



PRODUCT
INFORMATION
SHEET

Memco Surfguard

CAR TOP SAFETY SYSTEM

- Provides an output that can be used to stop the lift safely during a car-top intrusion or machine room intrusion (optional)
- Greatly reduces the risk of accidents
- Designed for new and existing lifts
- Deters intruders
- Quick and easy to fit to any type of lift
- Cost effective solution

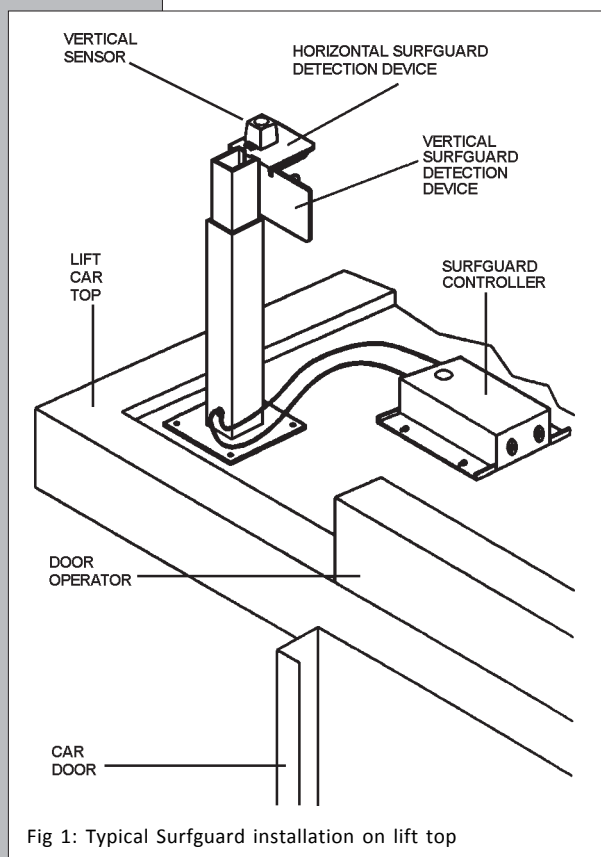


Fig 1: Typical Surfguard installation on lift top

INTRODUCTION

The Surfguard has been developed as a safety system to detect intruders on the top of a lift car. On detection of an intruder, the unit provides an output that can be used to stop the lift running. In addition, outputs are provided to operate a beacon and siren. An auxiliary output is also available for remote alarm indication.

OPERATION AND INSTALLATION

The Surfguard is a dual passive infra-red detector system, which provides an horizontal and vertical field of view on the car top area, as shown in Fig 1. It is sensitive to changing thermal images and it will detect a person attempting to jump onto the car top. There is also a vertical sensor wired into the horizontal detector (shown in Fig 1) to sense any object being thrown over the detection devices from above.

The horizontal detection device is hinged and can be raised or lowered by approx $\pm 15^\circ$ to allow coverage of the lift roof, without detecting the far wall.

The dual detection device is housed on a robust fixing bracket assembly, elevated by an adjustable stand (Fig 2). This is positioned on the left front corner of the lift car top near the door operator and securely fixed by self-tapping screws. If there is no suitable position for the stand to be fitted, the inner section can be secured independently, using the 8 slots and fixing kit provided. The stand allows for height adjustments to suit site conditions.

The system is armed and disarmed through a remote key switch, which is encased in a flanged box with a 2-core 2m cable, so it can be fitted separately from the control unit. The control unit is mounted on the car top, or in a remote location, such as the machine room. The Surfguard controller is housed in a robust metal casing and can be supplied with 110/240V AC or 15/35V DC. The removable terminal blocks allow easy wiring installation. The beacon and the siren can be installed on the car top, or at the top of the lift shaft.

CONTROLLER CONNECTIONS (see Fig 3)

Input

Four different inputs are available, two of which are used to monitor the dual detection device and the vertical sensor. Each detector head is connected by a 2.7m cable with 3 cores plus a screen. Each core is terminated using boot-lace ferrules. The cores carry +12V DC, 0V, and the trigger output (PNP-N/C).

