

PIR movement and presence detectors 10 A



Hotel room energy-enabling



Lighting control in corridors (for hotels, offices and hospitals)



Offices, swimming baths and schools



Staircase light control





OSTERFO COMMUNITY COMMUNITY

finder

PIR movement detectors for internal or external installations - wall mounting

Type 18.01

- Internal installation
- Surface mounting

Type 18.11

- External installation (IP54)
- Surface mounting

Type 18.A1

- External mounting (IP55)
- Terminal for PE connection
- Push-in terminals
- Output contact connected to supply live
- Small size
- Adjustable ambient light intervention threshold
- Adjustable Light ON Time
- Universal mounting position permits the selection of any area for survey
- Wide angle of survey

18.01/18.11 Screw terminal 18.A1 Push-i

Push-in terminal



NOTE: with 110...125 V AC supply, the Ratings (AC1, AC15 and lamp loads) must be reduced by 50% (e.g. 500 W instead of 1000 W)





- 1 NO 10 A
- Internal installations

18.11



- 1 NO 10 A
- External installations
- Protection category IP 54





- 1 NO 10 A
- External installations
- Protection category IP 55
- PE terminal
- Push-in terminals

30 % (c.g. 300 W III3tcua of 1000 W)				
For outline drawings see page 17				
Contact specification				
Number of contacts		1 NO (SPST-NO)	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak cu	ırrent A	10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)
Rated voltage/				
Maximum switching voltage	V AC	230/230 230/230		230/230
Rated load AC1	VA	2300	2300	2300
Rated load AC15	(230 V) VA	450	450	450
Nominal lamp rating 230 V:				
incande	scent/halogen W	1000	1000	1000
fluoresc	ent lamp with			
	ectronic ballast W	500	500	500
	cent lamp with	250	250	250
electrome	ecanical ballast W	350	350	350
	CFL W	300	300	300
LED 230 V W		300	300	300
halogen or LV LED with electronic ballast W		300	300	300
halogen or LV LED with		300	300	300
electromechanical ballast W		500	500	500
Standard contact material		AgSnO₂	AgSnO₂	AgSnO ₂
Supply specification				
Coil specification	V AC (50/60 Hz)	120230	120230	110230
	DC	_	_	_
Rated power AC/DC	VA (50 Hz)/W	2.5/—	2.5/—	2/0.8
Operating range	V AC (50/60 Hz)	96253	96253	96253
	DC	_	_	_
Technical data				
Electrical life at rated load AC1 cycles		100 · 10³	100 · 10 ³	100 · 10 ³
Ambient light intervention threshold lx		5350	5350	51000
Light ON time after last detection		10 s12 min	10 s12 min	10 s20 min
Sensing area diameter		See diagram page 15	See diagram page 15	See diagram page 15
Ambient temperature range	°C	-10+50	-30+50	-30+50
Protection category		IP 40	IP 54	IP 55
Approvals (according to type)		C€	C€ ERI	

18.21



18.31-0031

finder



- Surface mounting

Type 18.31

- Recess mounting

Type 18.31-0031

- High ceiling type (6 meter max.)

PIR movement detectors for internal

installations - ceiling mount

- Surface or recess mounting
- Output contact connected to supply live
- Small size
- Adjustable ambient light intervention threshold
- Adjustable Light ON Time
- Wide angle of survey

