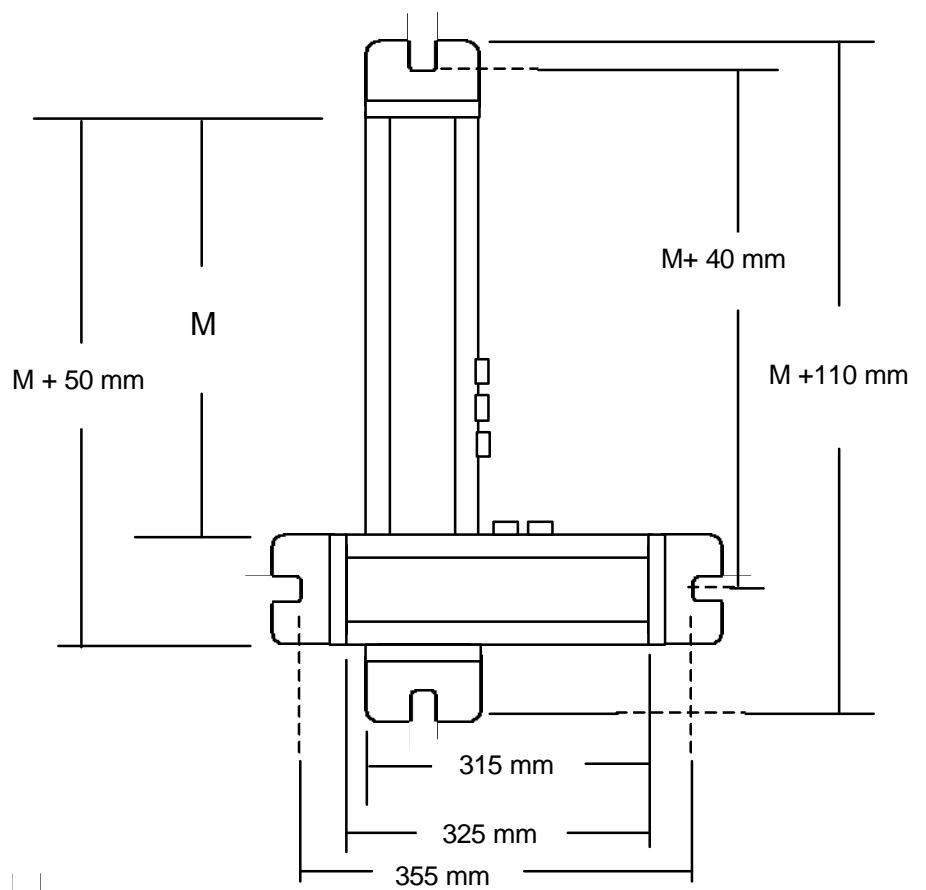
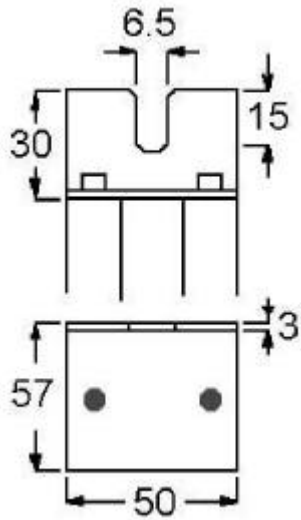
‘L’ mute module (Suitable for exit applications only)

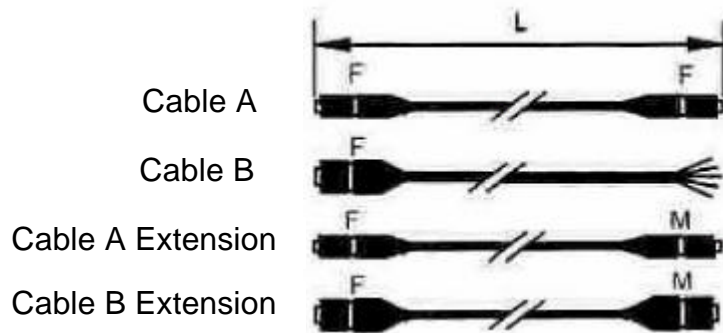
Model Number	Order Code	Overall Length (mm)
8000-L-KIT	083-002	325

Range

Cross-beam muting: 0.5 – 2.5m

8000: Bracket





Model Number	Order Code	Description	Overall Length (L) m
8A05	084-005	Cable A	5m
8B05	084-105	Cable B	5m
8AX10	084-211	Extension (Cable A)	10m
8BX10	084-210	Extension (Cable B)	10m
8AX20	084-221	Extension (Cable A)	20m
8BX20	084-220	Extension (Cable B)	20m

