CE RoHS

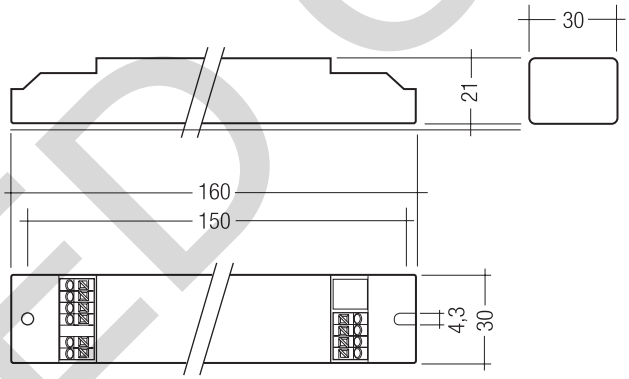
smartDIM SM lp

Control module for combination with ambient light sensor, switch or presence sensor

PHASED OUT

Product description

- Digital DSI control module (luminaire installation unit) for daylight control, motion detector and switch input
- For luminaire installation in a low-profile casing
- Input for a maximum of 2 smartDIM sensors
- Dimming and switching via single switch; multiple switches can be connected in parallel
- Mode can be selected via rotary switch
- The device can be disconnected from the power supply via a built-in relay (this reduce standby losses)
- 5-year guarantee



Technical data

Rated supply voltage	220 – 240 V
Mains frequency	50 / 60 Hz
Power	1.5 W
Operating temperature	0 ... +60 °C
Storage temperature	-25 ... +55 °C
Type of protection	IP20

→

Standards, page 4

Wiring diagrams and installation examples, page 5

Ordering data

Type	Article number	Packaging carton
smartDIM SM lp	**86458337**	12 pc(s).

Specific technical data

Type	Inputs			Outputs			Output, relay (L')		
	Dimming switch	Max. smartDIM sensors	Max. sensor line length	Digital control line DSI	Control output per physical output (devices)	Maximum DSI cable length at 1.5 mm²	Max. switching output (e.g. PCA)	Maximum apparent power	Max. switching output
smartDIM SM lp	single	2	10 m	1	25	250 m	2	200 VA	500 W

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ACCES-SORIES

smartDIM Sensor 1

Product description

- Optional ambient light sensor and motion detector for smartDIM SM lp
- Compact low-profile dimensions for luminaire installation
- With plug terminal or cable
- 5-year guarantee

Technical data

Light measurement at the sensor head (detection)①	5 – 500 lx

Wiring diagrams and installation examples, page 5

Fig. 1

Fig. 2

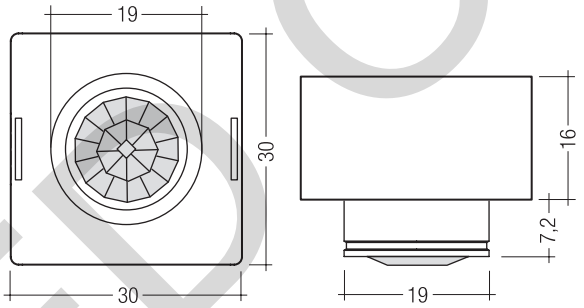

Fig. 1

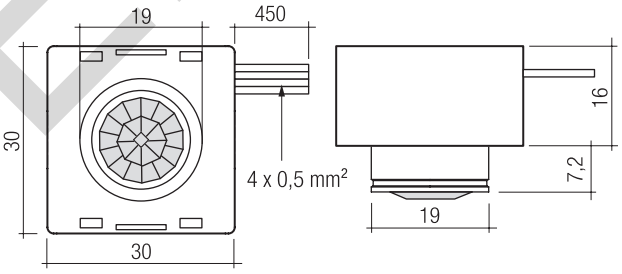

Fig. 2

Ordering data

Fig.	Type	Article number	Packaging carton	Weight per pc.
1	**smartDIM Sensor 1**	**86454265**	50 pc(s).	0.043 kg
2	**smartDIM Sensor 1 Cable**	**86458462**	25 pc(s).	0.043 kg

① The measured value at the sensor head corresponds to approx. 10 to 1,500 lux on the surface measured.

