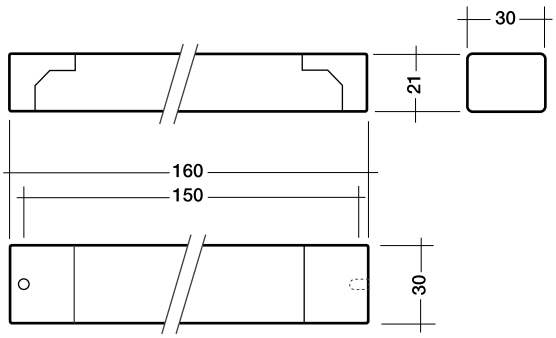
Control module for PCA/TE one4all/PCD
For building into luminaires

smart**DIM SM lp**
Control with ambient light sensor/push to make switches/PIR sensor



Digital DSI sensor module for controlling 25 digital, electronic ballasts. By connecting a smart**DIM** SM lp sensor, the connected PCA/TE one4all/PCD devices can be switched automatically and the ambient lighting can be regulated via the control line.

By connecting a smart**DIM** sensor the connected PCA/TE one4all/PCD digital electronic control gear can be switched automatically via the presence detection circuit and regulated according to available ambient light.

As soon as the luminaires are switched off, the built-in relay disconnects the control gear from the mains supply, reducing power loss to 0.5 W.

smart**DIM** SM lp is a luminaire installation unit so it is not supplied with a strain relief.

Designed according to:
EN 61547
EN 61347-1
EN 61347-2-11
EN 55015

type			smart**DIM SM lp**
article number			86458337
electrical supply	voltage	V	220–240
	frequency	Hz	50/60
	max. load	W	1,5
input	push to make switches	–	single
	max. number of smartDIM sensors	–	2
	max. sensor cable length	m	10
output	digital DSI control signal	–	1
	signal	–	digital/serial
	dimming range	%	3–100
	max. number of	PCA/TE one4all/PCD	25
	max. cable length with 1.5 mm^2	m	250
output relais (L')	max. make-break capacity	e.g. PCA	2
	max. apparent switching power	VA	200
	max. make-break capacity	W	500
ambient conditions	operating temperature ta	°C	0 → +60
	storage temperature	°C	-25 → +55
	protection type	–	IP 20

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smart**DIM SM lp**

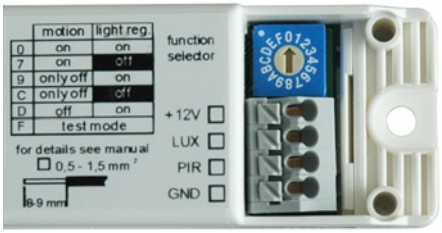
If one or more smartDIM sensors are connected to the smartDIM SM lp control module up to 25 DSI units (PCA/TEL/PHD...) can be automatically switched via the DSI control lines and regulated via ambient light.

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.

smart**DIM SM lp rotary switch**

	Motion Detection		Light Regulation	
Pos.	**Mode**	**Delay Time**	**Mode**	**Light Level Set**
0	on	20 min.	on	manual mode
1	on	20 min.	on	automatic mode
2	on	30 min.	on	manual mode
3	on	40 min.	on	manual mode
4	on	adaptive	on	manual mode
5	on / never off	20 min. / off = 3 %	on	manual mode
6	on	adaptive	off	–
7	on	20 min.	off	–
8	only off	10 min.	on	manual mode
9	only off	20 min.	on	manual mode
A	only off	30 min.	on	manual mode
B	only off / never off	20 min. / off = 3 %	on	manual mode
C	only off	20 min.	off	–
D	off	–	on	manual 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.

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

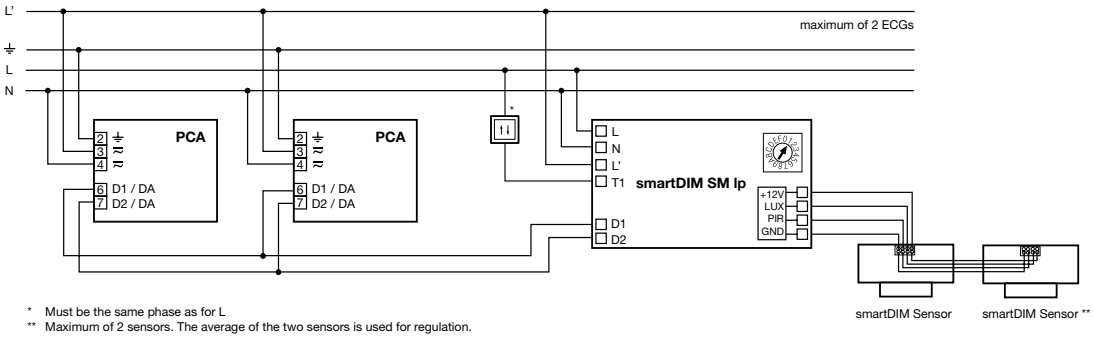
A change in the light value deactivates lighting regulation until manual confirmation (2x short press) on the connected switch.