18.21/18.31/18.31...0031 Screw terminal



• 1 NO 10 A

• Surface mounting



• 1 NO 10 A

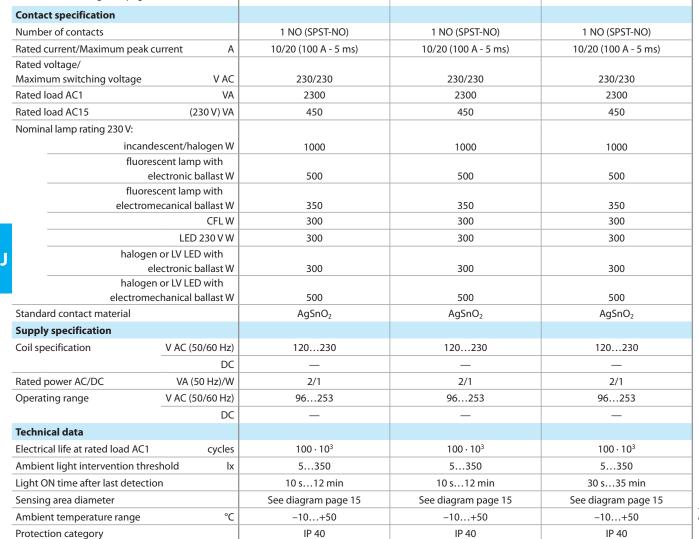
Recess mounting



- 1 NO 10 A
- High ceiling applications (up to 6 meters)
- Light ON time after last detection (30 s...35 min)

NOTE: with 110...125 V AC supply, the Ratings (AC1, AC15 and lamp loads) must be reduced by 50 % (e.g. $500 \, \text{W}$ instead of $1000 \, \text{W}$)

For outline drawings see page 16



C€ [H[@

C€ EHE

Approvals (according to type)

Type 18.21-0300

- Surface mounting

Type 18.31-0300

- Recess mounting
- Applications where interface to PLC or BMS is required
- Ceiling mounting
- Small size
- Adjustable ambient light intervention threshold
- Adjustable Light ON Time
- Wide angle of survey

18.21...0300/18.31...0300 Screw terminal



NOTE: with 110...125 V AC supply, the Ratings (AC1, AC15 and lamp loads) must be reduced by $50\,\%$ (e.g. $500\,W$ instead of $1000\,W)$

For outline drawings see page 16

18.21-0300



- 1 NO 10 A
- Surface mounting



finder



- 1 NO 10 A
- Recess mounting

For outline drawings see page 16				
Contact specification				
Number of contacts		1 NO (SPST-NO)	1 NO (SPST-NO)	
Rated current/Maximum p	eak current A	10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)	
Rated voltage/ Maximum switching voltage	ge V AC	250/400	250/400	
Rated load AC1	VA	2500	2500	
Rated load AC15	(230 V) VA	450	450	
Nominal lamp rating 230 V				
	candescent/halogen W	1000	1000	
fl	uorescent lamp with electronic ballast W	500	500	
	uorescent lamp with tromecanical ballast W	350	350	
	CFL W	300	300	
	LED 230 V W	300	300	
ha	halogen or LV LED with electronic ballast W		300	
	halogen or LV LED with electromechanical ballast W		500	
Standard contact material	Standard contact material		AgSnO ₂	
Supply specification				
Coil specification	V AC (50/60 Hz)	120230	120230	
	V AC (50/60 Hz)/DC	24	24	
Rated power AC/DC	VA (50 Hz)/W	2/1	2/1	
Operating range	V AC (50/60 Hz)	96253	96253	
	V AC (50/60 Hz)/DC	19.226.4	19.226.4	
Technical data				
Electrical life at rated load AC1 cycles		100 · 10³	100 · 10 ³	
Ambient light intervention	threshold lx	5350	5350	
Light ON time after last detection		10 s12 min	10 s12 min	
Sensing area diameter		See diagram page 15	See diagram page 15	
Ambient temperature rang	Ambient temperature range °C		-10+50	
Protection category	Protection category		IP 40	
Approvals (according to type)		C€ ERI		

18 SERIES PIR movement and presence detectors 10 A



Movement and presence detectors with **Push-in terminals** For internal installation

Type 18.51

- Standard version
- Volt-free output contact

Type 18.51-0040

- Possibility to connect external push-button to force the output state
- Dynamic light compensation
- Output contact connected to supply live

Type 18.51-B300

- Programmable via Bluetooth LE (Low Energy) using Android and iOS smartphones
- Extensive sensing area up to 64 m²
- Two sensing areas:
- "presence" suitable for zones of low activity, and "movement" suitable for transit areas or zones of high activity
- Modern design
- Quick installation thanks to push-in terminals
- 1 NO contact 10 A, with "zero crossing" switching
- Wall mounting compatible with 60 mm box and 2 or 3 module box
- Double terminals for easy "looping" in and out