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ACCES-SORIES

Accessories for smartDIM Sensor

Product description

- Optional for increasing the detection range of the motion sensor for smartDIM Sensor 1
- 5-year guarantee

Ordering data

Type	Article number	Packaging, carton	Weight per pc.
smartDIM Mirror	86454640	50 pc(s).	0.002 kg

RoHS

ACCES-SORIES

smartDIM Sensor 2

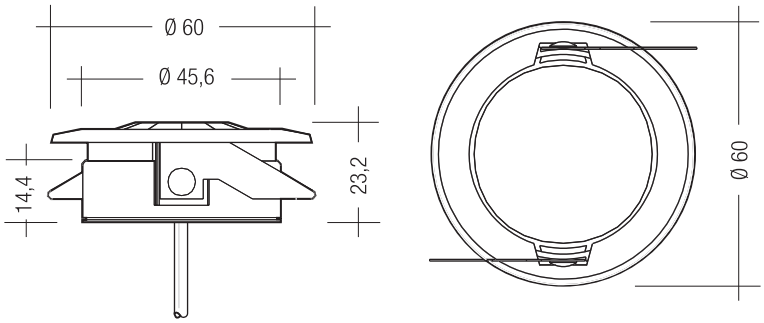
Product description

- Optional ambient light sensor and motion detector for smartDIM SM lp
- Compact low-profile dimensions for luminaire installation
- 5-year guarantee

Technical data

Light measurement at the sensor head (detection)①	5 – 500 lx

Wiring diagrams and installation examples, page 5



Ordering data

Type	Article number	Packaging carton	Weight per pc.
smartDIM Sensor 2	86454523	10 pc(s).	0.038 kg

① The measured value at the sensor head corresponds to approx. 10 to 1,500 lux on the surface measured.

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smartDIM SM lp
Up to 25 DSI units (PCA/TEL/PHD...) can be automatically switched via the DSI control lines and regulated via ambient light.

The light value to be regulated can be set to any value by means of a standard external mains voltage switch (see wiring instructions on the next page).

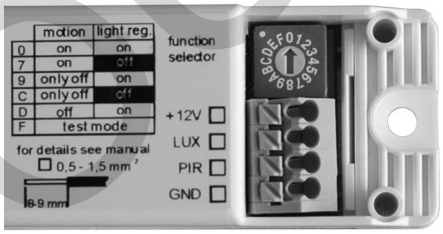
smartDIM SM lp has an internal memory that stores the last dimmer value in the event of a power outage. If, for example, a system is on standby it will continue to be on standby when power returns after an outage.

Standards
EN 61547
EN 61347-1
EN 61347-2-11
EN 55015

Glow-wire test
according to EN 61347-1 passed.

smartDIM SM lp rotary switch

	Motion detection		Light regulation	
Pos.	Mode	Delay time	Mode	Light Level Set
0	on	20 min	on	manuel mode
1	on	20 min	on	automatic mode
2	on	30 min	on	manuel mode
3	on	40 min	on	manuel mode
4	on	adaptive	on	manuel mode
5	on / never off	20 min / off = 3 %	on	manuel mode
6	on	adaptive	off	–
7	on	20 min	off	–
8	only off	10 min	on	manuel mode
9	only off	20 min	on	manuel mode
A	only off	30 min	on	manuel mode
B	only off / never off	20 min / off = 3 %	on	manuel mode
C	only off	20 min	off	–
D	off	–	on	manuel mode
E	off	–	on	automatic mode
F	test mode (15 s delay time)			



Delay time
The disconnection delay time for the motion detector can be set by means of a rotary switch. The option of switching between a fixed delay time and an adaptive delay time opens up application-specific usage. An adaptive delay time (between 4 minutes and 20 minutes) offers optimum energy consumption. “Adaptive” means that the delay time is automatically adjusted according to the frequency with which presence in the room is detected.

At the end of the delay, the smartDIM SM lp starts dimming the luminaires down to 3 %. The luminaires are then switched off. Dimming down to 3 % takes one minute.

Adaptive delay time
The adaptive delay time function calculates the optimum delay time. This may be between 4 and 20 minutes. The delay time depends on the frequency of motion detection. For infrequent detection the delay time is 4 minutes. The time is lengthened step by step, the more time the sensor is passed.