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)

Wiring instructions:
The detection zone can be extended by connecting further smartDIM sensors.

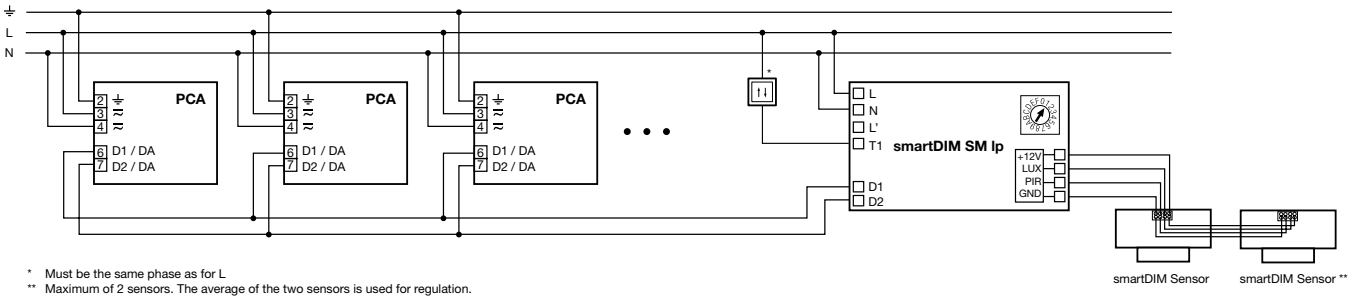
- smartDIM sensors can be connected in parallel.
  This does not reduce the number of controllable DSI units.
- Max. cable length 10 m to the last sensor
- Terminals: rigid cables from 0.5–1.5 mm²

A) with 2 ECGs



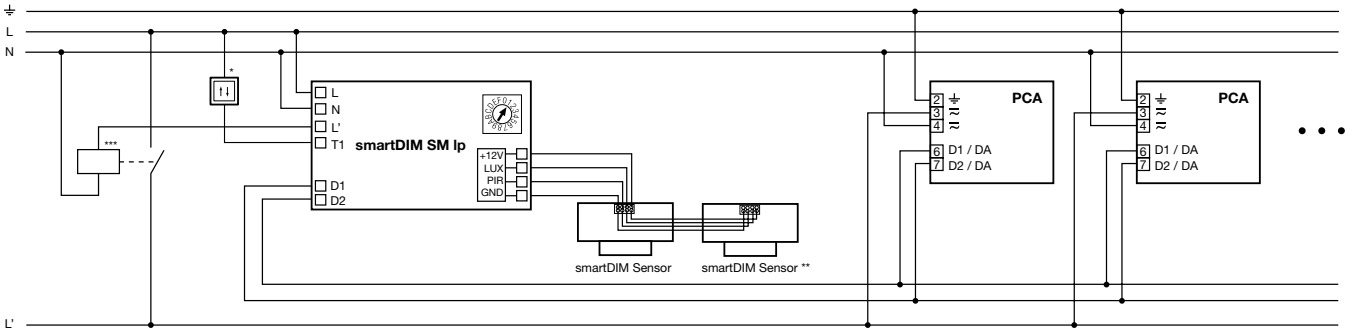
* Must be the same phase as for L
** Maximum of 2 sensors. The average of the two sensors is used for regulation.

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.

