

LIGHT CURTAIN

MODEL SAR9

SAR9

DATA SHEET

1. 81 Beams.
2. Range 0.2 m to 4 m, Adjustable.
3. Not sensitive to misalignment.
4. Operating Voltage 10 – 30V DC.
5. Transistor output PNP or NPN, Short circuit projected.
6. Response time: 20 milliseconds.
7. LED Diagnostics.
8. Quick connection, M 12 Connector.
9. Two housing options:
 1. Wide Housing (34 x 20 x 209)
 2. Slim Housing (13 x 28 x 209)
10. Mountings
 1. Wide Housing (T – Bolt mounting)
 2. Slim Housing (Two mounting holes of Ø4.5 mm)

Maximum Ratings

Supply Voltage: 30V DC.

Output Transistor: 30V DC, 100mA.

Description

The SAR9 light curtain consists of a transmitter (TX) edge and receiver (RX) edge, which are housed in black anodized aluminum housing. (See Fig: 1 or Fig: 2). Each edge is connected via a 1.5 meter standard M12 x 1 sensor cable.

A curtain of eighty-one discrete beams is formed in between TX edge and RX edge over an active length of 100 mm. When one of these beams is obstructed a transistor PNP or NPN (depending on the model) output is activated. Output is short circuit projected. Operating range of SAR9 is 0.2 m to 5 m. It can be adjusted by connecting an external potentiometer.

There is an indicating LED on each edge as follows:

1. When the LED on TX edge is ON it indicates that power is applied.
2. When the LED on RX edge is ON it indicates that no beam is obstructed, if one or more beams are obstructed this LED goes OFF.

Housing

Aluminum Housings Available for SAR9 are:

1. SAR9–W Wide Extrusion of Housing (See fig. No: 1)
2. SAR9–S Slim Extrusion of Housing (See fig. No: 2)

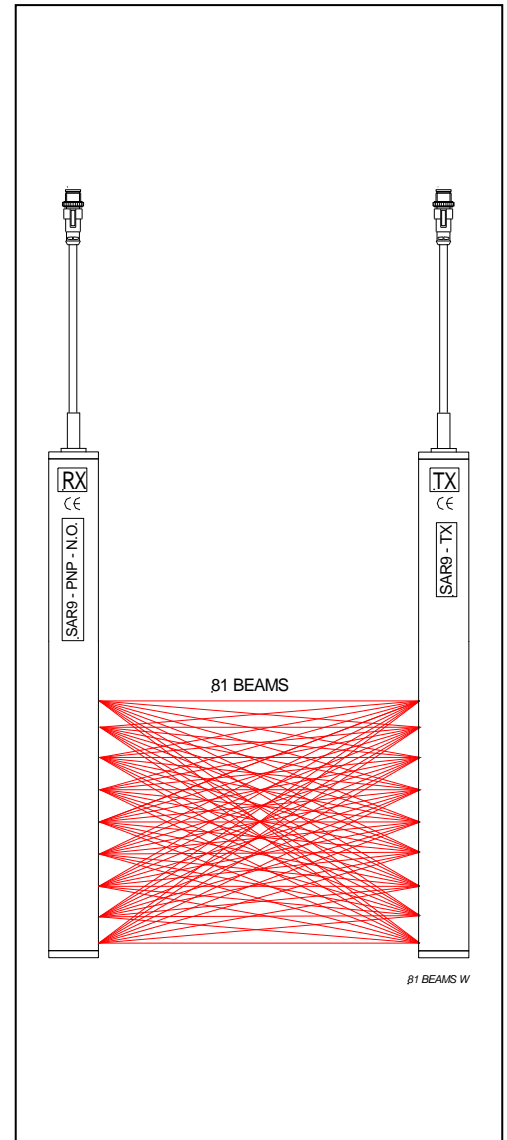
Output options:

PNP Transistor output, Normally Open (N.O.)
PNP Transistor output, Normally Closed (N.C.)
NPN Transistor output, Normally Open (N.O.)
NPN Transistor output, Normally Closed (N.C.)

Normally open (N.O.): Unit is powered, no beam is obstructed and transistor output is not conducting.