After the luminaires have been switched off by the motion detector the time is reset and starts again at 4 minutes.

only off
This function means the motion detector can be used more efficiently. If the “only off” function is set the motion detector only switches the connected luminaires off. The luminaires are switched on manually via the connected external switch.

never OFF
After 20 minutes the lighting is dimmed to 3 % with a fade time of 1 minute. The luminaires are not switched off but remain at a basic brightness of 3 %.

Bright-Out and Bright-In
If the nominal illuminance (e.g. 500 lux) is exceeded for 10 minutes by more than 150 % (e.g. 750 lux), the luminaires are switched off even if motion is detected.

The lighting is then only switched on in response to detected motion if the current illuminance does not exceed the value stored in the sensor.

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Light level set

Automatic mode
Every time the light value is changed with a long press a new setpoint light value is automatically updated and stored.

Short press (> 50 – 600 ms)	ON / OFF
Long press (> 600 ms)	Setpoint light value is permanently changed

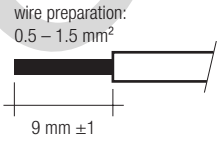
Manual mode
A change in the light value deactivates lighting regulation until manual confirmation (2x short press) on the connected switch.

Short press (> 50 – 600 ms)	ON / OFF
Long press (> 600 ms)	A change in the light value deactivates lighting regulation only temporarily. As soon as the luminaire has been automatically switched on again (motion detection) or manually switched off and on again, regulation is activated again.
2x short press	The overwritten setpoint light value is stored (luminaire acknowledges by flashing twice)

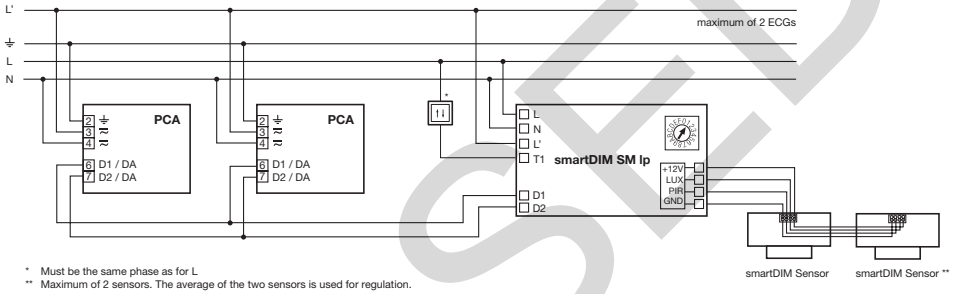
Installation
The detection zone can be extended by connecting further smartDIM sensors.
- Up to two smartDIM sensors can be connected in parallel. This does not reduce the number of controllable DSI units.
- max. cable length 10 m to the last sensor
- Do not operate the smartDIM SM lp module without sensors

- DSI is not SELV. The installation instructions for mains voltage therefore apply.
- The maximum cable length of the DSI / DALI control signal (for a cable cross-section of 1,5 m²) must not be exceeded.
- Any number of push to make switches may be connected in parallel to the inputs T.
- Do not connect standard switches to the input T.

Cable types and cable cross-sections
Solid wire with a cable cross-section of 0.5 mm² to 1.5 mm².