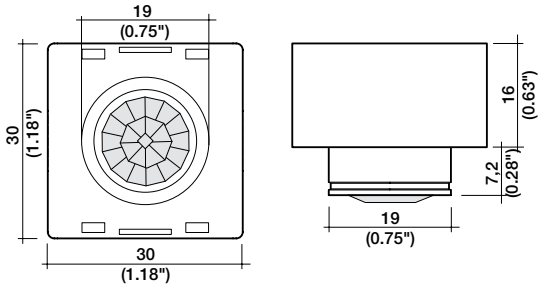
C) With up to 25 ECGs and use of the internal relay



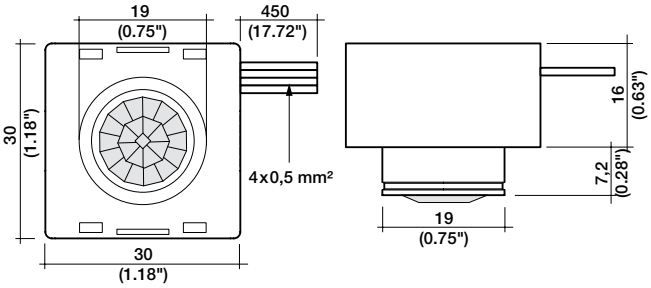
* Must be the same phase as for L
** Maximum of 2 sensors. The average of the two sensors is used for regulation.
*** The inrush currents of the ECGs must be taken into account when dimensioning the contactor.

smart**DIM Sensor 1 /** smart**DIM Sensor 1 Cable**
Luminaire installation sensor/lighting controller/motion detector

smartDIM Sensor 1



smartDIM Sensor 1 Cable



The ultra-compact smartDIM Sensor 1 / smartDIM Sensor 1 Cable has been designed specifically for installation in floor-standing luminaires. It contains a PIR (passive infra-red) motion detector and a light sensor for constant light regulation. The terminal technology selected offers simple wiring to a further smartDIM sensor to increase the detection zone of the motion detector.

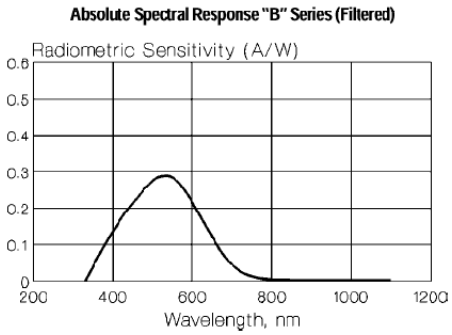
Instead of a terminal on the back side the smartDIM Sensor 1 Cable has a 450 mm 4 wire cable which is led out on the side of the housing. This allows even more compact luminaire designs.

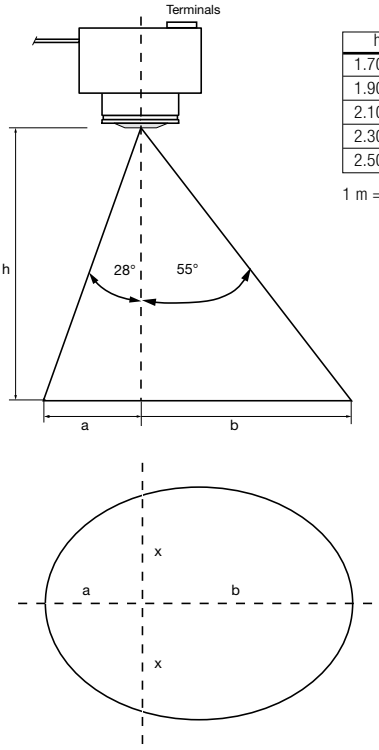
With the aid of the smartDIM MIRROR, available as an accessory, the “monitored” zone can be focused or extended in a certain direction. Different parameters can be set via the associated smartDIM SM lp sensor module.

type	article number
smart**DIM** Sensor 1	86454265
smart**DIM** Sensor 1 Cable	86458462

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.



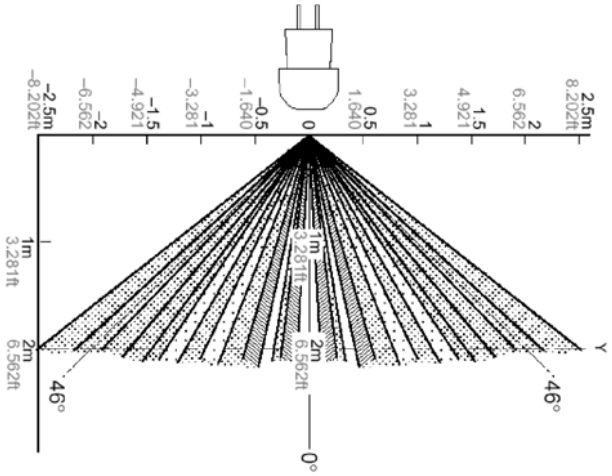


h	a	b	x
1.70 m	0.90 m	2.43 m	1.7
1.90 m	1.01 m	2.71 m	1.9
2.10 m	1.12 m	3.00 m	2.1
2.30 m	1.20 m	3.28 m	2.3
2.50 m	1.33 m	3.57 m	2.5

