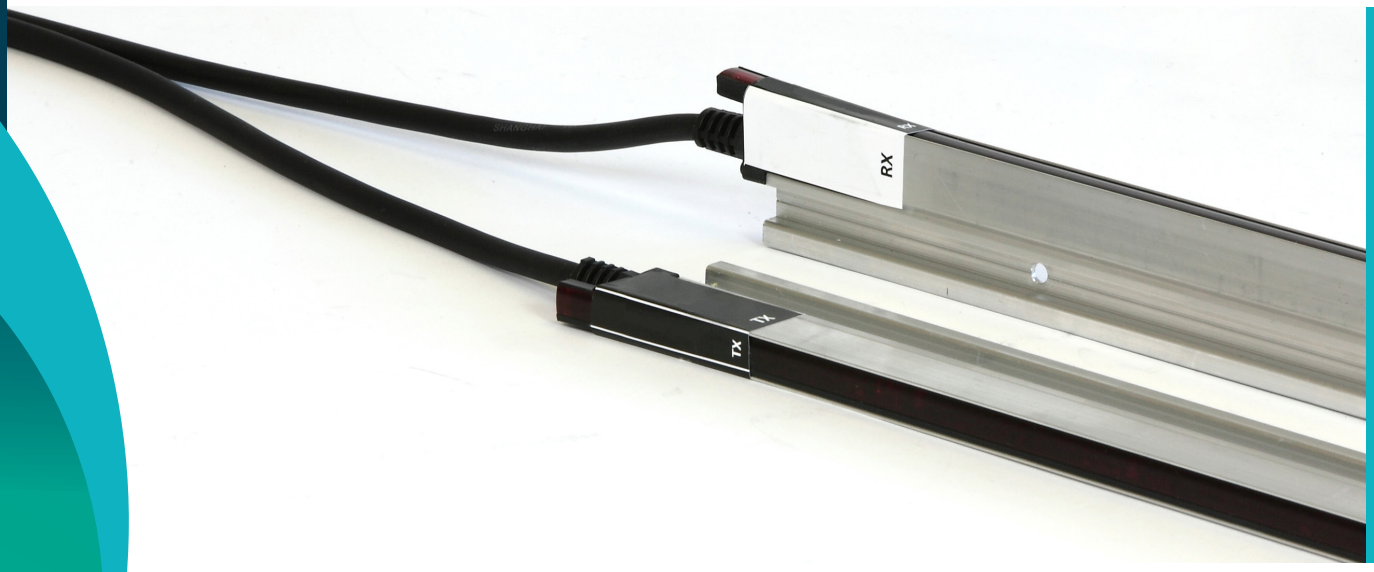
Memco® E-Series
EN81-20 Compliant Elevator Light Curtains

Product Datasheet



Memco's E-Series elevator light curtains is a versatile range with up to 36-diode versions, supporting up to 174 criss-cross beams for premium safety.

The 36-diode version is able to detect a 50mm target which is compliant with EN81-20 standards. The 20-diode system is a cost-effective solution to be EN81-20 compliant for certain installations. (See last page for details)

The specially developed filters, unique to Memco, incorporate bespoke lens designs that are used with the surface mount transmit and receive diodes. Improved circuit protection has been added which guards against common wiring errors during installation. Communication between the TX and RX diodes is now delivered optically, there is no communication wire required.

The RX has a diagnostic LED that is visible through the lens and provides an indication of a trigger or a possible system fault. In case of failure of the light curtain, the diagnostic output on the RX will inform the lift controller so that the kinetc energy of the closing doors can be limited to the required level.

The system has been designed to be tolerant to the infra-red content equivalent to 100k lux.

This results in very high levels of light immunity and outstanding reliability. The Detectors are housed in a 10, 32 or 40mm profile.

