

DATA SHEET

- 70 beams
- 110V AC / 230V AC
- Relay output, both N.O. and N.C. are available to user (Change over)
- Diagnostics LEDs on edges
- Slim and wide housing available.
- Pluggable cables

Description

The SAR70ELC41 is used to protect the entrances of elevators equipped with automatic doors. Protection is achieved by **70 DISCRETE INFRARED BEAMS**, which are transmitted and received between two edges, a transmitting edge "TX" and a receiving edge "RX". When one or more beams are obstructed the output relay, located on the control box, is de-energized, the Red LED (D2) on the control box is lit (see fig. 5) and the left LED on RX edge (see fig. 1) is extinguished.

The output relay on the control box is a change over relay with N.O. and N.C. contacts, of which **both are available to user**.

The edges are mounted to the car doors or strike post. Each edge is equipped with a pluggable 4.5 m cable. The system is fail-safe i.e. the output relay will de-energize if any of the following occurs:

1. System power is lost.
2. Edge cable is damaged.

Housing

Aluminium housings available for SAR70ELC41 are:

- ❖ Model **S** : Slim extrusion of housing (see fig. 3)
- ❖ Model **W** : Wide extrusion of housing (see fig. 4)

Faulty beam cancellation

If the system senses an obstruction of one beam for a period of one minute, it will designate the beam as faulty and cancel that beam. Where upon normal door operation will resume and system will continue to operate normally until three successive beams are designated as faulty. If the system senses that a faulty beam is restored it will after one minute null out the cancellation and the beam will be back in operation.

If this feature is disabled and the system senses an obstruction, the doors will remain open indefinitely.

The bottom and top beams are not cancelled by the system, when one of these beams becomes faulty the doors will remain open indefinitely.

The faulty beam cancellation can be enabled or disabled by the "T" DIP switch on the C41 control box.

Diagnostics

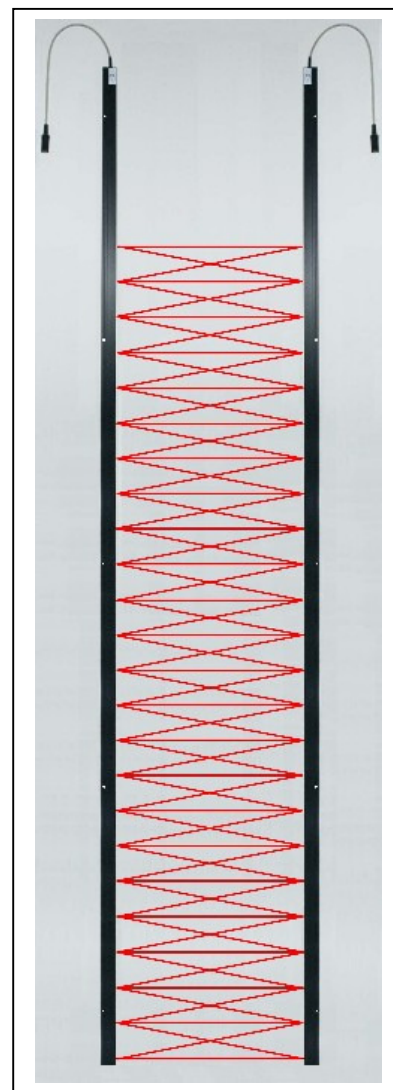
For diagnostics and trouble shooting there are two LEDs on RX edge and one LED on TX edge. These LEDs signalize to the user, by diagnostics codes, the status of the system. refer to fig. : 1 & 2.

External Control Box

The SAR70ELC41 operates with a control box powered from mains 230VAC (or 110VAC on order) The external control box contains a transformer, a buzzer, a 5A one changeover relay, a beam cancellation enable/disable switch and a buzzer enable/disable switch

