smartDIM SM
Control with ambient light sensor/push to make switches/PIR sensor

30
(1.18")

28
(1.10")

190 (7.48")

180 (7.09")

30
(1.18")

Digital DSI control module for controlling up to 25 digital, electronic DSI devices. The smartDIM SM allows user friendly dimming and ON/OFF switching via standard single- or double-gang momentary switches. Any number of switches can be connected in parallel to the smartDIM SM thus enabling operation from several points. By connecting a smartDIM sensor, the connected PCA/TEL/PHD devices can be switched automatically and the ambient lighting can be regulated via the control line.

• terminal cover and strain relief enclosed

Packaging:
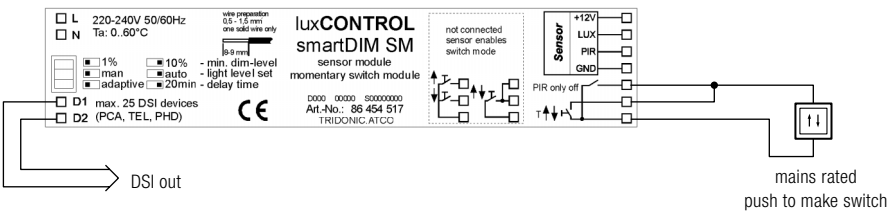single packaged
10 pieces/box

type			smartDIM SM	smartDIM SM 120 V
article number:			86454517	86454656
electrical supply:	voltage	V	220–240	120
	frequency	Hz	50/60	50/60
	max. load	VA	2	2
input:	push to make switches	–	single- / double-gang	single- / double-gang
	push to make switches cable length	m / yd	100 / 109.36	100 / 109.36
	smartDIM sensor 1	–	1-2 parallel (25 DSI devices)	1-2 parallel (25 DSI devices)
		–	3 parallel (15 DSI devices)	3 parallel (15 DSI devices)
		–	4 parallel (5 DSI devices)	4 parallel (5 DSI devices)
	smartDIM sensor 2	–	1 (25 DSI devices)	1 (25 DSI devices)
		–	2 parallel (10 DSI devices)	2 parallel (10 DSI devices)
	max. sensor cable length	m / yd	10 / 10.936	10 / 10.936
output:	digital DSI control signal	–	1	1
	signal	–	digital/serial	digital/serial
	voltage	V	12 ±10%	12 ±10%
	data rate	Bd	1 200	1 200
	max. number of	PCA/TEL/PHD	25	25
	max. cable length	m / yd	100 / 110	100 / 110
temperature:	permitted ambient temperature	°C	0 → +60	0 → +60

TRIDONIC.ATCO

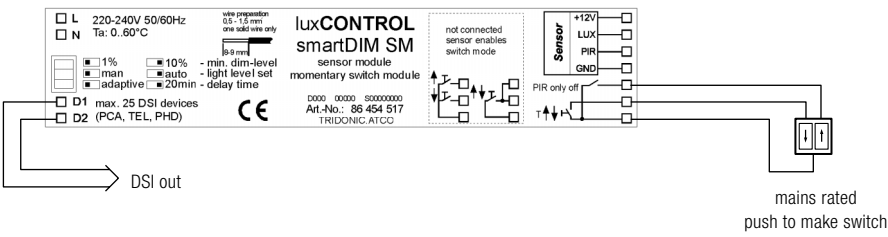# smartDIM SM operation with external push to make switch(es)

The smartDIM SM can be operated without connecting any sensor. In this case connected DSI devices can be dimmed and switched ON/OFF manually via external mains rated push to make switch(es). Either a single- or double-gang push to make switch can be used. Using a number of push to make switches in parallel enables several operation points.

