

PIR movement and presence detectors 10 A



Hotel room energy management systems



Offices, swimming baths and schools



Staircase light control



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



18
SERIES



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-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 17

Contact specification

	18.01	18.11	18.A1
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)	A 10/20 (100 A - 5 ms)	A 10/20 (100 A - 5 ms)
Rated voltage/Maximum switching voltage	V AC 230/230	V AC 230/230	V AC 230/230
Rated load AC1	VA 2300	VA 2300	VA 2300
Rated load AC15	(230 V) VA 450	(230 V) VA 450	(230 V) VA 450
Nominal lamp rating 230 V:			
incandescent/halogen W	1000	1000	1000
fluorescent lamp with electronic ballast W	500	500	500
fluorescent lamp with electromagnetic 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 electromagnetic ballast W	500	500	500
Standard contact material	AgSnO ₂	AgSnO ₂	AgSnO ₂

Supply specification

	18.01	18.11	18.A1
Coil specification	V AC (50/60 Hz) 120...230	V AC (50/60 Hz) 120...230	V AC (50/60 Hz) 110...230
	DC —	DC —	DC —
Rated power AC/DC	VA (50 Hz)/W 2.5/—	VA (50 Hz)/W 2.5/—	VA (50 Hz)/W 2/0.8
Operating range	V AC (50/60 Hz) 96...253	V AC (50/60 Hz) 96...253	V AC (50/60 Hz) 96...253
	DC —	DC —	DC —

Technical data

	18.01	18.11	18.A1
Electrical life at rated load AC1	cycles 100 · 10 ³	cycles 100 · 10 ³	cycles 100 · 10 ³
Ambient light intervention threshold	lx 5...350	lx 5...350	lx 5...1000
Light ON time after last detection	10 s...12 min	10 s...12 min	10 s...20 min
Sensing area	See diagram page 15	See diagram page 15	See diagram page 15
Ambient temperature range	°C -10...+50	°C -30...+50	°C -30...+50
Protection category	IP 40	IP 54	IP 55

Approvals (according to type)




PIR movement detectors for internal installations - ceiling mount
Type 18.21

- Surface mounting

Type 18.31

- Recess mounting

Type 18.31-0031

- High ceiling type (6 meter max.)
- 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



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 17

Contact specification

		18.21	18.31	18.31-0031
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	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:				
	incandescent/halogen W	1000	1000	1000
	fluorescent lamp with electronic ballast W	500	500	500
	fluorescent lamp with electromagnetic 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 electromagnetic ballast W	500	500	500
Standard contact material		AgSnO ₂	AgSnO ₂	AgSnO ₂

Supply specification

		18.21	18.31	18.31-0031
Coil specification	V AC (50/60 Hz)	120...230	120...230	120...230
	DC	—	—	—
Rated power AC/DC	VA (50 Hz)/W	2/1	2/1	2/1
Operating range	V AC (50/60 Hz)	96...253	96...253	96...253
	DC	—	—	—

Technical data

		18.21	18.31	18.31-0031
Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 10 ³	100 · 10 ³
Ambient light intervention threshold	lx	5...350	5...350	5...350
Light ON time after last detection		10 s...12 min	10 s...12 min	30 s...35 min
Sensing area		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)




PIR movement detectors for internal installations, with volt-free output contact

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

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	(230 V) VA	450	450
Nominal lamp rating 230 V:			
incandescent/halogen W		1000	1000
fluorescent lamp with electronic ballast W		500	500
fluorescent lamp with electromagnetic ballast W		350	350
CFL W		300	300
LED 230 V W		300	300
halogen or LV LED with electronic ballast W		300	300
halogen or LV LED with electromagnetic ballast W		500	500
Standard contact material		AgSnO ₂	AgSnO ₂

Supply specification

Coil specification	V AC (50/60 Hz)	120...230	120...230
	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)	96...253	96...253
	V AC (50/60 Hz)/DC	19.2...26.4	19.2...26.4