18.51/18.51...0040/18.51...B300 Push-in terminal



NOTE: with 110...125 V AC supply, the Ratings (AC1, AC15 and lamp loads) must be reduced by 50 % (e.g. 500 W instead of 1000 W)

For outline drawings see page 16

18.51





- 1 NO 10 A (volt-free)
- Sensing area 360°







- 1 NO 10 A (connected to supply live)
- Sensing area 360°
- External push-button connection
- Dynamic Light Compensation









- 1 NO 10 A (volt-free)
- Sensing area 360°

Contact specification			
Number of contacts	1 NO (SPST-NO)	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current A	10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)
Rated voltage/			
Maximum switching voltage V AC	250/400	230/230	230/230
Rated load AC1 VA	2500	2300	2300
Rated load AC15 (230 V) VA	450	450	450
Nominal lamp rating 230 V:			
incandescent/halogen W	1000	1000	1000
fluorescent lamp with			
electronic ballast W	500	500	500
fluorescent lamp with			
electromecanical ballast W	350	350	350
CFLW	300	300	300
LED 230 V W	300	300	300
halogen or LV LED with electronic ballast W	300	300	300
halogen or LV LED with	300	300	300
electromechanical ballast W	500	500	500
Standard contact material	AgSnO ₂	AgSnO ₂	AgSnO ₂
Supply specification	Λgsπο _Σ	7.g51.0 ₂	, rigonie į
Coil specification V AC (50/60 Hz)	110230	110230	110230
Rated power VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range V AC (50/60 Hz)	96253	96253	96253
Technical data			
Electrical life at rated load AC1 cycles	100 · 10³	100 · 10 ³	100 ⋅ 10³
Ambient light intervention threshold lx	1500	1500	41000
Light ON time after last detection	12 s35 min	12 s35 min	12 s25 min
Sensing area diameter	See diagram page 15	See diagram page 15	See diagram page 15
Ambient temperature range °C	-10+50	-10+50	-10+50
Protection category	IP 40	IP 40	IP 40
Approvals (according to type)	CE E	H[🛆	CE 🛆

Movement and presence detectors with Push-in terminals. For internal installation.

Type 18.5D with DALI interface

Three selectable functions:

- Daylight-linked constant light level control
- ON/OFF control with early warning
- ON/OFF control with early warning + courtesy light level

Type 18.5K with KNX interface

- 2 outputs (data telegrams) for load control (Lighting, HVAC etc.)
- 1 output (data telegram) movement/ presence detected
- Adjustment of ambient light threshold, and PIR sensitivity
- Master/Slave mode for increased sensing area
- Selectable function to inhibit ambient light threshold control
- Reporting of light level and movement status (for security purposes, etc.)

18.5D Push-in terminal













- Applications: offices, schools, zones of low activity
- Suitable for direct control of up to 8 DALI lighting ballasts
- Extensive sensing area up to 64 m²
- Two sensing areas:
 "presence" suitable for
 zones of low activity, and
 "movement" suitable for
 transit areas or zones of high
 activity



- Applications: offices, schools, zones of low activity
- Extensive sensing area up to 64 m²
- Two sensing areas:
 "presence" suitable for
 zones of low activity, and
 "movement" suitable for
 transit areas or zones of high
 activity

For outline drawings see page 16

Supply specification			
Coil specification	V AC (50/60 Hz)	110230	_
Rated power	VA (50 Hz)/W	1.5/1	_
Operating range	V AC (50/60 Hz)	96253	_
Supply specification			
Type of BUS		<u>—</u>	KNX
Supply voltage	V DC	_	30
Rated consumption	mA	_	10
Technical data			
Ambient light intervention threshold lx		10500	11500
Light ON time after last detection		10 s35 min	0.1 s18 h
Ambient temperature range	°C	-10+50	-5+45
Protection category		IP 40	IP 40
Approvals (according to type)		CE	(€ △



Movement detectors with Push-in terminals For internal installation - with volt-free output contact

Type 18.41

- Corridor (ceiling) installation

Type 18.61

- Wall mount installation
- Extensive sensing area up to 120 m²
- Modern design
- Quick installation thanks to push-in terminals
- 1 NO contact 10 A, with "zero crossing" switching
- Wall mounting compatible with 60 mm box and 2 or 3 module box
- Double terminals for easy "looping" in and out