Green LED (D3) indicates that power is applied

Red LED (D2) indicates interruption of one or more beams



DIAGNOSTICS LEDs

DIAGNOSTICS CODES

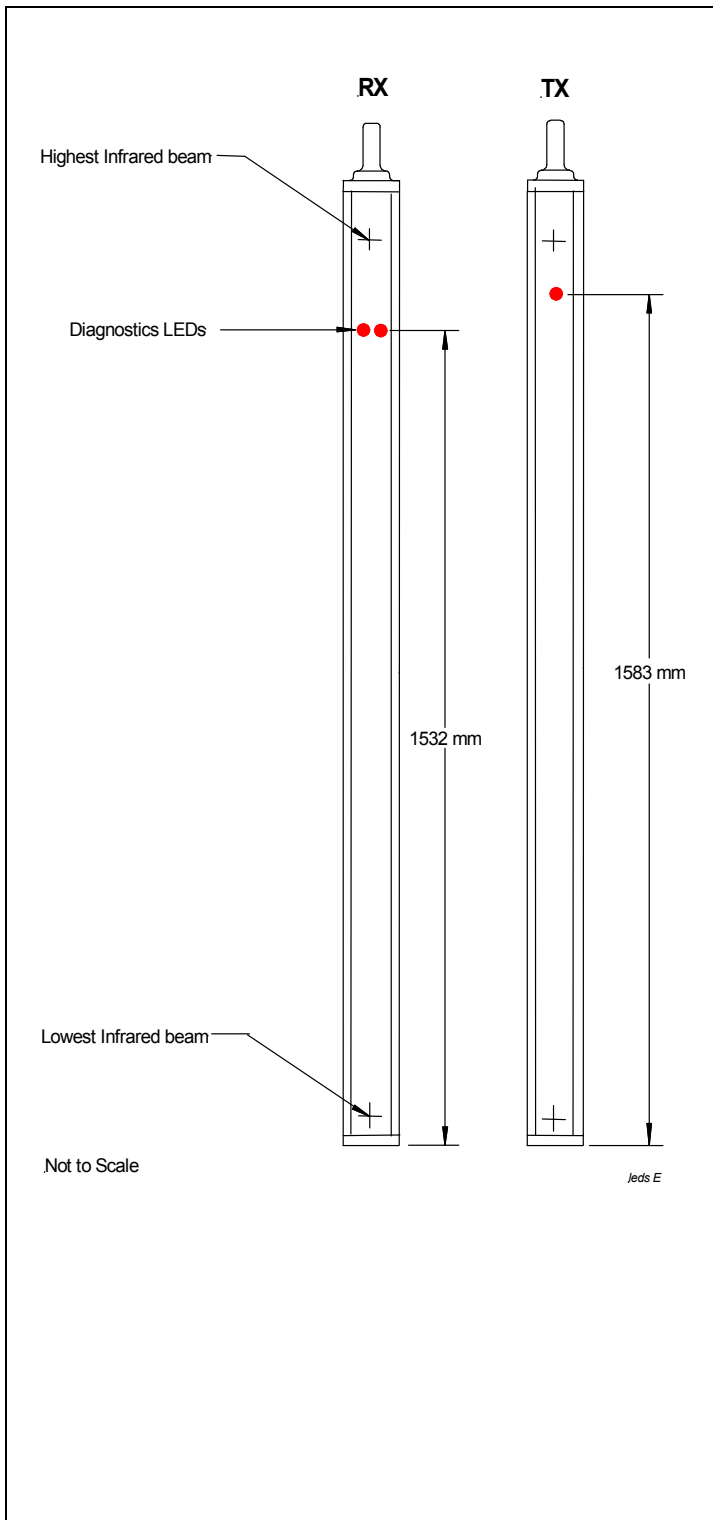


Fig. 1

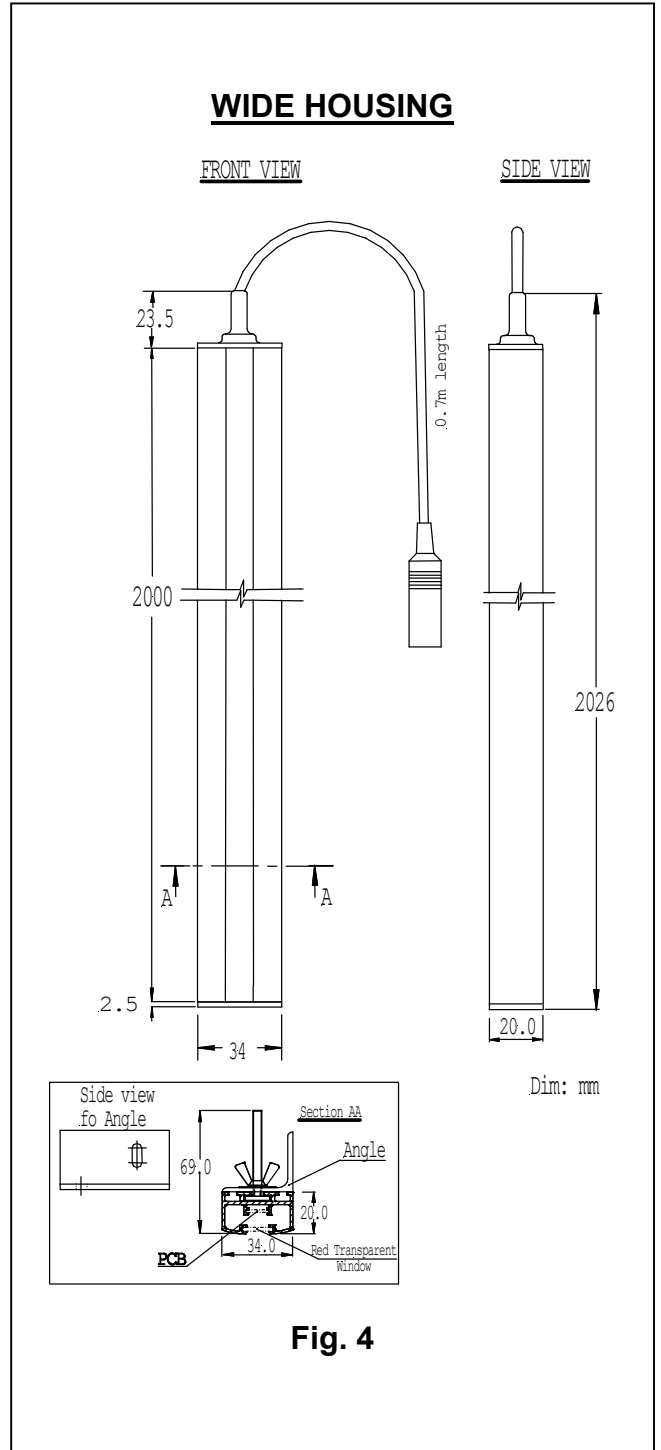
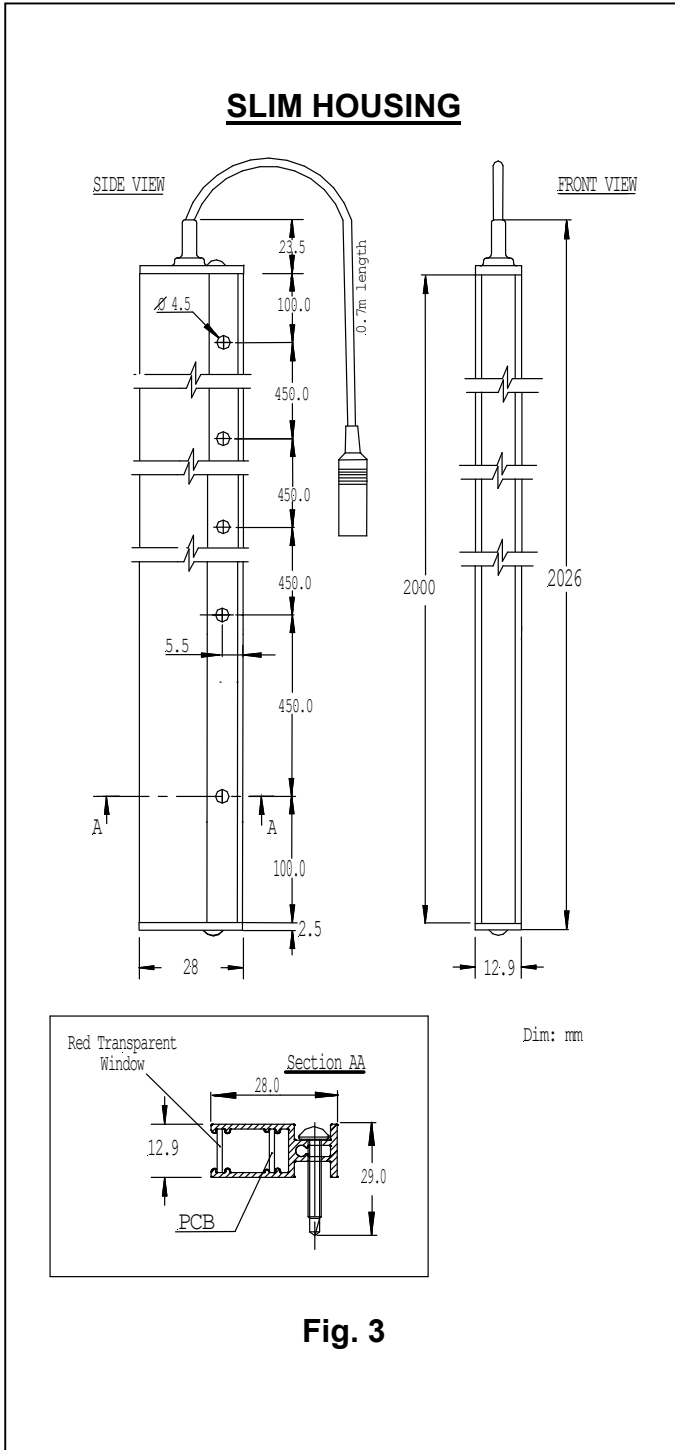
	LED	Description
TX	Single LED 	When "ON" power to the system is applied and Micro computer on TX edge is functioning properly.
		When left and right LEDs are "ON": No beam is obstructed system is operating.
RX		When left LED is "OFF" and right LED is "ON" : One or more beams are obstructed.
		When right LED is flashing slowly : There is one cancelled IR diodes on TX edge.
		When right LED is flashing fast: There are more than one cancelled IR diodes on TX edge not possible to cancel more IR diodes. Early replacement of TX edge is required.
		When left LED is flashing slowly : There is one cancelled receiving diodes on RX edge.
		When left LED is flashing fast : There are more than one cancelled receiving diodes on RX edge not possible to cancel more receiving diodes. Early replacement of RX edge is required
		When left and right LEDs are flashing alternately: The synchronization signal between TX edge and RX edge is lost.
X = Don't care = Flashing LED		