The smartDIM SM controller is equipped with an internal memory to store the last dimming value in case of mains failures. E.g. an application currently operated in standby, stays in standby after mains failures.
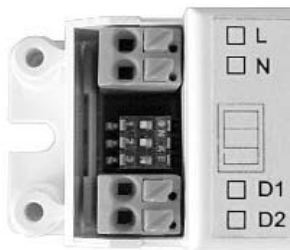
Operation with single-gang push to make switch

DSI out

mains rated
push to make switch

Operation with double-gang push to make switch

DSI out

mains rated
push to make switch

Adjustable parameters in operation without sensors

- 1 % – 10 %   min. dim-level
- man – auto   disabled
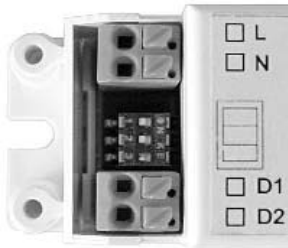- adaptive – 20 min. disabled

Minimum dim-level

The lowest dim-limit can be adjusted via DIP switch to 1% or 10% dim-level. A limited dim-level of 10% enables a synchronous diming operation, (twin ballast) if longer lamp wires are used. (e.g. in stand alone up-lighters)

smartDIM SM operated via sensor(s)

By connecting one/several smartDIM sensor(s), the connected PCA/TEL/PHD devices can be switched automatically and the ambient light can be regulated via the control line. The regulation value can be adjusted via external mains rated push to make switch(es). (See circuit diagram below.)

The smartDIM SM controller is equipped with an internal memory to store the last dimming value in case of mains failures. E.g. an application currently operated in standby, stays in standby after mains failures.

- 1 % – 10 %   min. dim-level
- man – auto   light level set
- adaptive – 20 min. delay time

Minimum dim-level

The lowest dim-limit can be adjusted via DIP switch to 1% or 10% dim-level. A limited dim-level of 10% enables a synchronous diming operation, (twin ballast) if longer lamp wires are used. (e.g. in stand alone up-lighters)

Delay time

The switch off delay time of the presence detector can be adjusted by the DIP switch. It may be chosen between a fix delay time of 20 minutes (18 min. plus 2 min. fadeout) and an adaptive delay time. The adaptive delay time adapts the delay time automatically. (between 4 min. and 20 min.) Time depends on the number of movement detections.

PIR only off

This function provides for an even more efficient use of the presence detector. Luminaires connected to the smartDIM module will switch off by presence detector if "PIR only off" is connected (absence). Switch on will be via a standard push to make switch.

Light level set

Automatic operation (DIP switch: "auto")

Each manual change of light level via a long push will automatically change and store the regulated light level.

Short push (> 50–600 ms):   ON/OFF
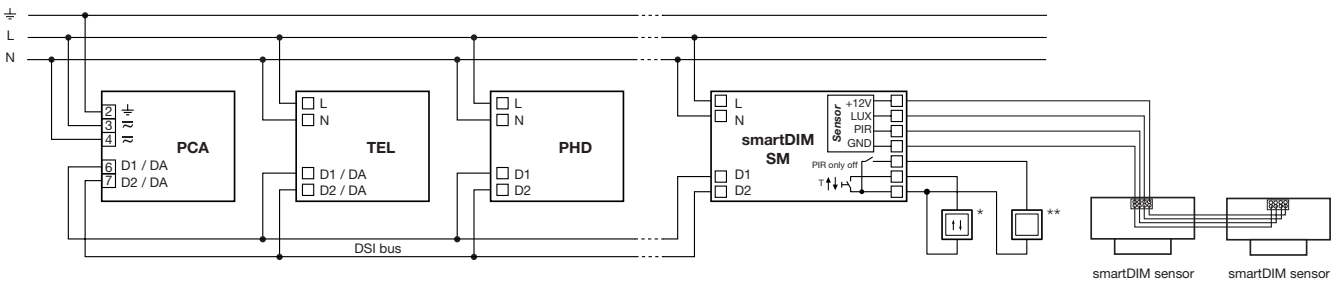Long push (> 600 ms):   Regulated light level is being changed continuously.

Manual operation (DIP switch: "man")

Each manual change of light level deactivates the light regulation function till a "manual storage" (2 short pushes) via the external momentary switch.