18.41/18.61 Push-in terminal



NOTE: with 110...125 V AC supply, the Ratings (AC1, AC15 and lamp loads) must be reduced by 50 % (e.g. 500 W instead of 1000 W)

18.41





- 1 NO 10 A
- Applications: hotel and offices corridors, transit areas
- Sensing area 30 meters length and 4 meters width

18.61





- 1 NO 10 A
- Specifically for wall mounting
- Wide angle: 180°
- Wall mounting compatible with 60 mm box

For outline drawings see page 16

Contact specification			
Number of contacts		1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current A		10/20 (100 A - 5 ms)	10/20 (100 A - 5 ms)
Rated voltage/			
Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	2500	2500
Rated load AC15	VA	450	450
Nominal lamp rating 230 V:			
incandescent/ha	logen W	1000	1000
fluorescent lam	p with		
electronic l		500	500
fluorescent lam electromecanical l	' I	350	350
electromecanical	CFL W	300	300
	230 V W	300	
halogen or LV LEI		300	300
electronic		300	300
halogen or LV LEI) with		
electromechanical k	oallast W	500	500
Standard contact material		$AgSnO_2$	AgSnO ₂
Supply specification			
Coil specification V AC (5	0/60 Hz)	110230	110230
Rated power VA (5	50 Hz)/W	1.5/1	1.5/1
Operating range V AC (5	0/60 Hz)	96253	96253
Technical data			
Electrical life at rated load AC1	cycles	100 · 10³	100 · 10³
Ambient light intervention threshold	lx	1500	1500
Light ON time after last detection		12 s35 min	12 s35 min
Sensing area diameter		See diagram page 15	See diagram page 15
Ambient temperature range	°C	-10+50	-10+50
Protection category		IP 40	IP 40
Approvals (according to type)		(€ [H[△	C€ EHI

Movement detectors for internal installation

Type 18.91

- Wall mount installation
- External push-button connection
- Modern design
- 1 output with "zero crossing" switching
- Wall mounting compatible with 3 module housing, complete with adaptor for following frames:
- BTicino series Axolute
- BTicino series Light tech
- BTicino series Living
- BTicino series Living light Air
- BTicino series Matix
- Gewiss series Chorus
- Vimar series Eikon
- Vimar series Idea
- Vimar series Arkè
- Vimar PLANA
- White or black color version

18.91 Screw terminal









- Specifically for wall mounting
- Wide angle: 110°
- Applications: corridors, transit areas, toilets, staircases

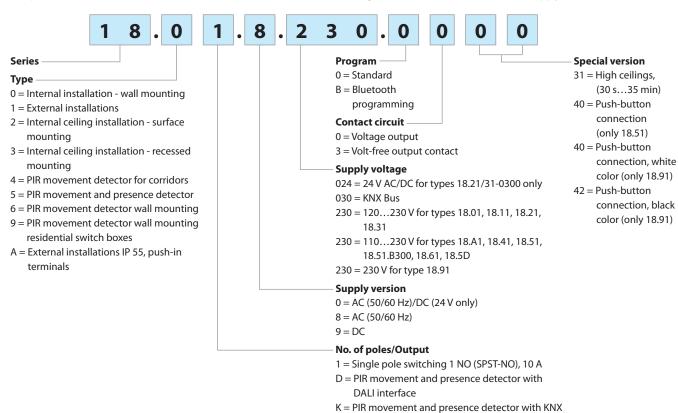
For outline drawings see page 16

Output data				
Rated voltage	230			
Power max.	200			
Power min.	W	3		
Nominal lamp rating 230 V	:			
in	candescent/halogen W	200		
toroidal electrom	agnetic transformers			
	for LV halogen W	200		
E-core electrom	nagnetic transformers			
	for LV halogen W	200		
electronic to	ransformers (ballasts)			
	for LV halogen W	200		
comp	200			
	200			
ele				
	200			
Supply specification				
Nominal voltage (U _N)	V AC (50/60 Hz)	230		
Rated power	VA(50Hz)/W	14/0.5		
Operating range		(0.81.1)U _N		
Technical data				
Ambient light intervention	5500 (black)/6600 (white)			
Light ON time after last de	10 s20 min			
Sensing area	See diagram page 15			
Ambient temperature rang	Ambient temperature range °C			
Protection category	IP 20			
Approvals (according to t	C€			



Ordering information

Example: 18 series, PIR movement detector for internal installations, wall mounting, 1 NO 10 A contact, 120...230 V AC supply.