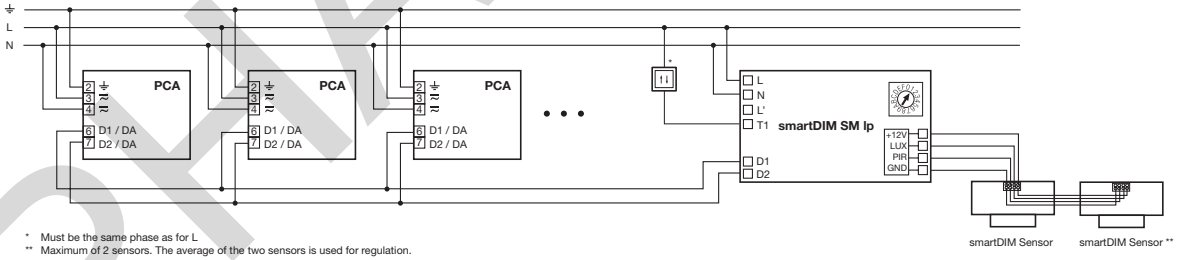


A) with 2 ECGs



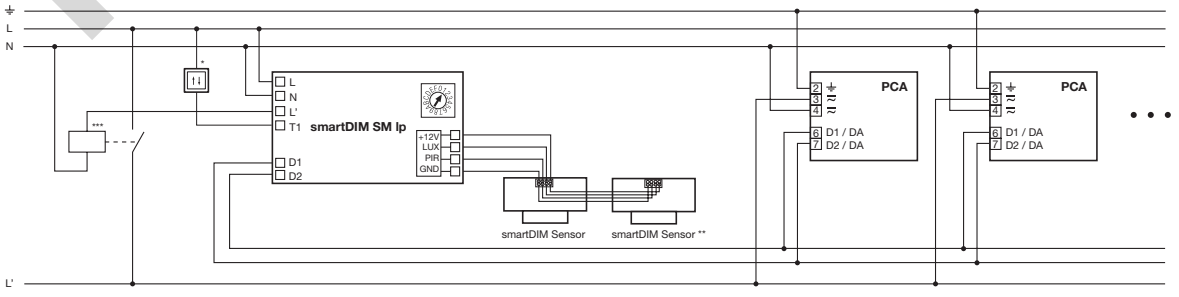
* Must be the same phase as for L
** Maximum of 2 sensors. The average of the two sensors is used for regulation.

B) With up to 25 ECGs without using the internal relay



* Must be the same phase as for L
** Maximum of 2 sensors. The average of the two sensors is used for regulation.

C) With up to 25 ECGs and use of the internal relay



* Must be the same phase as for L
** Maximum of 2 sensors. The average of the two sensors is used for regulation.
*** The inrush currents of the ECGs must be taken into account when dimensioning the contactor.

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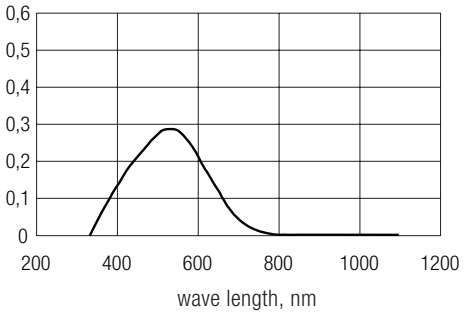
smartDIM Sensor 1 / smartDIM Sensor 1 Cable (Ordering data see page 2)
Luminaire installation sensor/lighting controller/motion detector

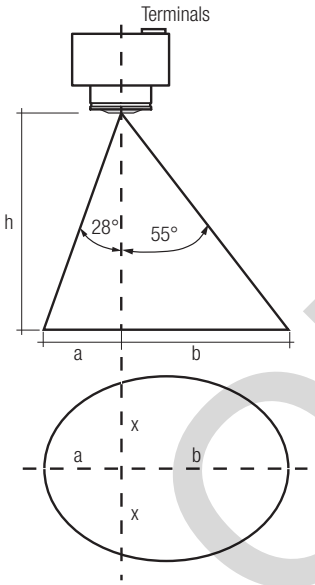
Light regulation

Light level is being measured via a special photo diode with spectral filter. This allows for precise light level measurement without interference from thermal radiation.

Absolute Spectral Response

Radiometric Sensitivity (A/W)



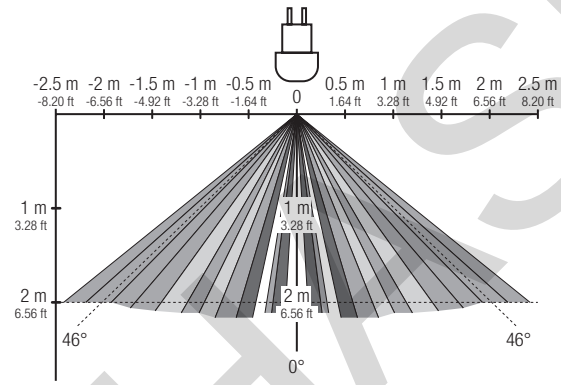


h	a	b	x
1.70 m	0.90 m	2.43 m	1.7
1.90 m	1.01 m	2.71 m	1.9
2.10 m	1.12 m	3.00 m	2.1
2.30 m	1.20 m	3.28 m	2.3
2.50 m	1.33 m	3.57 m	2.5