Short push (> 50–600 ms):   ON/OFF
Long push (> 600 ms):   Actual light level is being changed temporarily (no change of the regulated light level), after ON/OFF the regulation on the stored light level will be active again.
2 short pushes: Storage of the changed regulated light level (luminaire receipts with 2 flashes)

Circuit diagram:

By connecting more than one smartDIM sensor, the presence detection area can be extended.

* change regulation value
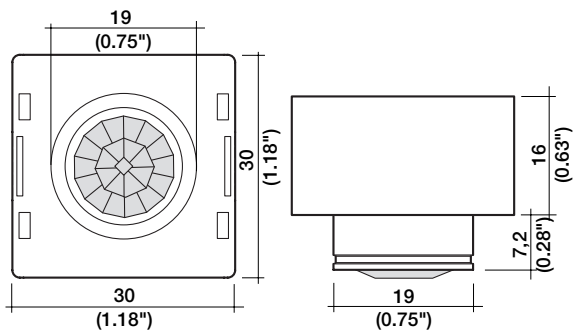** closed: PIR only off
   open: normal (PIR on/off)

- Several smartDIM sensors can be connected in parallel.
  The number of DSI devices controlled by the smartDIM module
  will be reduced by the connection of more sensors (see below)

smartDIM sensor 1	DSI devices	smartDIM sensor 2	DSI devices
1-2	25	1	25
3	15	2	10
4	5		

- max. 10 m / 10.94 yd wires to the Sensor which is placed longest from the smartDIM SM.
- Terminals: solid wires 0.12–0.5 mm^2

Data sheet 02/03-129-1   We reserve the right to make technical changes without prior notice.

TRIDONIC.ATCO   3

smartDIM sensor 1
Ambient light sensor and PIR sensor

Packaging:
box of 50

Ultra-compact luminaire mounted sensor for regulating ambient light and detection of movement. Terminal design allows a further smartDIM sensor to be connected in parallel to extend the presence detection area. When more than one sensor is connected, light level will be averaged.

The smartDIM mirror which is available as an accessory enables the detection area of the PIR function to be extended (see page 6). For adjustable parameters on the smartDIM SM see page 2.
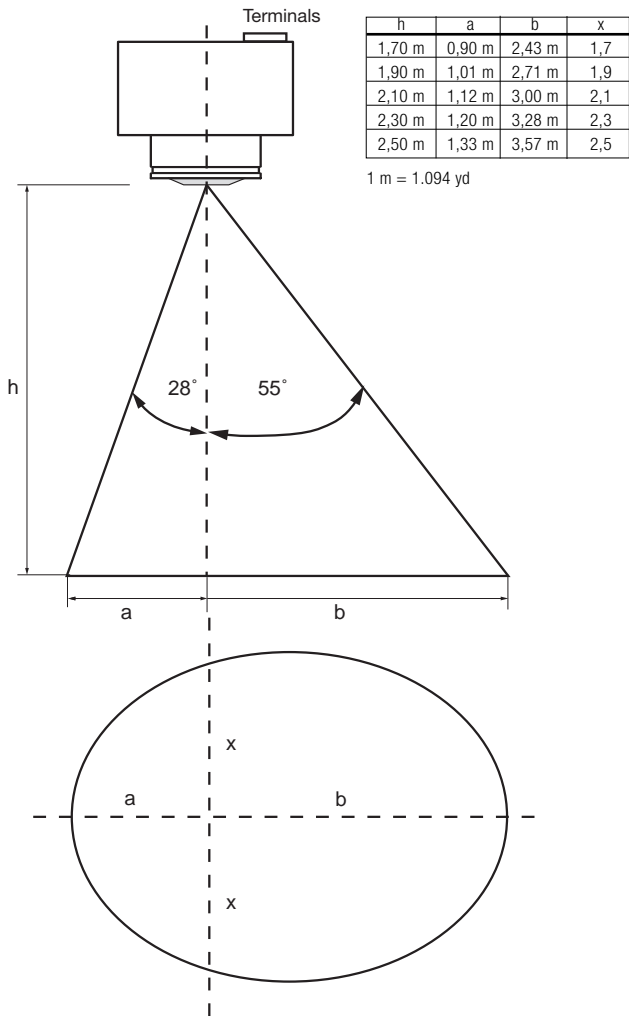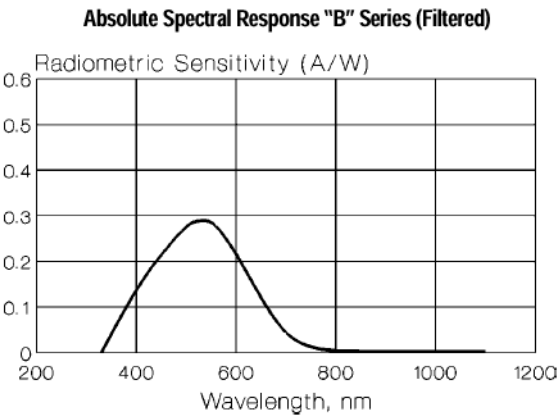
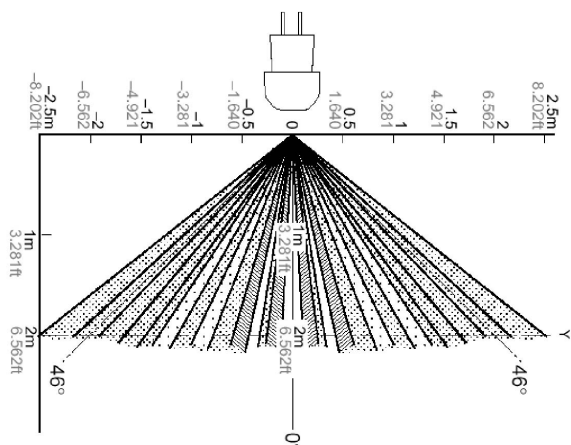| Type	smartDIM sensor 1
Article number:	86454265