Codes

interface

18.01.8.230.0000	18.31.0.024.0300	18.41.8.230.0300
18.11.8.230.0000	18.31.8.230.0000	18.51.8.230.0300
18.21.0.024.0300	18.31.8.230.0300	18.51.8.230.0040
18.21.8.230.0000	18.31.8.230.0031	18.51.8.230.B300
18.21.8.230.0300		18.61.8.230.0300
		18.91.8.230.0040
		18.91.8.230.0042
		18.A1.8.230.0000
		18.5D.8.230.0000
		18.5K.9.030.0000
	18.11.8.230.0000 18.21.0.024.0300 18.21.8.230.0000	18.11.8.230.0000 18.31.8.230.0000 18.21.0.024.0300 18.31.8.230.0300 18.21.8.230.0000 18.31.8.230.0031

finder

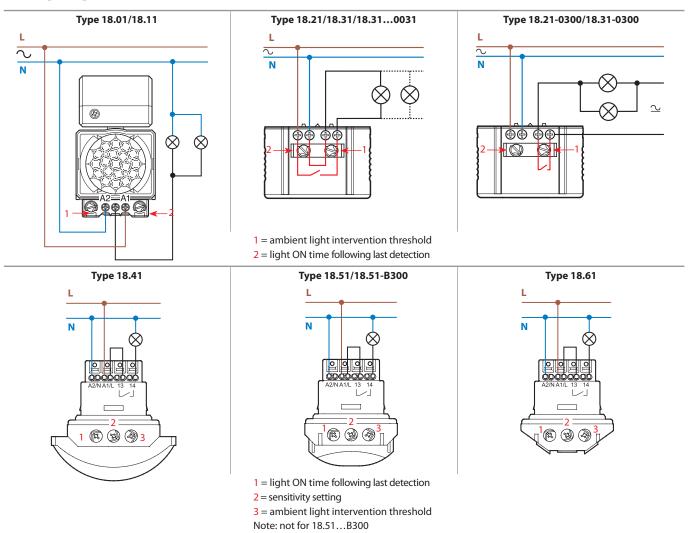
Technical data

Insulation							
Dielectric strength between open contacts V AC			1000 (except for type 18.91 TRIAC output)				
Between supply and contact		V AC	1500 (types 18.	1500 (types 18.210300, 18.310300, 18.41, 1851, 18.61		1851, 18.61)	
EMC specifications							
Type of test		Reference standard					
Electrostatic discharge	contact discharge	EN 61000-4-2		4 kV			
	air discharge	EN 61000-4-2		8 kV			
Radiated electromagnetic field (802000	MHz)	EN 61000-4-3		3 V/m			
Fast transients (burst 5/50 ns, 5 and 100 kHz)	on supply terminals	EN 61000-4-4		1 kV			
Voltage pulses on supply terminals	common mode	EN 61000-4-5		4 kV (2 kV for 1	8.91)		
(surge 1.2/50 μs)	differential mode	EN 61000-4-5		4 kV (2.5 kV for	18.01/11, 1 kV fc	or 18.91)	
Radiofrequency common mode voltage (0.15230 MHz)	on supply terminals	EN 61000-4-6		3 V			
Voltage dips	age dips 70% U _N , 40% U _N EN 61000-4-11 10 cycles						
Short interruptions	EN 61000-4-11		10 cycles				
Radiofrequency conducted emissions	(0.1530)MHz	EN 55014	class B				
Radiated emissions	(301000)MHz	EN 55014		class B			
Terminals				18.01, 18.11, 18.21, 18.31,18.91		18.41, 18.51, 18.51B300, 18.61, 18.A1	
Туре				Screw terminal		Push-in (see pag. 18)	
Screw torque		Nm	0.5		_		
Max. wire size				solid cable	stranded cable	solid cable	stranded cable
		-	mm ²	1x6/2x4	1 x 4 / 2 x 2.5	2.5	2.5
		-	AWG	1 x 10 / 2 x 12	1 x 12 / 2 x 14	14	14
Wire strip length			mm	9	9	8	8
Other data							
Power lost to the environment	withou	t output current	W	0.3			
	with rat	ted output currer	nt W	1.4			