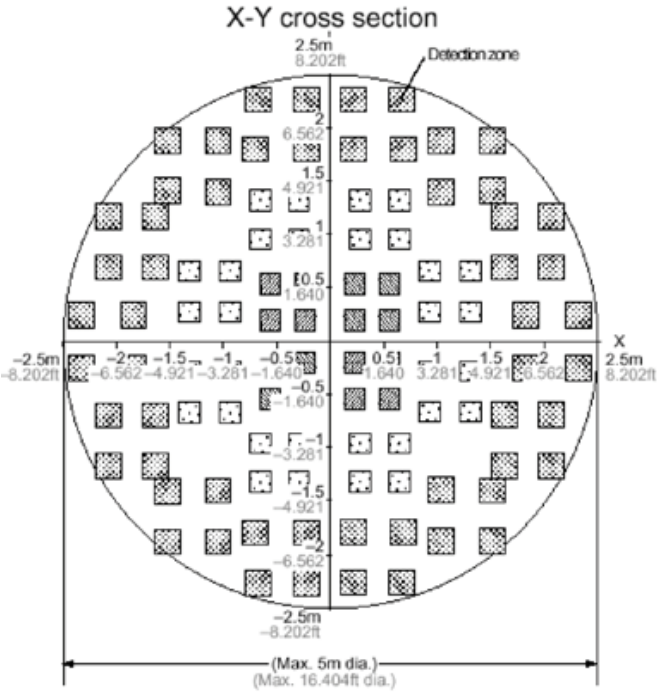
1 m = 1.094 yd

Presence detection

Detection area: 46°
Scope: 2 m



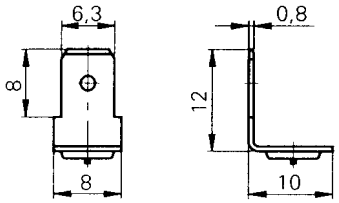
max. distance from smart**DIM** sensor to ground 2.5 m



Installation instructions:

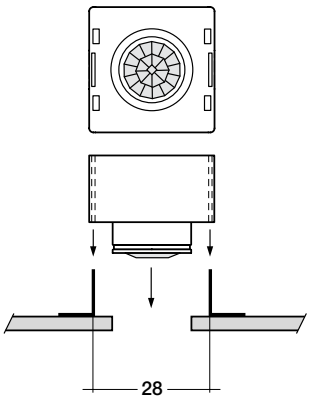
Simple and straight forward installation using a purpose built mounting clamp. These mounting clamps can be inserted into the slots in the sensor housing. The mounting clamps are available in 2 different versions (suitable for screw fix or spot welding).
Mounting clamps are not delivered with the product.

Please refer to www.vogt.ch

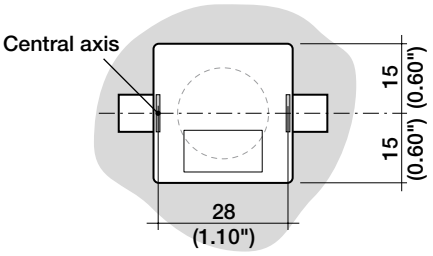


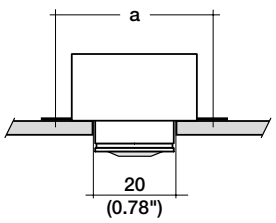
example for weldable mounting clamps

Applying the mounting clamps to 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.