Fig. 2

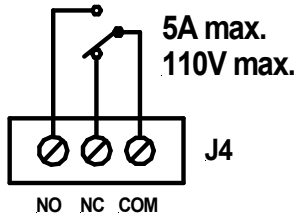
TWO MODELS OF HOUSING

Model S

Model W



Output relay details



Both N.O. and N.C. contacts are available to user.
Each contact can handle 5 Amp. @ 110V, resistive load.

ATTENTION! If the output relay is driving a non resistive load some protection mean should be taken to protect contact (varistor or diode or RC).

Cable Details

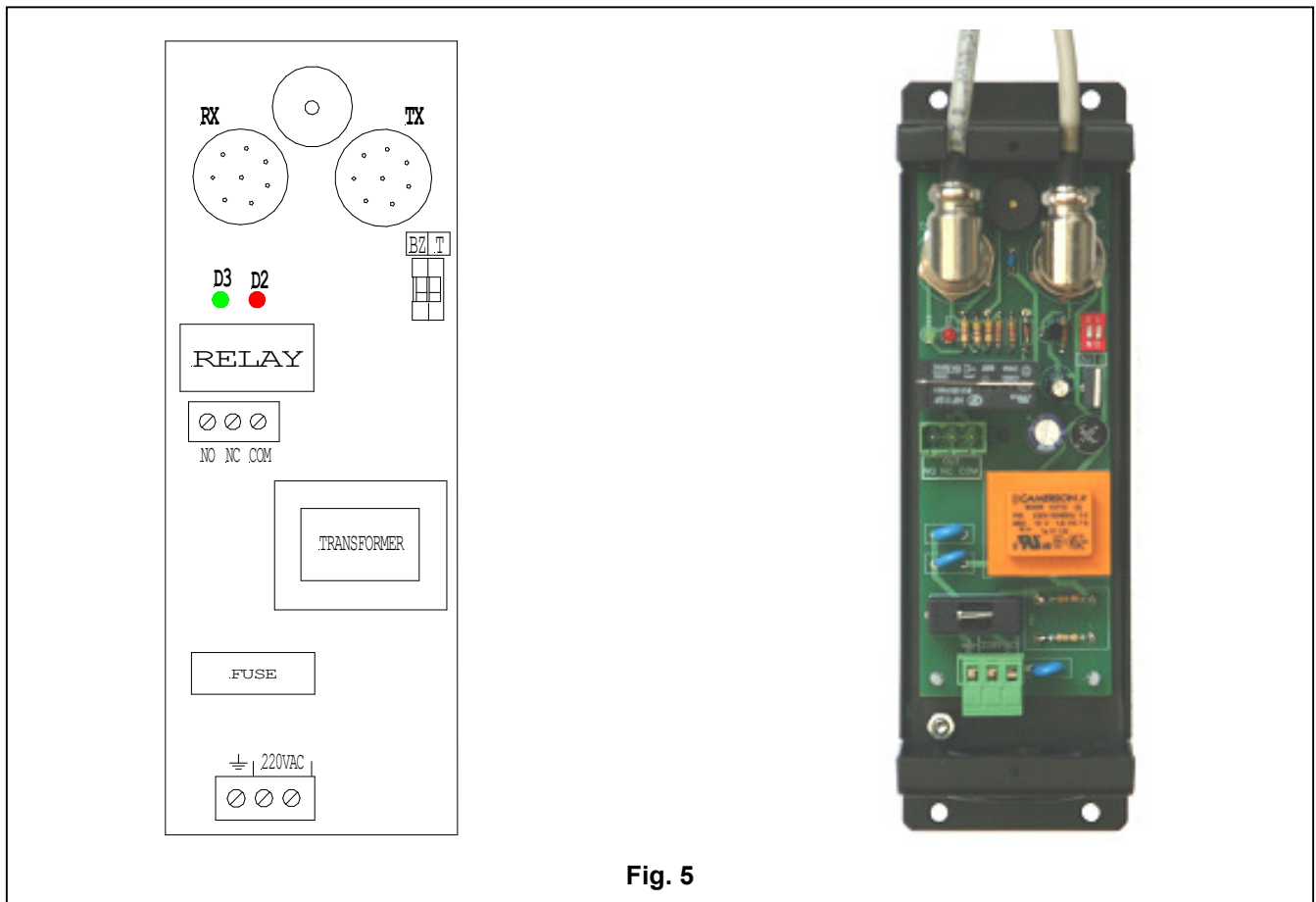
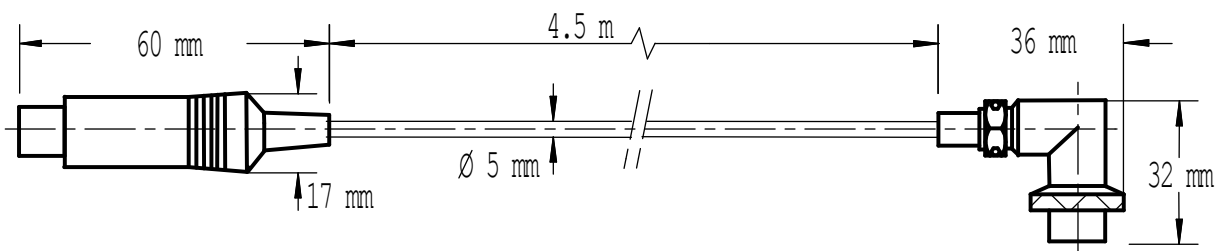
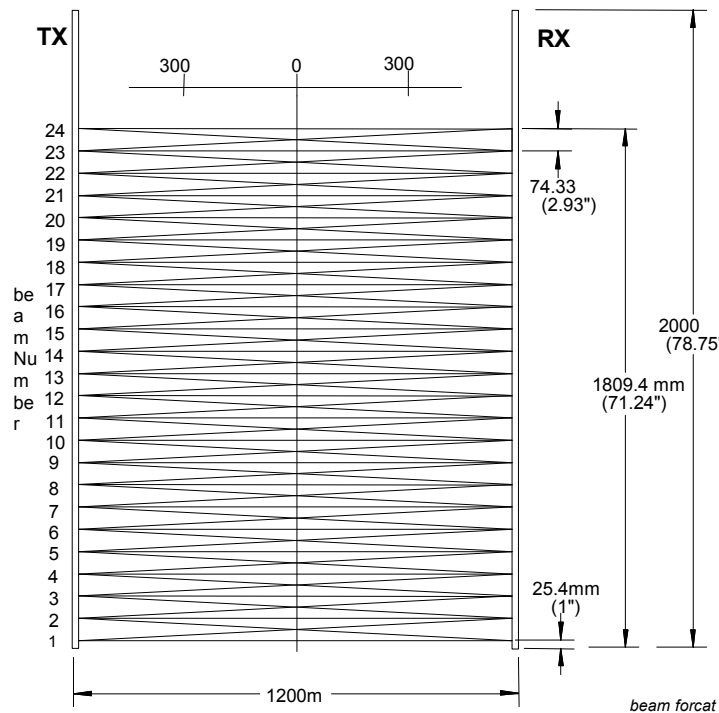
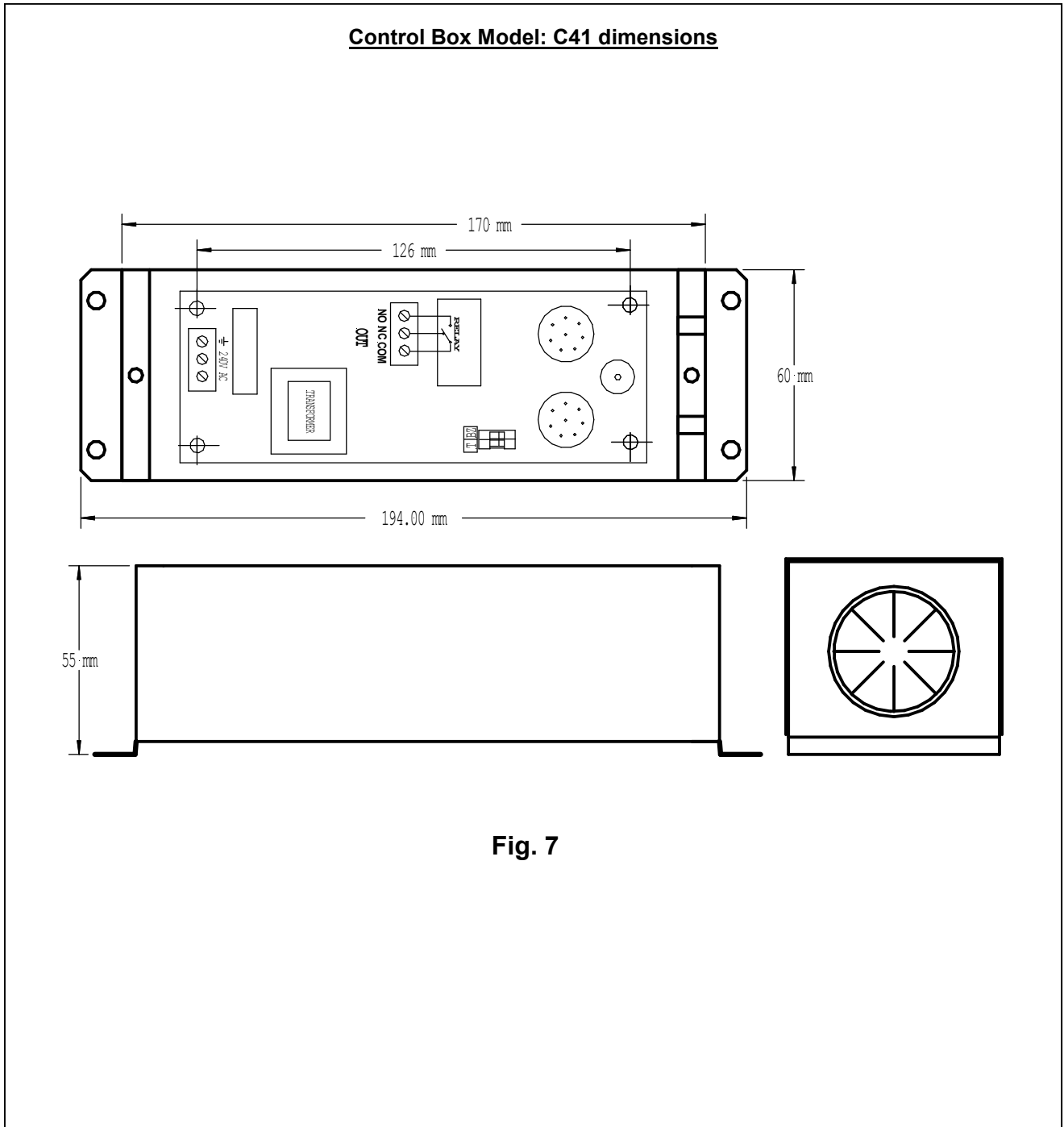