1 m = 1.094 yd

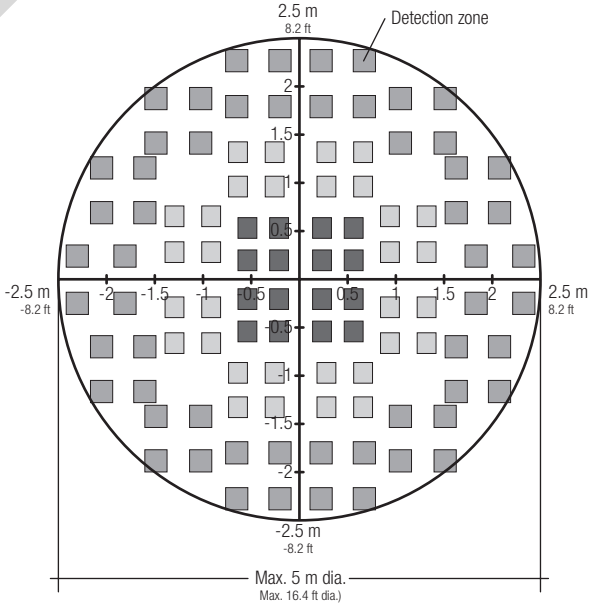
Presence detection

Detection area: 46°
Scope: 2 m



max. distance from smartDIM sensor to ground 2.5 m

Detection range at 2 m distance



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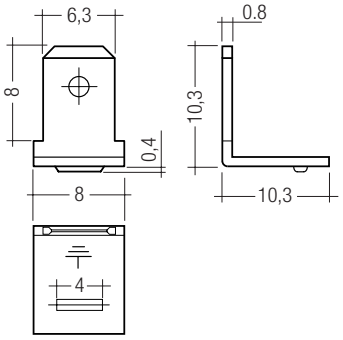
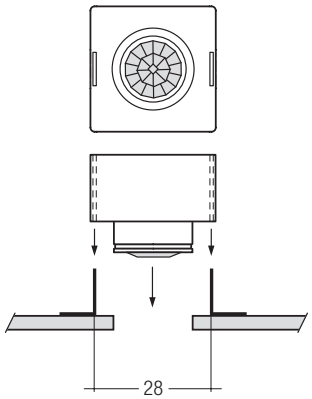
Installation instructions

Simple and straight forward installation using a purpose built mounting clamp. These mounting clamps can be inserted into the slots in the sensor housing. The mounting clamps are available in 2 different versions (suitable for screw fix or spot welding). Mounting clamps are not delivered with the product.

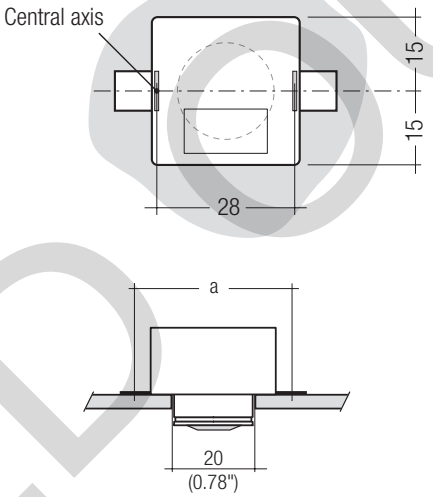
The mounting clamp can be found on www.vogt.ch by searching for "38421sbae.80".



Installation of the mounting clamps at the sensor



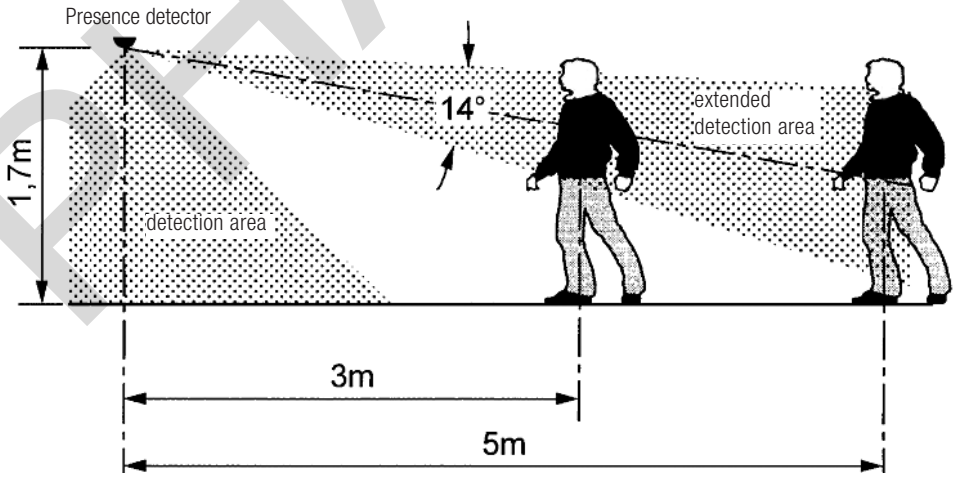
With long mounting clamps the sensor can be adjusted up or down so the sensor edge is flush with the surface of the luminaire.