Normally closed (N.C.): Unit is powered, no beam is obstructed and transistor output is conducting.

IR light output intensity of TX can be adjusted via an external potentiometer. (See Fig: 10)



TWO EDGE HOUSINGS OPTIONS

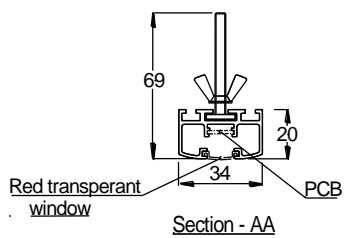
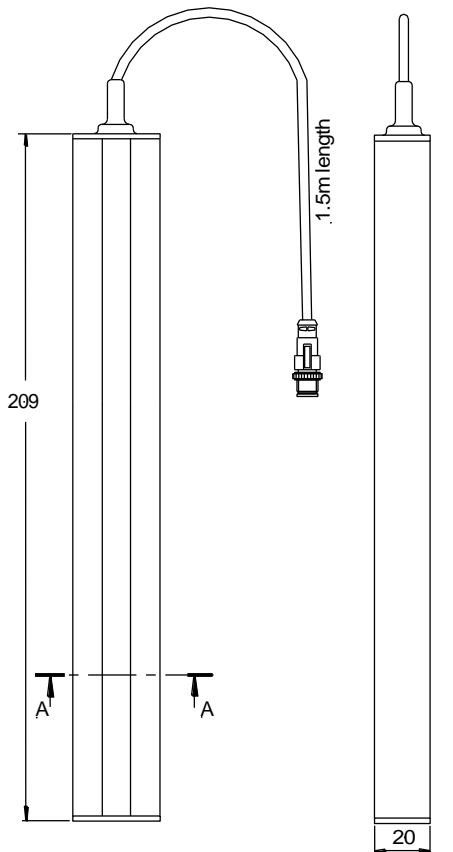
OPTION No: 1

OPTION No: 2

WIDE HOUSING

FRONT VIEW

SIDE VIEW



Dim: mm

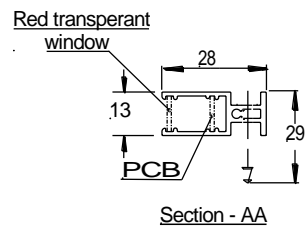
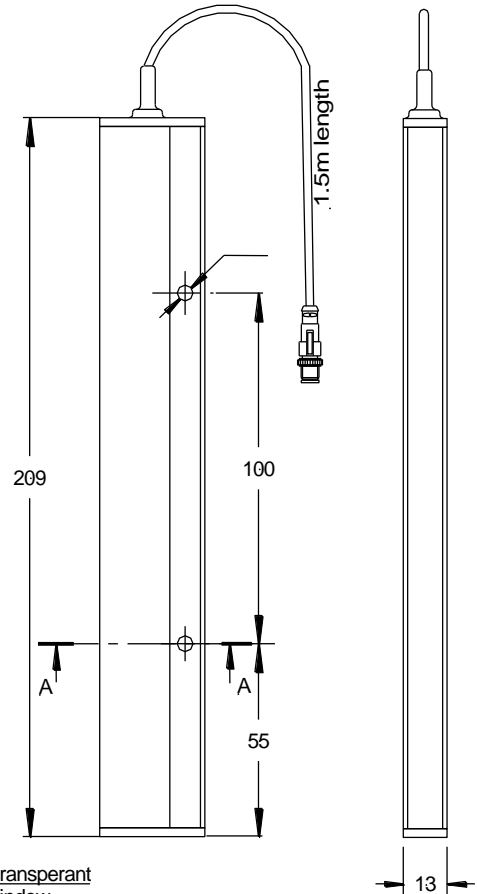
SAR 9 RX TX W1