The "Door" input is used to detect machine room door access through a door sensor (optional). An auxiliary input is also provided to allow the sensing of other security devices, if required.

Output

Three different relays are programmed to operate a number of devices after a detection:

- The main trigger relay is connected to the lift controller, and is used to stop the lift immediately and safely.
- A dual pole relay is used to trigger the beacon and the auxiliary output (providing, for example, information to a remote control centre). The red beacon uses the 12V DC supplied by the controller. Its nominal power is 3W and it is fully protected to IP65.
- The siren relay is used to trigger the siren. The sound output of the supplied siren is 85dbm. This peripheral device also uses the 12V DC supplied by the Surfguard controller. An adjustable cut-off timer, pre-settable from 45 secs to 5 minutes, is available in the controller.

Note: If the controller installation is to be in the machine room, please ensure that you have sufficient spare cores in the travelling cable.

ON SITE ADJUSTMENT

The Surfguard system alarm characteristics can be configured on site to suit local conditions, using the 4 system delay potentiometers.

Arming Delay

The arming delay of 5sec-50sec allows the lift engineer to arm the system through the controller key switch positioned on the car top. The delay allows him to leave the protected area, without triggering the Surfguard during the delay period.

Alarm Delay (infra-red system)

The alarm delay of 1sec-45sec allows the lift engineer to disarm the system, via the controller key switch, without activating the peripheral devices.

Alarm Delay (Machine Room Door)

The machine room door switch delay of 1sec-45sec allows the lift engineer to arm or disarm the system through the controller key switch, when the controller is positioned in the machine room, without triggering the Surfguard system.

Siren Timeout

The siren timeout gives a time delay of between 45sec-5min before the siren is muted. This delay allows the siren to be deactivated but the beacon to carry on flashing, after an alarm has occurred.