Dimension a is dependent on the type of bracket used.

smartDIM Sensor 1 accessory
smartDIM MIRROR (Ordering data see page 3)

The clip on smartDIM MIRROR allows the detection area of the PIR sensor to be focused and extended up to 5 m.
The mirror will shield one side of the sensor detection zone and therefore reduce sensitivity in that plane.



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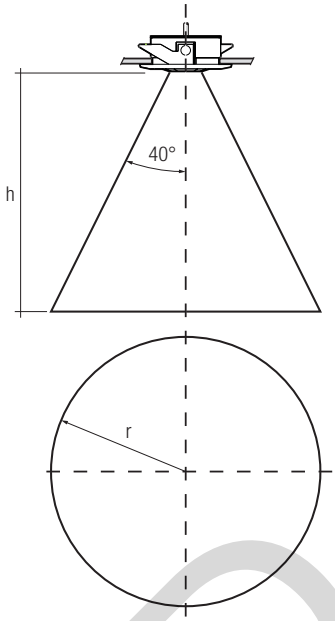
smartDIM Sensor 2 (Ordering data see page 3)
Ambient light sensor and PIR sensor

Light regelation

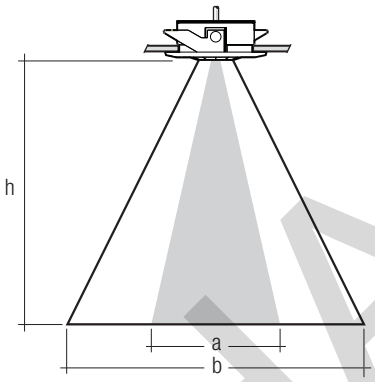
Precise light measurement via photo diodes

h	r
1.7 m	1.4 m
1.9 m	1.6 m
2.1 m	1.8 m
2.3 m	1.9 m
2.5 m	2.1 m
2.7 m	2.3 m
3.0 m	2.5 m
3.5 m	2.9 m
4.0 m	3.4 m

1 m = 1.094 yd



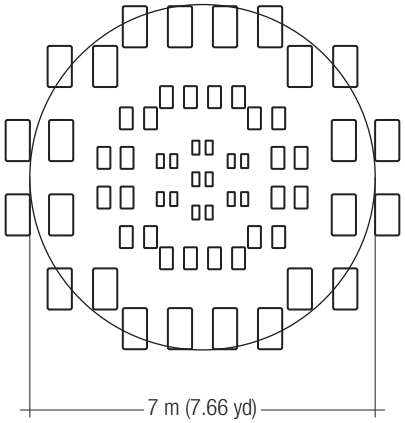
Presence detection



a ... presence detection area
b ... movement detection area

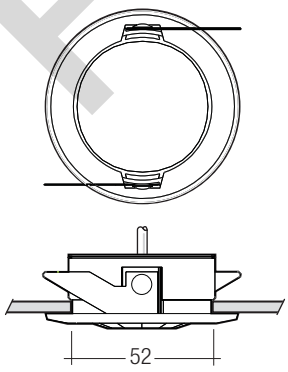
h	a	b
2.5 m	4.0 m	6.0 m
2.7 m	3.0 m	7.0 m
3.0 m	2.0 m	7.5 m
3.5 m	–	8.0 m
4.0 m	–	10.0 m

1 m = 1.094 yd



Coverage pattern at 2.7 m (2.95 yd) mounting height.

Installation instructions



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