Technical data

Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 10 ³
Ambient light intervention threshold	lx	5...350	5...350
Light ON time after last detection		10 s...12 min	10 s...12 min
Sensing area		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)



- 1 NO 10 A
- Surface mounting



- 1 NO 10 A
- Recess mounting

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

Contact specification

	18.51	18.51...0040	18.51...B300
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 electromagnetic 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 electromagnetic ballast W	500	500	500
Standard contact material	AgSnO ₂	AgSnO ₂	AgSnO ₂

Supply specification

	18.51	18.51...0040	18.51...B300
Coil specification	V AC (50/60 Hz) 110...230	110...230	110...230
Rated power	VA (50 Hz)/W 1.5/1	1.5/1	1.5/1
Operating range	V AC (50/60 Hz) 96...253	96...253	96...253

Technical data

	18.51	18.51...0040	18.51...B300
Electrical life at rated load AC1	cycles 100 · 10 ³	100 · 10 ³	100 · 10 ³
Ambient light intervention threshold	lx 1...500	1...500	4...1000
Light ON time after last detection	12 s...35 min	12 s...35 min	12 s...25 min
Sensing area	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)



18.51



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

NEW 18.51...0040



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

NEW 18.51...B300



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

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 18.4K and 18.5K with KNX interface

- 5 outputs (datapoint) for load control (Lighting, HVAC etc.)
- Adjustment of ambient light threshold, and PIR sensitivity
- 1 output (datapoint) – master/slave detection
- Selectable function to inhibit ambient light threshold control
- Reporting of light level and movement status (for security purposes, etc.)
- Detection of movement direction (type 18.4K)
- Internal ceiling mounting
- Suitable for ETS 4 (or latest versions)

18.5D
Push-in terminal



18.4K/18.5K
KNX terminal



For outline drawings see page 16

Supply specification

Coil specification	V AC (50/60 Hz)	110...230	—	—
Rated power	VA (50 Hz)/W	1.5/1	—	—
Operating range	V AC (50/60 Hz)	96...253	—	—

Supply specification

Type of BUS	—	—	KNX	KNX
Supply voltage	V DC	—	30	30
Rated consumption	mA	—	10	10

Technical data

Ambient light intervention threshold	lx	10...800	1...1500	1...1500
Light ON time after last detection		10 s...35 min	0.1 s...18 h	0.1 s...18 h
Ambient temperature range	°C	-10...+50	-5...+45	-5...+45
Protection category		IP 40	IP 40	IP 40

Approvals (according to type)



NEW 18.5D



DALI

DALI



- 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

NEW 18.4K.9.030.0000



KNX

- Applications: hotel and offices corridors, transit areas
- Sensing area 30 meters length and 4 meters width
- Two detection areas: right and left

NEW 18.5K.9.030.0001



KNX

- Applications: offices, schools, zones of low activity
- Extensive sensing area up to 64 m²
- Dynamic light regulation
- Logic gates
- Up to 5 outputs

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)

For outline drawings see page 16

Contact specification

		18.41	18.61
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/halogen W	1000	1000
	fluorescent lamp with electronic ballast W	500	500
	fluorescent lamp with electromagnetic ballast W	350	350
	CFL W	300	300
	LED 230 V W	300	300
	halogen or LV LED with electronic ballast W	300	300
	halogen or LV LED with electromagnetic ballast W	500	500
Standard contact material		AgSnO ₂	AgSnO ₂

Supply specification

Coil specification	V AC (50/60 Hz)	110...230	110...230
Rated power	VA (50 Hz)/W	1.5/1	1.5/1
Operating range	V AC (50/60 Hz)	96...253	96...253

Technical data

Electrical life at rated load AC1	cycles	100 · 10 ³	100 · 10 ³
Ambient light intervention threshold	lx	1...500	1...500
Light ON time after last detection		12 s...35 min	12 s...35 min
Sensing area		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)