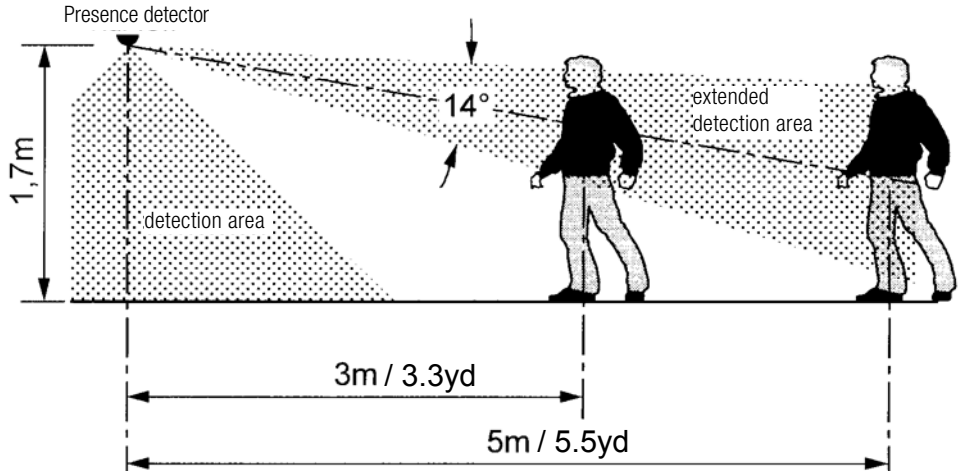




Dimension a is dependent on the type of bracket used.

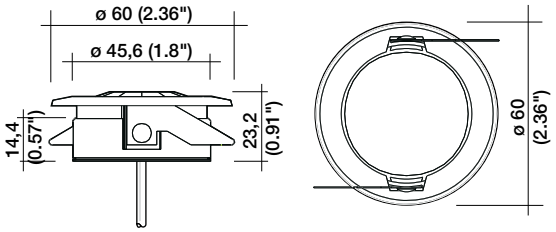
smart**DIM Sensor 1 accessory:**
smart**DIM MIRROR**

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.



Accessory	**smartDIM MIRROR**
Article number:	86454640

smart**DIM Sensor 2**
Ambient light sensor and PIR sensor



Low profile ceiling mounted sensor measuring ambient light level and movement detection. Different settings can be chosen via the smartDIM SM lp sensor module.

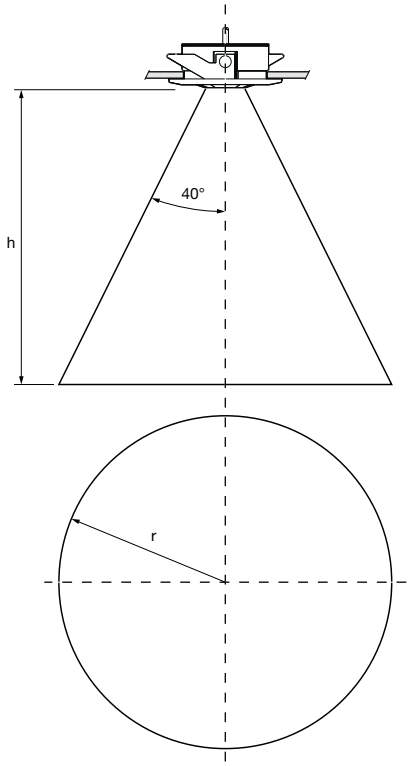
Type	smart**DIM Sensor 2**
article number:	86454523

Light regulation

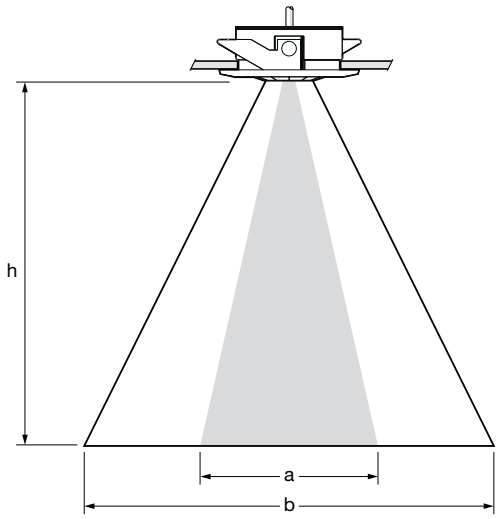
Precise light measurement via photo diodes.

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



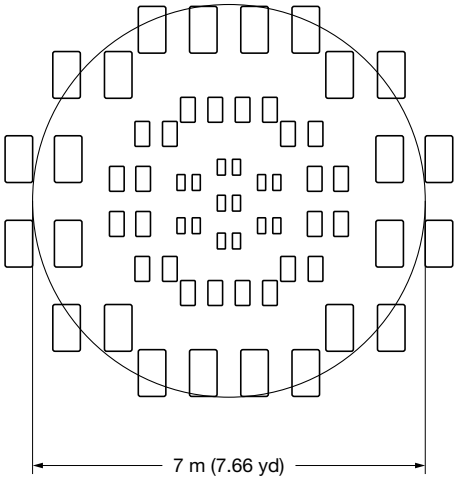
Presence detection



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