Light regulation

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

If the light level (artificial and daylight combined) exceeds the maximum illuminaition value of 400 lux at the sensor the luminaires switch off automatically.
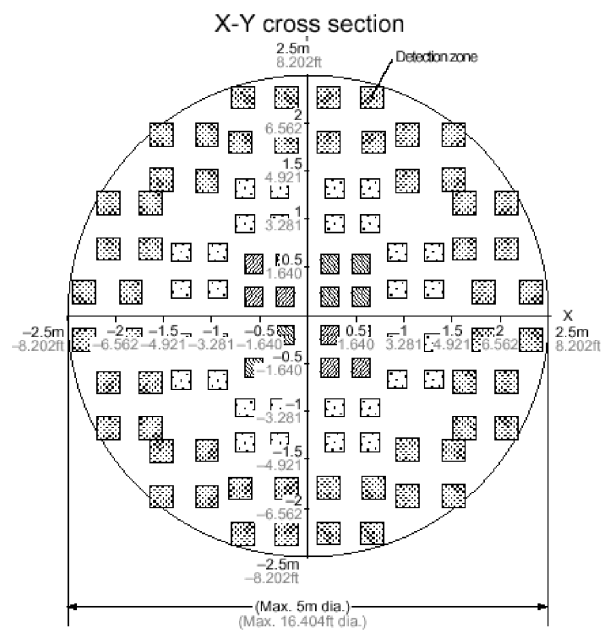

h	a	b	x
1,70 m	0,90 m	2,43 m	1,7
1,90 m	1,01 m	2,71 m	1,9
2,10 m	1,12 m	3,00 m	2,1
2,30 m	1,20 m	3,28 m	2,3
2,50 m	1,33 m	3,57 m	2,5

1 m = 1.094 yd

Data sheet 02/03-129-1   We reserve the right to make technical changes without prior notice.