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

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:
 - Ave S44
 - BTicino series Axolute
 - BTicino series Living
 - BTicino series Living Light
 - BTicino series Living Light Air
 - BTicino series Matix
 - Gewiss series Chorus
 - Gewiss series System
 - Simon Urmet Nea
 - Vimar series Eikon
 - Vimar series Idea
 - Vimar series Arkè
 - Vimar Plana
- White or black versions

18.91 **NEW**



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

18.91
Screw terminal

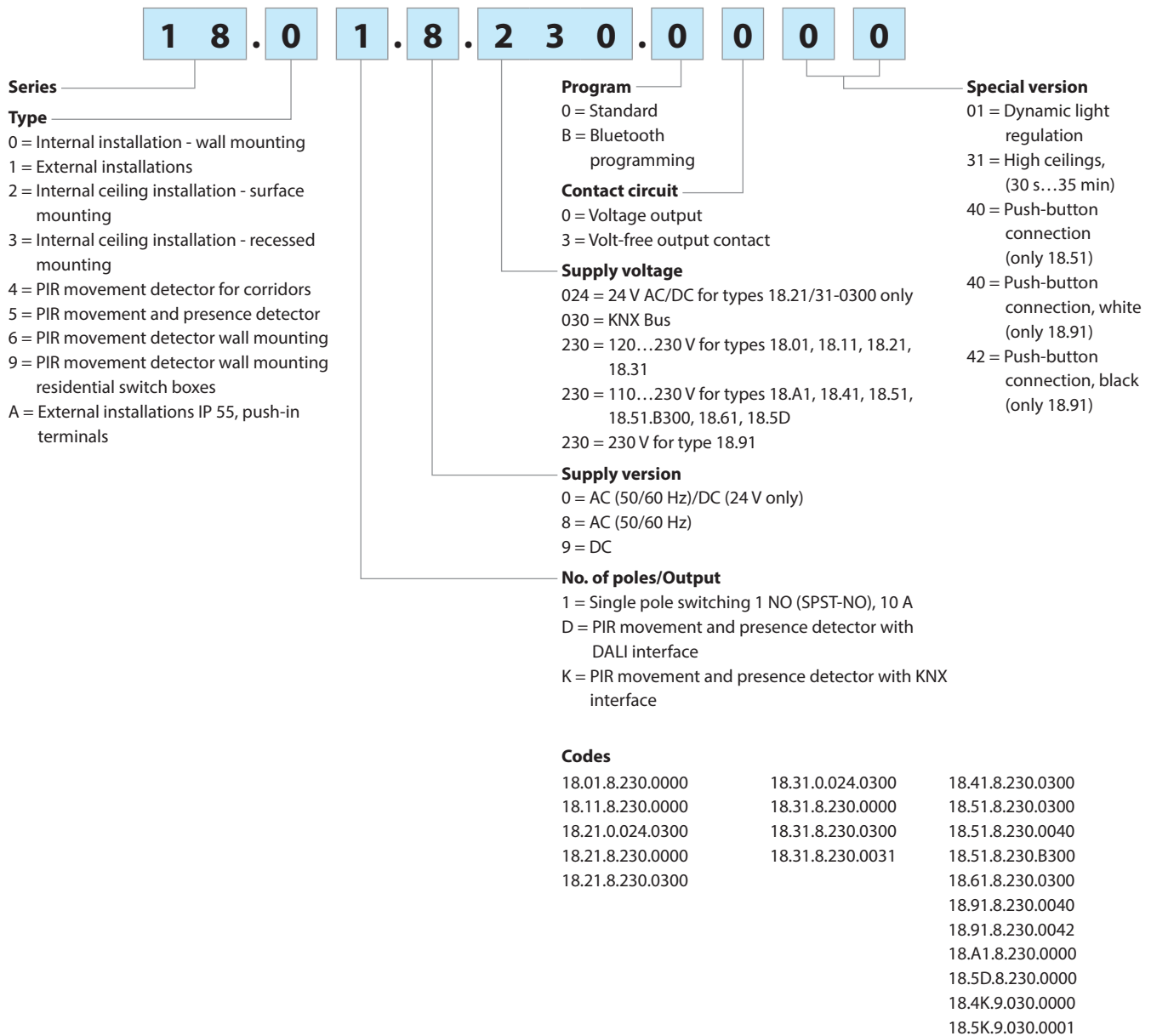


For outline drawings see page 17

Output data		
Rated voltage	V AC	230
Power max.	W	200
Power min.	W	3
Nominal lamp rating 230 V:		
incandescent/halogen W		200
toroidal electromagnetic transformers for LV halogen W		200