Key Features

+ EN81-20 compliant
+ Designed for new & existing installations.
+ Suitable for dynamic or static installations.
+ Reduced installation time:
    - No setting up required
    - No communication wire
    - No configuration needed
+ Extended range of input voltages 11-42VDC to suit all applications
+ Robust Electronics
+ Timeout Software
+ Diagnostic LEDs
+ Auto Beam Disabling (ABD)
+ Diagnostic output

Detector Profiles

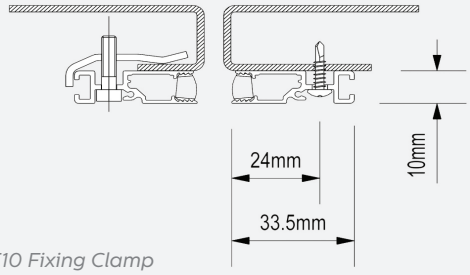


Fig 1: E10 Fixing Clamp & Self-Tapping Screw for side and centre-opening

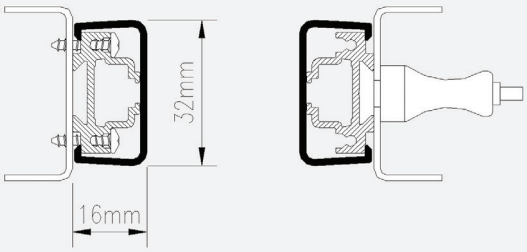


Fig 2: E32 Fitted to the leading Edge for side and centre-opening

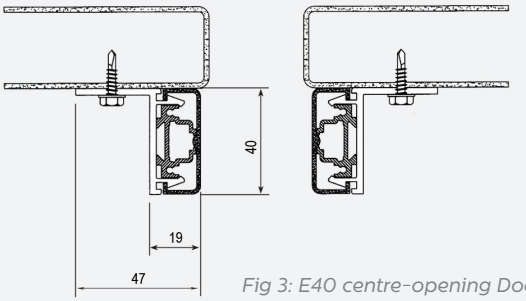


Fig 3: E40 centre-opening Doors

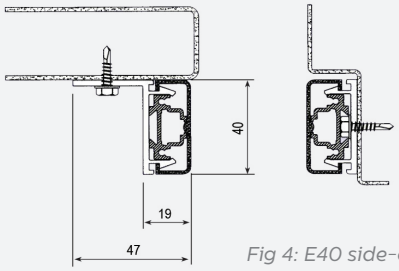


Fig 4: E40 side-opening Doors

	36 & 20 Diodes
Bottom diode from sill mounted 5mm above sill	E10 25mm E32 32mm E40 32mm
Top diode from sill mounted 5mm above sill	E10 1633mm E32 1640mm E40 1640mm
Detector height from sill mounted 5mm above sill	E10 2005mm E32 2105mm E40 2105mm

Available Models

+ E-Series 10mm profile
  - 20, 36 Diodes
+ E-Series 32mm profile
  - 20, 36 Diodes
+ E-Series 40mm profile
  - 36 Diodes