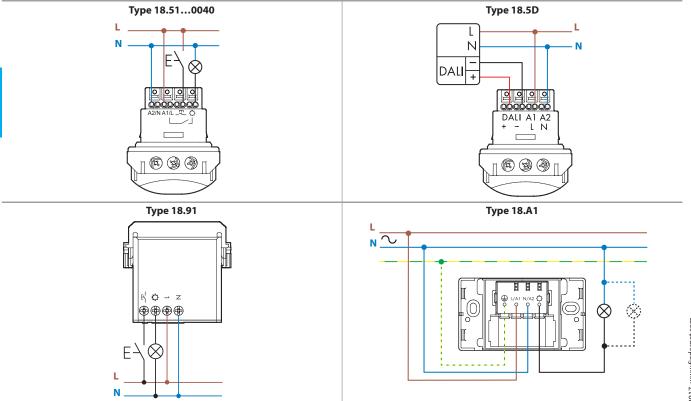
- Following the initial power-on, and power-on following a power interruption, the detector makes a hardware-software initialisation for approximately 30 seconds. However, the behavior of the output during this 30 seconds will depend on certain circumstances:
 - If the detector was in the On state before the power interruption, and if the lighting level is (currently) below the pre-set threshold, then the output contact will immediately close when the power is re-applied, for the time delay set by the potentiometer (irrespective of whether movement is being
 - If the detector was in the Off state before the power interruption, or if the ambient light is currently over the pre-set threshold, then the detector will not switch-on until the end of the initialisation phase (assuming movement is then detected).



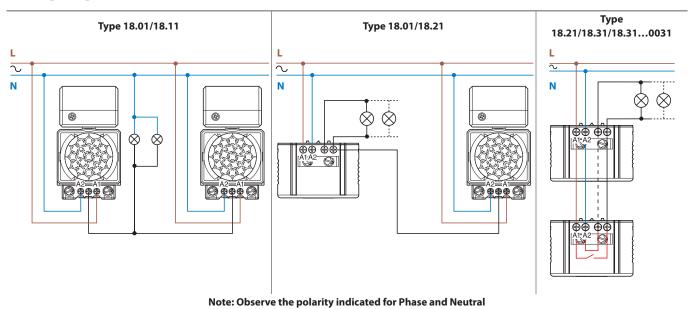
Wiring diagram



The nominal lamp rating as stated in the contact specification applies when wiring is realized in accordance with the diagrams above. If the load is powered from a phase different to that powering the Movement detector, then a 50% reduction in the lamp rating must be considered.



Wiring diagram



Type 18.51-B300 - Bluetooth

Through the use of Bluetooth LE (Low Energy) technology programming the detector's operating characteristics can be easily and conveniently done using an Android or iOS smartphone.

After installing the 18.51, simply download the Free App Finder Toolbox from Google and Apple's official stores and set all the required parameters.

> Output



finder

Android, Google Play and the Google Play logo are trademarks of Google Inc. Apple is a trademark of Apple Inc. App Store is a service mark of Apple Inc. App Store Sensor BLE RSSI: -63 < 18.51 Sensor BLE 0 300 lu Ambient light read by sensor High Status

Detectors can be named and uniquely identified within a building. The ambient light level threshold can be adjusted between 4 lux and 1000 lux, the Light On delay time can be set from 12 seconds to 25 minutes, and the movement detector set to one of three sensitivity levels. When Bluetooth connection is made to a detector a red LED signals the correct pairing and that all the set parameters have been transferred. The detector then responds with two feedback values - brightness as read by the light sensor in the detector and the contact status, if closed (On) or open (Off). For security, the detectors can be locked by a selector switch and a 4-digit PIN - preventing parameter changes by unauthorized persons.