Fig: 1

SLIM HOUSING

SIDE VIEW

FRONT VIEW

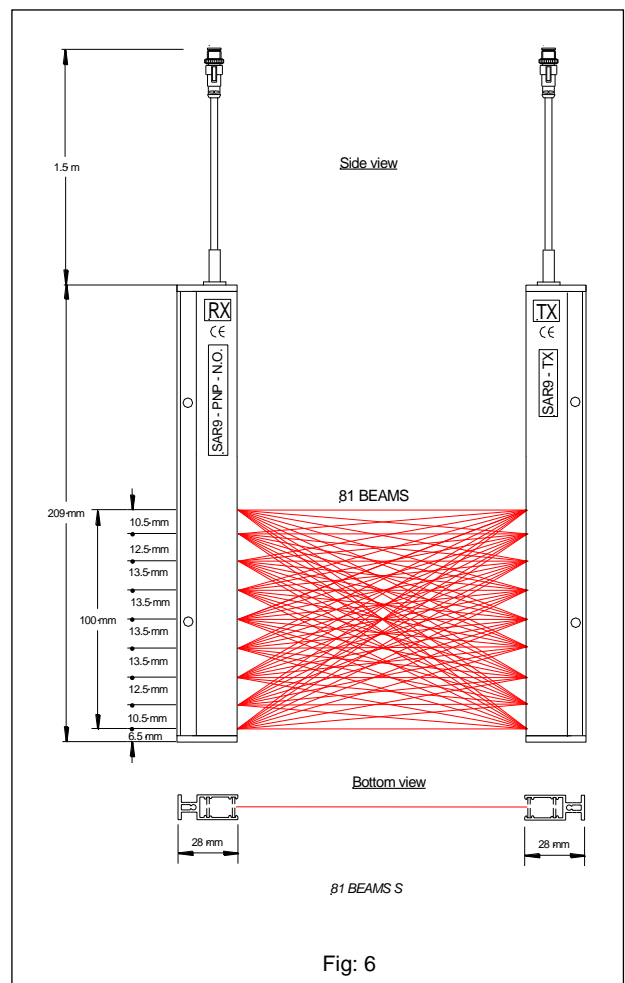
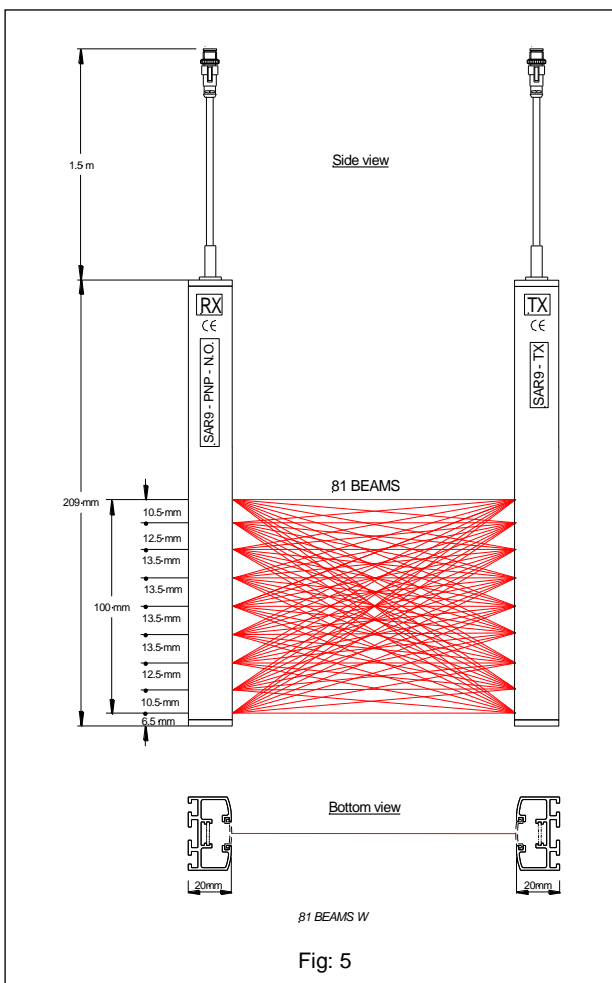
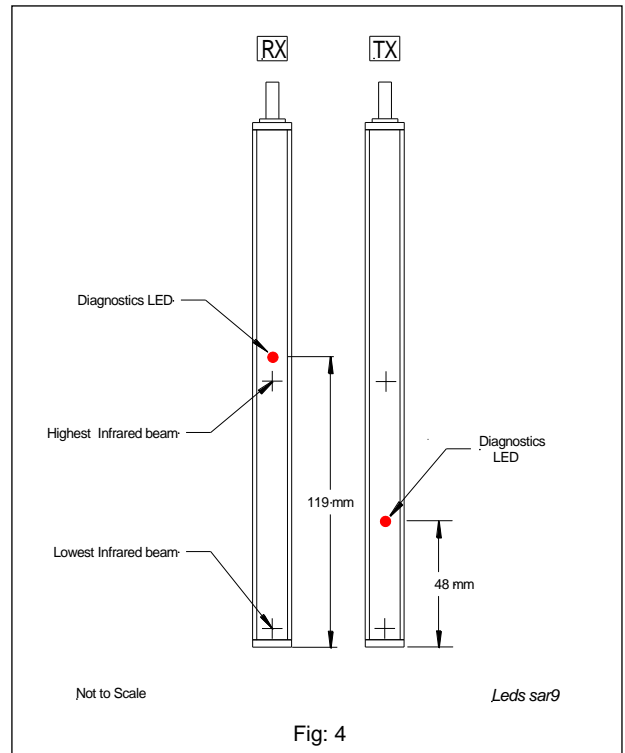
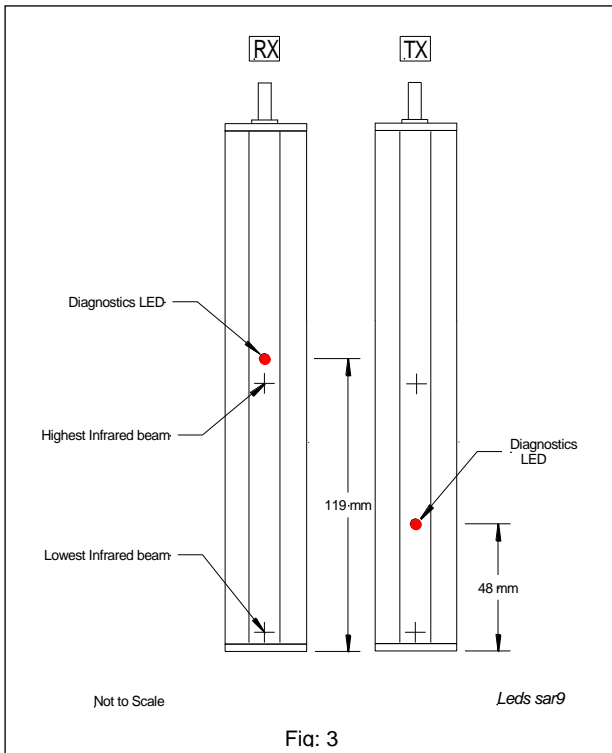