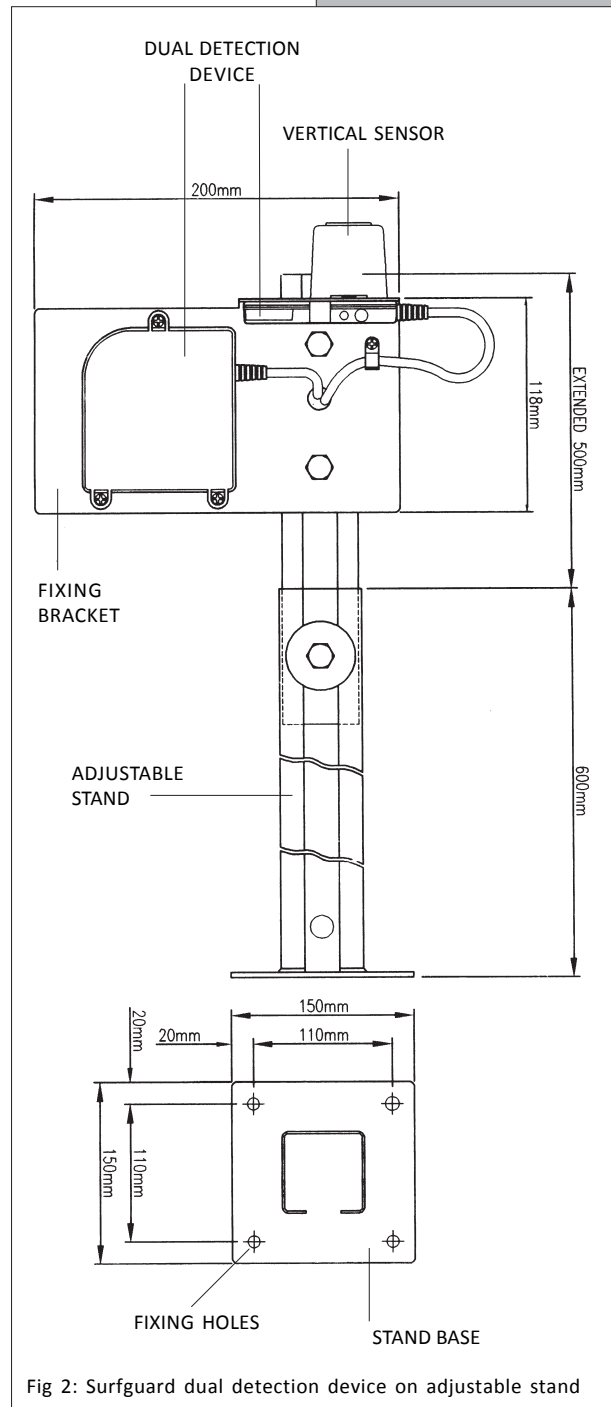


Fig 2: Surfguard dual detection device on adjustable stand

The car warning notice (ordered from Memco as an accessory) is a rigid plastic plate which can be screwed in a visible position as a warning to prospective intruders, to state that the lift is protected.