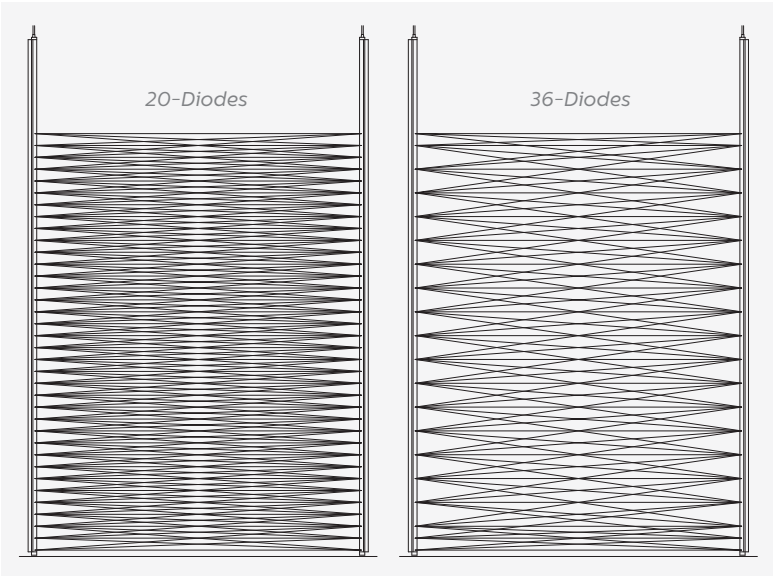


Fig 5: Diode beam pattern for 20 and 36-diode detectors

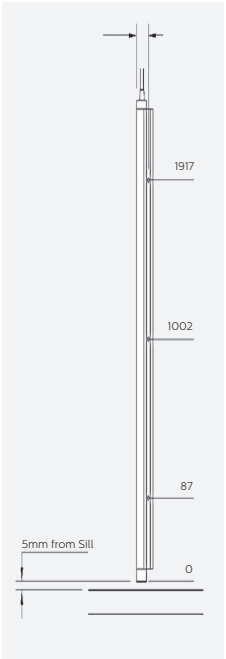


Fig 6: E10 Fixture Holes

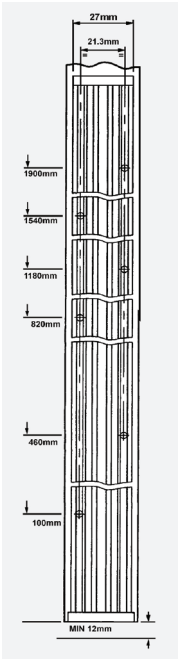


Fig 7: E32 Fixture Holes

Technical Specification

10mm Profile 32mm Profile 40mm Profile	E10 36 E32 36 E40 36	E10 20* E32 20* -
External Dimensions	10mm x 33.5mm x 34mm (E10) 10mm x 33.5mm x 34mm (E32) 10mm x 33.5mm x 34mm (E40)	
No. of Diodes	36	20
Total No. of Beams at a separation of	174 Beams >500mm 106 Beams<500mm &>200mm 36 Beams <200mm	84 beams >500mm 58 beams <500mm & >200mm 20 beams <200mm
Top Diode position from sill*	1633mm	
Bottom Diode position from sill* ** Detectors are mounted 5mm from sill*	25mm	
IP Rating	IP65 (E10), IP54 (E32), IP54 (E40)	
Maximum Range	3m	
Max. Response Time	100ms	
Light Immunity	>100,000 lux	
Input Voltage	+11VDC - +42VDC Continuous 44VDC [Max] Peak	
Trigger Output	Maximum Switching Voltage=45VDC/30VAC Maximum Switching Current=350 mA Maximum on State Resistance=2 Ohms NPN,PNP,NC,NO user configurable	
Diagnostic Output (optional)	Maximum Switching Voltage=45VDC/30VAC Maximum Switching Current=350 mA Maximum on State Resistance=2 Ohms NPN,PNP user configurable; NC only	
Current Average	<100mA	
Peak Current	<100mA	
Operating Temp. Range	-10°C - 60°C as per BS2011 Part2.1 Ab & Part2.2 Bb	
Storage Temperature	-25°C to 60°C	
EMC Emissions	EN12015:2014 Immunity 12016:2013	
Random Vibration	20-500Hz 0.002g2/Hz, 4 hours per axis	
Sinusoidal Vibration	30Hz 3.6g RMS 30mins per axis	
Humidity	93% BS60068-2-30:2005:Part2.1Db:1981, Variant2 @ 55°C	
Cables	TX=2 Cores & RX= 5 Cores (7 Cores with diagnostic output), Length=2.7m	

**E10 20 complies with EN81-20 in certain static installations only. See guide on next page or contact your local sales office for details.*