Dim: mm

SAR 9 RX TX S

Fig: 2

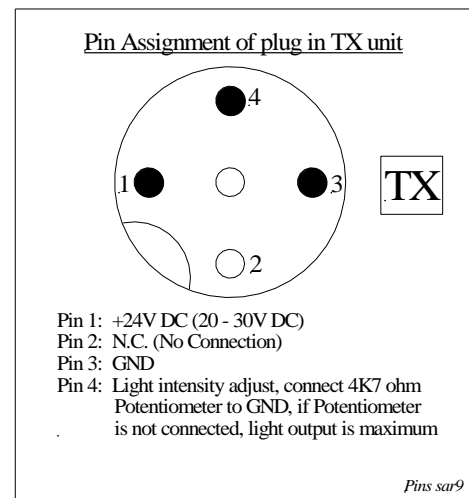
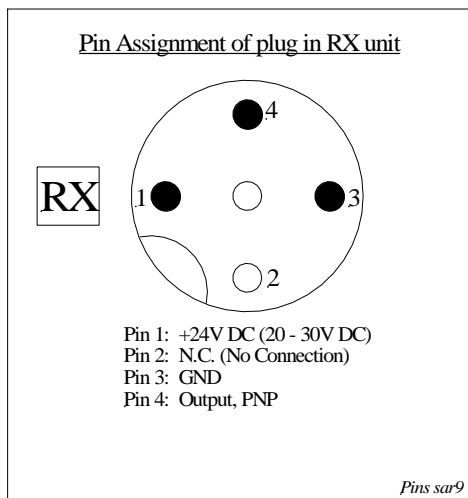