Fig. 5

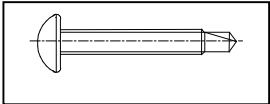
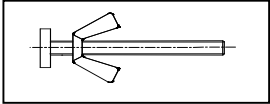
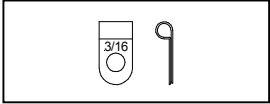
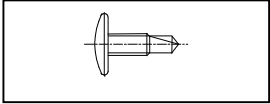
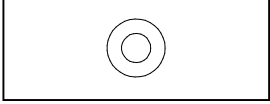
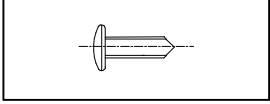
Specifications

Supply voltage	230VAC (110VAC on order)
Power consumption	4VA max
Output	Relay, dry contact, N.O. and N.C. 5A @ 110V, both contacts are available to user. The relay is energized during operation when no beam is interrupted.
Range	min.: 0m max.: 4.5m
Edge height	2000mm (78.75")
Highest beam height	1809.4mm (71.24")
Lowest beam height	25.4mm (1")
Total no. of beams	70 (Not dependent on the door opening)
No. of direct beams	24
Grid distance	74.33mm (2.93")
Faulty Beam Cancellation	Up to three non-successive beams can be cancelled. Enable/disable by Dip switch in the control box
Buzzer	On the control box, enable/disable by Dip switch.
Indicators	LED, for proper operation and diagnostics.
Faulty beams indicators	Two LEDs on RX edge, a beam is declared as faulty after one minute of not responding.
Cable	Flexi, 6 x 0.25
Cable length	4.5m each (14.76 ft)
Mounting arrangements	Five holes of 4.5 mm diameter for slim version. Sliding bolt for wide version.
Edge case material	Aluminum black anodized.
Packed weight	2.3 kgs.
Ambient temp.	-10°C to 50°C
Control box	Power coated steel box, IP 20
Edges sealing	IP 51
Ambient light	Full sun light (40 Klux), full dark.
Approvals	CE

Beam Location**Fig. 6**

Control Box

Mounting Hardware

Self drilling screws 8x1" included in the set. Only for model SAR70ELC41S (slim housing).	10x	
Square headed bolts, Wing nuts, Washers & Spring washers included in the set. Only for model SAR70ELC41W (wide housing).	4x	
P-clips : p-clips 3/16", as cable holders.	6x	
Self drilling wide headed screws.	6x	
Washers.	6x	
Sheet metal screws.	6x	

Ordering information

SAR70EL C41 -
 S = Slim housing 110V
 W = Wide housing 230V

Example for ordering.

Part No.	Description
SAR70ELSC41 – 110V	SAR70ELC41, SLIM housing 110V
SAR70ELWC41 – 110V	SAR70ELC41, WIDE housing 110V
SAR70ELSC41 – 230V	SAR70ELC41, SLIM housing 230V
SAR70ELWC41 – 230V	SAR70ELC41, WIDE housing 230V

Limitations and warnings

The SAR70ELC41 light curtains will not detect the followings objects:

- Transparent objects.
- Chains, ropes, ribbons and similar objects with a small cross-section.
- Small or thin objects.

WARNING

SAR70-EL light curtain is not a safety system and must not be used as such.
 SAR70-EL is not designed for personnel safety, and must not be used as a stand-alone personnel safety system.
 SAR70-EL light curtain is for elevator use only.

Talinoor (UK) Ltd. Engineering reserves the right to change specifications without notice.

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