Ordering Information

Part Number Code

e.g:-

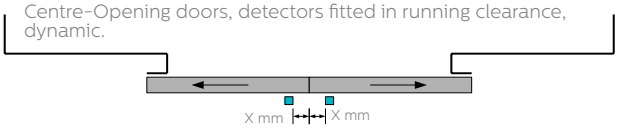
E	10	20	D	TD	B
Product	**Profile*(mm)**	**No. of Diodes**	**Diagnostic Output**	**Timeout**	**Custom Cables**
E	10	20	D = Diagnostic Output	TD = Timeout Disabled	- Std Cable 2.7m
	32	36	N = No Diag. Output	TE = Timeout Enabled	B = 4m Cable
	40				S = 0.4m

Extension cables for E10 & E40 detectors		Fixing Kits	
E10 884	Set of E10 Extension cables, 4m	E10 800	Standard dynamic kit (included with detectors)
E10 885	Set of E10 Extension cables, 5m	E10 803	Clamp plate kit (per detector)
E10 887	Set of E10 Extension cables, 7m	E10 805	Short Static kit, aluminium support bracket 1400mm
E 10 890	Set of E10 Extension cables, 10m	E10 812	Static kit, slim, support brackets 14mm wide x 2612mm

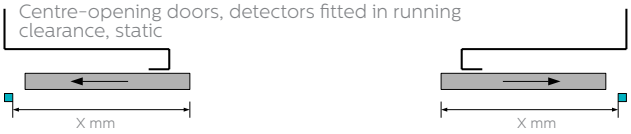
Note: Static kits need to be ordered separately for static installations.
**24mm profile is also available on request.*

EN81-20 Installation Guidelines for E10 20

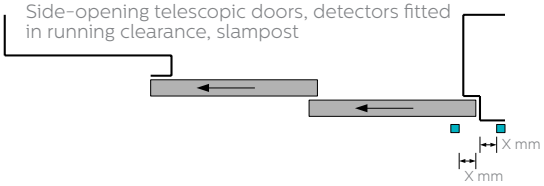
Centre-Opening doors, detectors fitted in running clearance, dynamic.



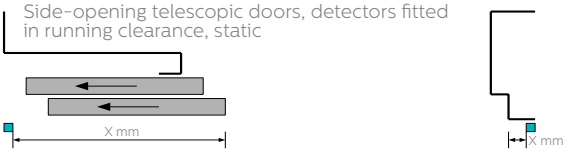
Centre-opening doors, detectors fitted in running clearance, static



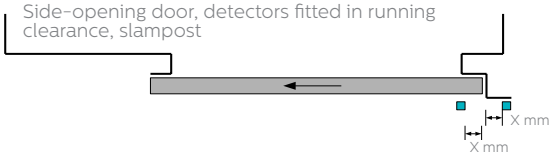
Side-opening telescopic doors, detectors fitted in running clearance, slampost



Side-opening telescopic doors, detectors fitted in running clearance, static



Side-opening door, detectors fitted in running clearance, slampost



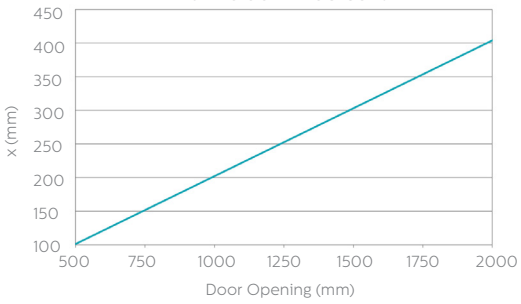
Door

Detector

Light curtains with diode spacing greater than 50mm can still comply with EN81-20 when installed at some set back distance from the edge of the elevator door. This guide shows how E10 20 can comply with EN81-20 in specific installations.

E10 36 is compliant in all installations.

Minimum set back distance to meet EN81-20 50mm detection



Note: x = 0mm for E10 36

This product is designed for use in elevators with powered automatic doors where the closing energy is less than 10J in normal operation and less than 4J during de-activation of the light curtains or less as per EN81 requirements. It should be installed by qualified personnel only, therefore any use outside of this application is at the installer's own risk and should be assessed appropriately.

As a result of our policy of continual improvement, the information in this document is subject to change without notice and it is intended only as general guidance on product performance and suitability. This information shall not form part of any contract.

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