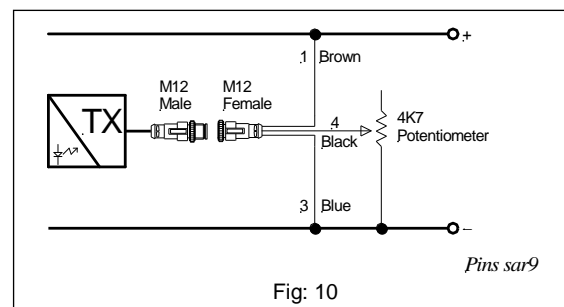
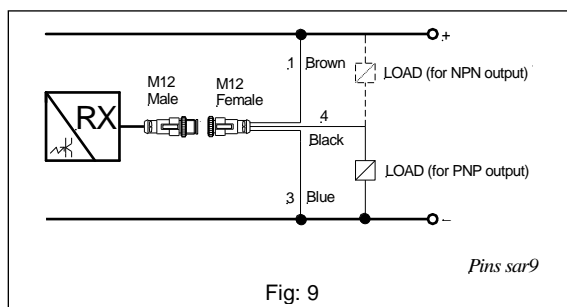
Specifications

Supply Voltage	10 – 30V DC
Power Consumption	1.5 W in 24 V DC
Output	Transistor output PNP or NPN, short circuit protected Current: 100 mA max Voltage : 30V max
Range	min. : 0.2 m max. : 4 m
Edge height	209mm
Highest beam height	106.5mm
Lowest beam height	6.5mm
Total no. of beams	81
No. of direct beams	9
Grid distance	12 mm Average
Response Time	20 milliseconds
Indicators	LED, on RX to indicate that no beam is obstructed. LED, on TX to indicate that power is applied.
Cable	Sensor cable 1.5 m, M12 x 1 male connector
Mounting arrangements	Wide version: Sliding T - Bolt. Slim version: Two holes of ø4.5mm.
Edge case material	Aluminum black anodized.
Packed weight	0.6 Kg (with wide mounting hardware)
Ambient temp.	-10° C to 50° C
Edges sealing	IP 51
Ambient light	Full sun light (40 Klux), full dark.
Approvals	CE

Pin Assignment of Plug



Connection Diagram



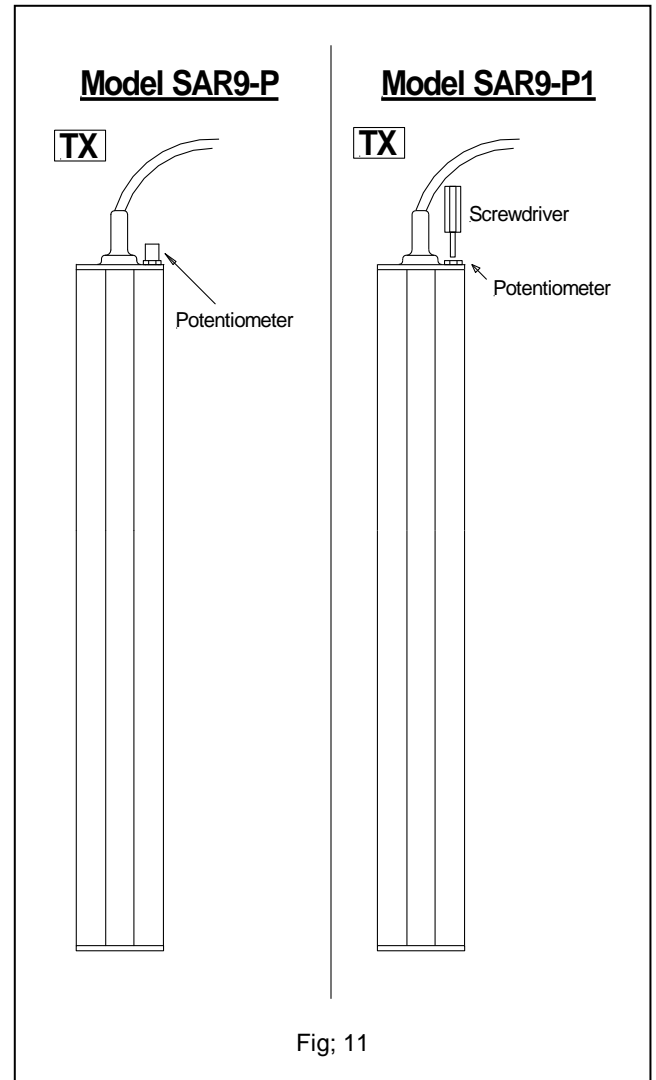
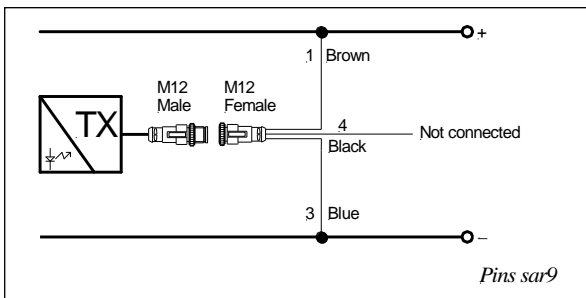
SAR9 WITH INTERNAL POTENTIOMETER MODEL: SAR9-P or SAR9-P1