Presence detection

Detection area: 46° (half angle)
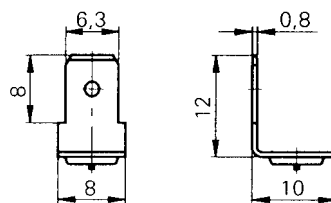Scope: 2 m / 2.2 yd

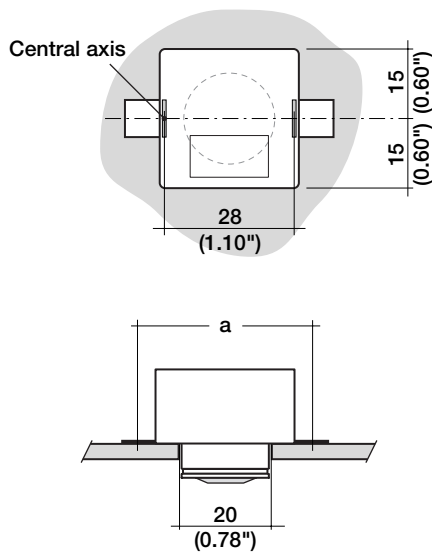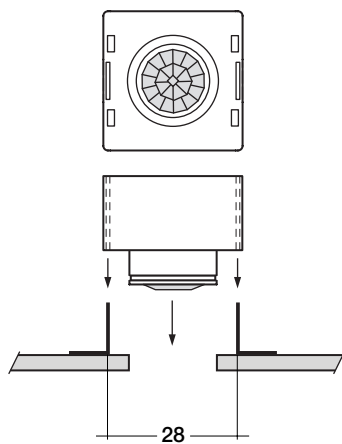max. distance from smart**DIM** sensor 1 to ground 2.5 m / 2.7 yd

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.
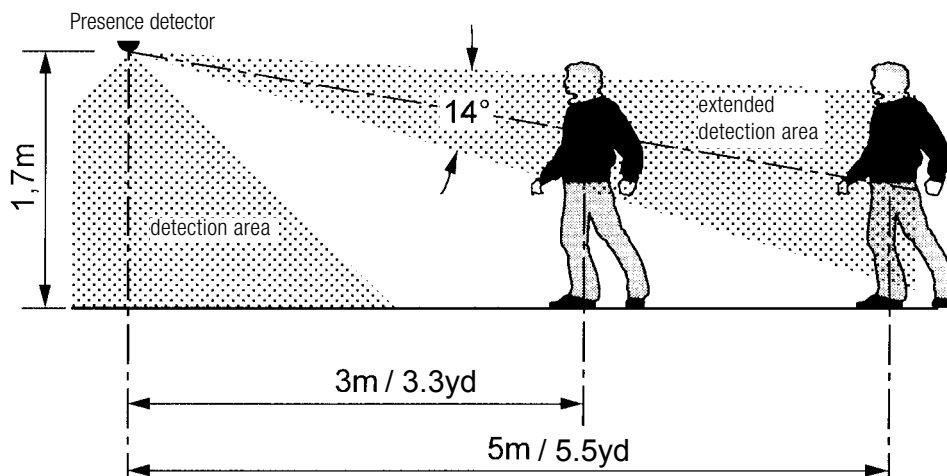
Please refer to www.vogt.ch

example for weldable mounting clamps
dimensions in mm (1 mm = 0.039')

Dimension A is dependent on the type of bracket used.

smartDIM sensor 1 accessory:
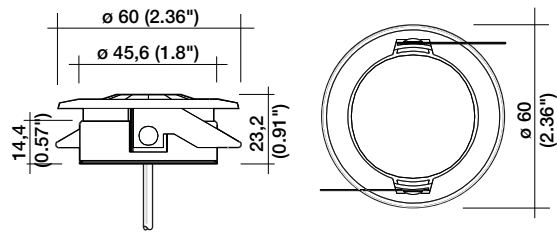## smartDIM MIRROR

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.

Product / Accessory	smartDIM MIRROR
Article number:	86454640

smartDIM sensor 2
Ambient light sensor and PIR sensor

ø 60 (2.36")
ø 45,6 (1.8")
14,4 (0.57")
23,2 (0.91")
ø 60 (2.36")

Low profile ceiling mounted sensor measuring ambient light level and movement detection. Strain relief allows for remote mounting.