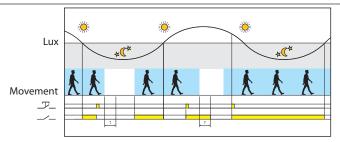


Functions

Type

Functions

18.51...0040

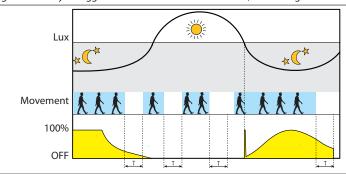


Push-button function

A control pulse on the push-button inverts the status of the output relay, until the timing after the last movement detected is elapsed. **Dynamic Light Compensation**

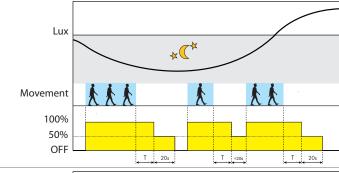
By incorporating Finder's Patented "light feedback compensation" principle, the 18.51...0040 is able to calculate the artificial light contributed by the contributthe lamps controlled by the output relay. In effect, this means the 18.51...0040 is able to continuously monitor the natural ambient light level, even when the output is On. As a consequence, whenever the natural light level exceeds the threshold setting the output is forced Off. This can significantly minimises the time the lighting is On, particularly where there is a high level of traffic - and cost savings can be considerable. This is an advance over other types of movement detectors, which are unable to identify the natural ambient light level when the output is On and so can only turn Off after the time delay that follows the last detected movement. In busy areas this may mean that the movement detector is being continuously re-triggered and maintained in the On state, even though the natural light level has long risen above the threshold.

18.5D



Comfort - Daylight-linked constant light level control

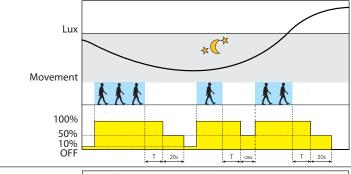
Adjusts to maintain a constant brightness level considering the detection of movement and the level of daylight - increasing or decreasing the power of the artificial light as appropriate. Suitable for small offices, classrooms or workplaces. This allows considerable energy saving while maintaining a comfortable level of illumination.



Simplicity - ON/OFF control with early warning

Works as a simple movement detector, activating the lamps at 100% power. But provides an early warning of the next shutdown with a power reduction to 50% for 20 seconds.

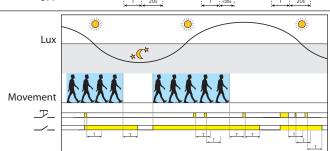
Avoids a sudden total shutdown of lighting.



Courtesy - ON/OFF control with early warning + courtesy light level

If the brightness level is lower than the set value, artificial light is maintained at 10% power, guaranteeing a minimum level of illumination at all times. When movement is detected, the power of the lamps is raised to 100%. There is an early warning of any reduction from the 100% power level by a reduction to 50% for 20 seconds. Suitable for common areas, lobbies, corridors, elevator zones.

18.91

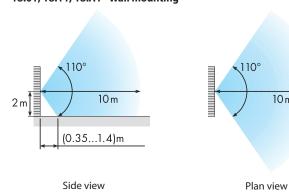


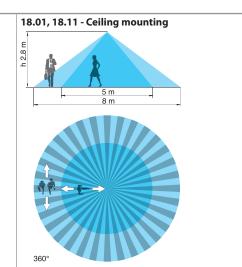
Detection of movement

Detected movement closes, or keeps closed, the output contact.

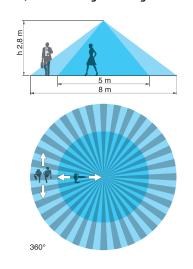
Operating the push-button closes, or keeps closed, the output contact - for the set time T.