The SAR9, with wide housing option, can be ordered with a potentiometer mounted on upper plastic cap thus there is no need for an external potentiometer. The potentiometer is used to adjust light intensity (operating range) and is mounted on TX edge only. There are two possible potentiometers:

1. Hand adjustable (Protruding) potentiometer – Model SAR9-P.
 2. Screwdriver adjustable potentiometer - Model SAR9-P1.
- Please refer to Fig.11.

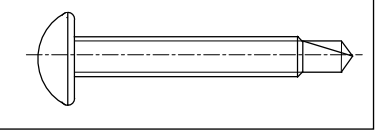
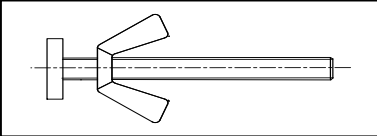
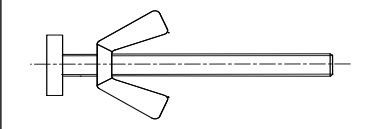
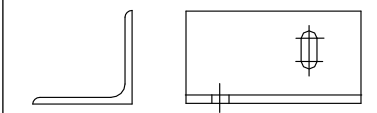
The SAR9-P/SAR9-P1 are identical to SAR9 except that they cannot work with external potentiometer (alternatively they have a potentiometer mounted on upper cap).

Connection diagram for TX edge is altered as follows (Fig. 12):



Note: The SAR9-P and the SAR9-P1 are not available with slim housing.

Mounting Hardware

Slim Housing: 10 Nos. of Self Drilling Screw included in the set.	
Wide Housing: 4 Nos. Square Headed Bolts, 4 Nos. Wing Nuts, 4 Nos. Washers & 4 Nos. Spring Washers included In the set.	
Wide Housing: Mounting Angle (Optional)	
	

Ordering information

SAR9	— [] —	— [] —	— [] —	— [] —
	W S	PNP NPN	N.O. N.C.	0 1
SAR9-P	— [] —	— [] —	— [] —	— [] —
	W	PNP NPN	N.O. N.C.	0 1
SAR9-P1	— [] —	— [] —	— [] —	— [] —
	W	PNP NPN	N.O. N.C.	0 1

W = Wide Housing S = Slim Housing	N.O. = Normally Open N.C. = Normally Closed	Transistor output - PNP Transistor output - NPN	0 = Without Mounting hardware 1 = With Mounting hardware
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Packing Information

Each set is packed in a 250mm x 140mm x 50mm carton box.

WARNING

The SAR9 LIGHT CURTAINS ARE NOT A SAFETY SYSTEM and must not be used as such. They are not designed for personnel safety applications, and must not be used as a stand-alone personnel Safety system.

TAL Engineering reserves the right to change specifications without notice.

Taleng en SAR SAR9 DS v1.01