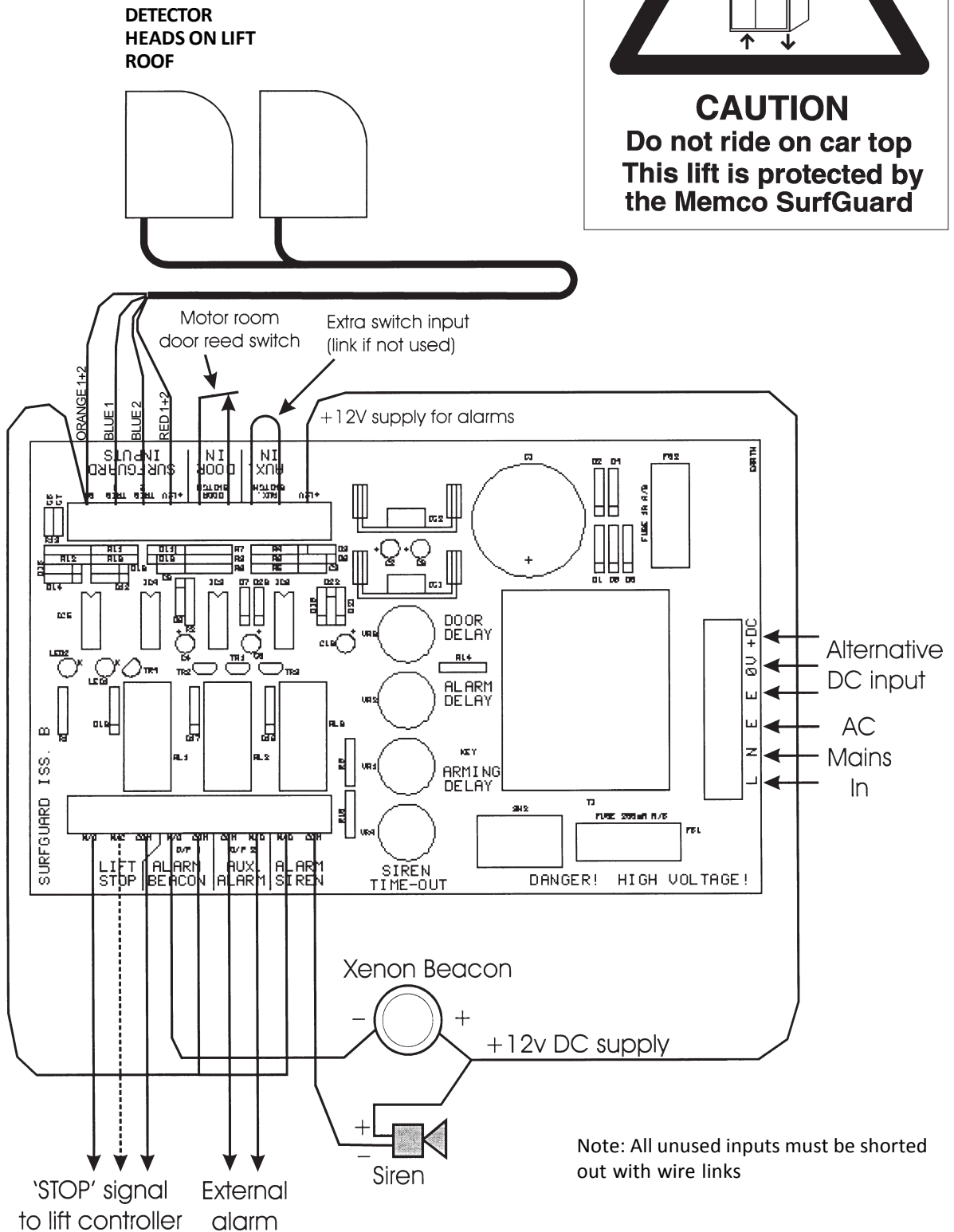


Fig 3: SurfGuard Controller Connection

SPECIFICATION – SURFGUARD DETECTION DEVICE MODEL 190 000

Size of Stand	Height – 600mm - 1100mm, Width – 42.6mm, Stand Base – 150mm x 150mm
Weight	2859g
Input Supply Voltage	12V DC
Output	PNP-N/C
Fixing Kit	190 800-001
Cable	2 cables of 2.7m terminated by boot lace ferrules
Working Temperature Range	0°C to 35°C
Trigger Response Time	500ms
Storage Temperature	-25°C to +85°C for 16 hours at each temperature BS2011 Pt2.1Ab:1990. BS EN 60068-2-2:1993
High Temperature/High Humidity	BS2011 : Part 2.1Db : 1981, Variant 2 at +55°C
EMC Compliance	Emissions to EN 50081 Part 1, Immunity to EN 50082 Part 1
Vibration	Random vibration 20 to 500 Hz 0.002g _r /Hz 3 hrs per axis
Change of Temperature	BS 2011 Pt2.1Nb:1985 +85°C - 25°C 3 hrs 2 cycles
Sinusoidal Vibration	30Hz @ 3.6g Rms (5.1g Peak), 30 mins/axis BS EN 60068-2-6:1995

SPECIFICATION – SURFGUARD CONTROLLER MODEL 290 000

Size	55mm x 205mm x 250mm
Weight	2029g
Voltage Requirements	115V/230V AC selectable through main switch or 15-35V DC
Power Consumption	4 watts – 10 watts with siren
Relay Ratings	Single pole : 10A. Dual pole : 5A
Indicators	1 green LED (power), 1 red LED (arming/disarming) estate
Relays	1 main trigger relay, 1 dual voltage relay : beacon and auxiliary output, 1 siren relay
Inputs	2 for Model 190 000, 1 door sensor, 1 auxiliary
Delays	1 arming delay 5-50sec, 1 alarm delay 1-45sec, 1 door sensor delay 1-45sec, 1 siren timeout adjustable from 45sec - 5 mins

ORDERING INFORMATION

Description	Part Number
Surfguard dual detection device using 12V DC, logic output PNP-N/C with 2.7m cable, adjustable fixing bracket, adjustable stand and fixing kits	190 000
Surfguard controller switchable between 115V/230V AC or 15-35V DC, 4 inputs (2 detection device, 1 door switch, 1 auxiliary) 3 relays (1 main trigger relay, 1 dual voltage relay, 1 siren relay), 4 delays with potentiometer controls, fixing kit and remote key switch	290 000
Spares and Accessories	
Red beacon using 12V DC, nominal power 3W, IP65 with fixing kit	290 881
Siren using the 12V DC, up to 85db sound output with fixing kit	290 882
Dual detection adjustable fixing bracket	182 180
Vertical Sensor	182 005
Horizontal passive infra-red detection device using 12V DC, logic output PNP-N/C	182 001
Vertical passive infra-red detection device using 12V DC, logic output PNP-N/C	182 002
Car warning notice	004 226

This product is designed for use in elevators with powered automatic doors where the closing force is 25N/mm 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.

A HALMA COMPANY



MEMCO LTD, CLYDE HOUSE
REFORM ROAD, MAIDENHEAD
BERKS SL6 8BY, UK

TELEPHONE: +44 1628 770734
FACSIMILE: +44 1628 621947

www.memco.co.uk