Remark: Strain relief/terminal cover for the smartDIM SM module will be supplied with the smartDIM sensor 2.

Different settings can be chosen via the smartDIM SM sensor module (see page 2).

Packaging:
box of 10

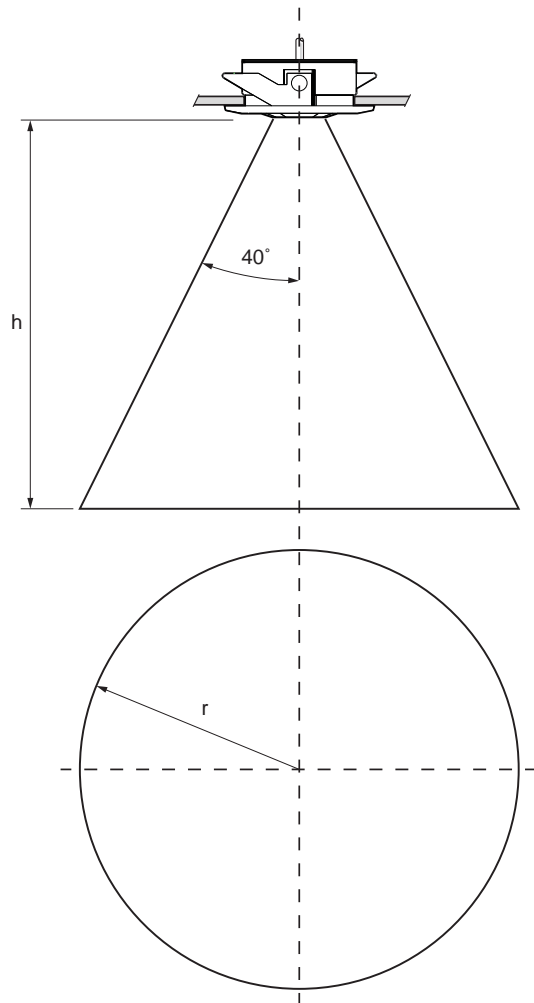| type	smartDIM sensor 2
article number:	86454523

Light regulation
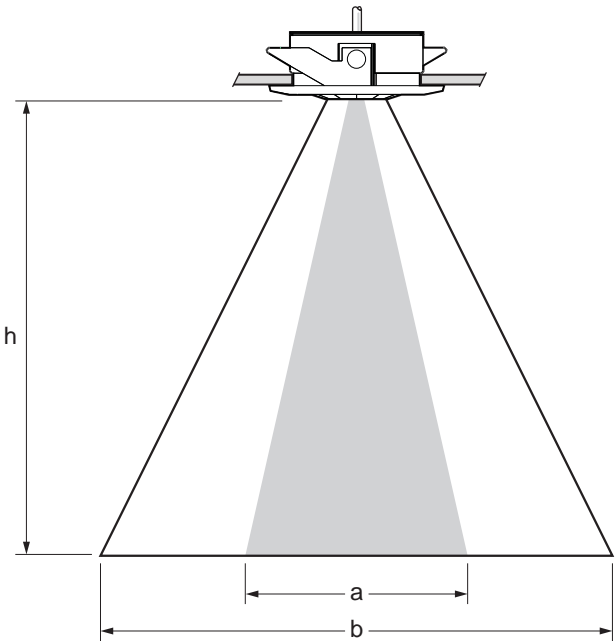
Precise light measurement via photo diodes.

If the light level (artificial and daylight combined) exceeds the maximum illuminaition value of 400 lux at the sensor the luminaires switch off automatically.

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 = 1.904 yd

40°

h

r

Data sheet 02/03-129-1   We reserve the right to make technical changes without prior notice.

TRIDONIC.ATCO   7

Presence detection

7 m (7.66 yd)

Coverage pattern at 2.7 m (2.95 yd) mounting height

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

Installation instructions

52

TRIDONIC.ATCO