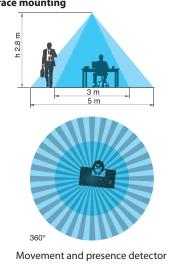


18.21, 18.31 - Ceiling mounting

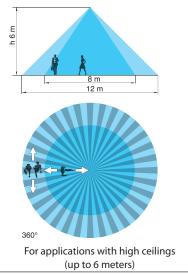


18.31...0031 - Internal ceiling installation, surface mounting

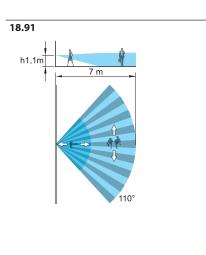
10 m



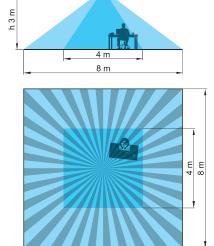
18.31...0031 - High ceilings installations



18.41 18 m 30 m

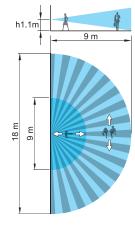


18.51/18.51...B300/18.5K

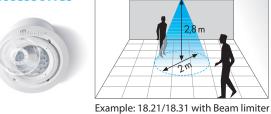




18.61



Accessories



Beam limiter (supplied with the type 18.21/31/41/51)

At an installation height of 2.8 meters the area of survey will reduce at:

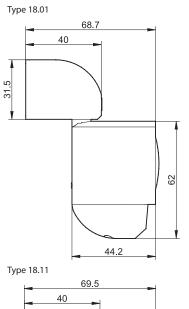
18.21/18.31: diameter 2 meters 18.41: 2.5 x 6 meters 18.51: 2 x 2 meters

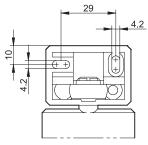


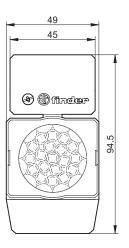
Outline drawings

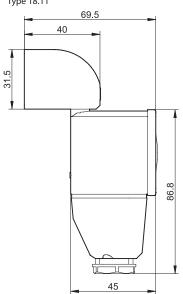
Туре	Suspended ceiling mounting	Recess mounting	Surface mounting
18.21			Ø 56 Ø 75.1
18.31	% 70 Ø 63 Ø 56 Ø 80		
18.310031	Ø 70 Ø 63 Ø 80 Ø 80		Ø 56 Ø 75.1
18.41	Ø 60	Ø 60 Ø 60 9 E P	84 x 69
18.51 18.5D 18.5K 18.51B300	25 max 25 max 25.1 36.5	Ø 60 Ø 60 9 12 1 32 1 32 1 84	84 x 69
18.61	36.5 27.7 36.5 27.7 25 max	31.6 27.7	

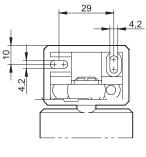
finder

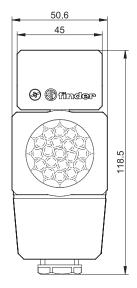




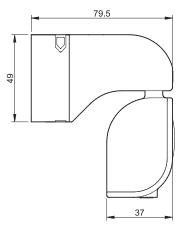


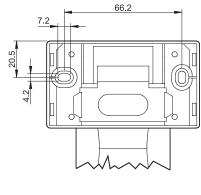


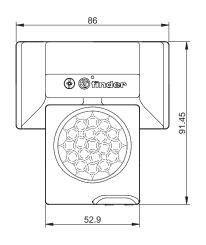


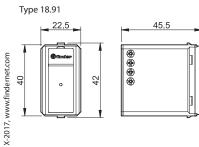


Type 18.A1





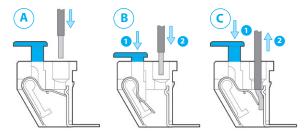






Push-in terminals for 18.41, 18.51, 18.5D, 18.61 and 18.A1

The push-in terminals permit the quick connection of solid wires or ferrules by their simple insertion into the terminal (A). It is possible to open the terminal to extract the wire by first pushing down on the push-button using a screwdriver or fingers (C). For stranded cable it is necessary first to open the terminal using the push button, both for the extraction (C) and insertion (B).





Double terminals for the easy "looping" between multiple 18 Series. The Max. wire size for each terminal is 2.5 mm².

The terminals are equipped with a test hole to take a test probe.