E-core electromagnetic transformers for LV halogen W		200
electronic transformers (ballasts) for LV halogen W		200
compact fluorescent (CFL) W		200
230 V LED W		200
electronic transformers for LV LED W		200
Supply specification		
Nominal voltage (U _N)	V AC (50/60 Hz)	230
Rated power	VA(50Hz)/W	14/0.5
Operating range		(0.8...1.1)U _N
Technical data		
Ambient light intervention threshold	lx	5...500 (black)/6...600 (white)
Light ON time after last detection		10 s...20 min
Sensing area		See diagram page 15
Ambient temperature range	°C	-10...+50
Protection category		IP 20
Approvals (according to type)		

Ordering information

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



Technical data

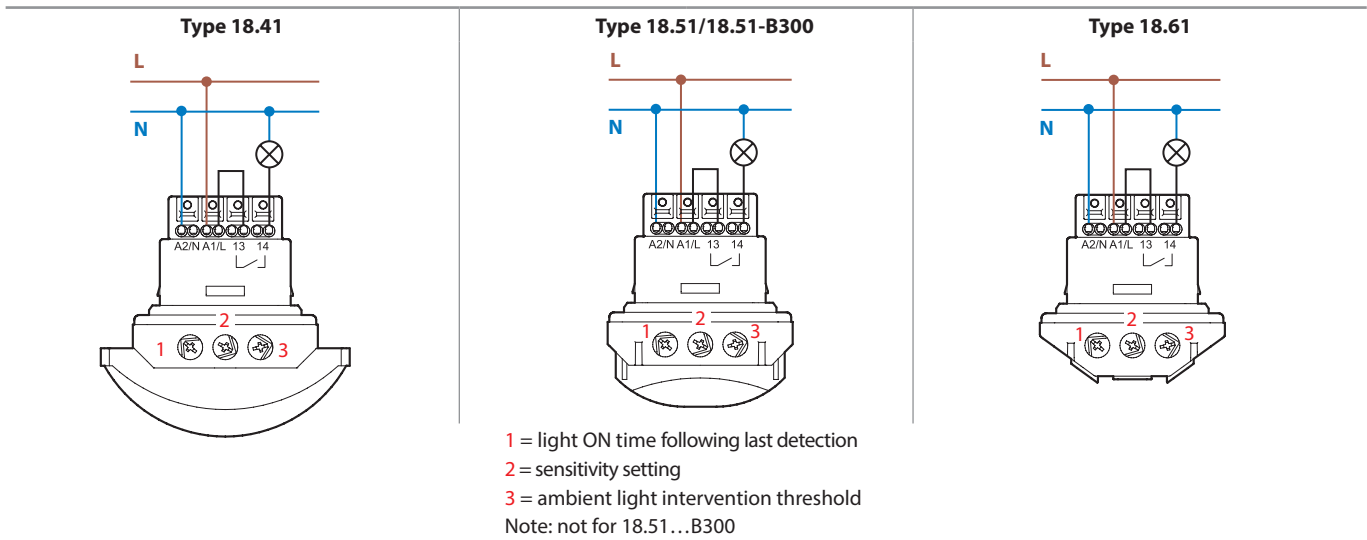
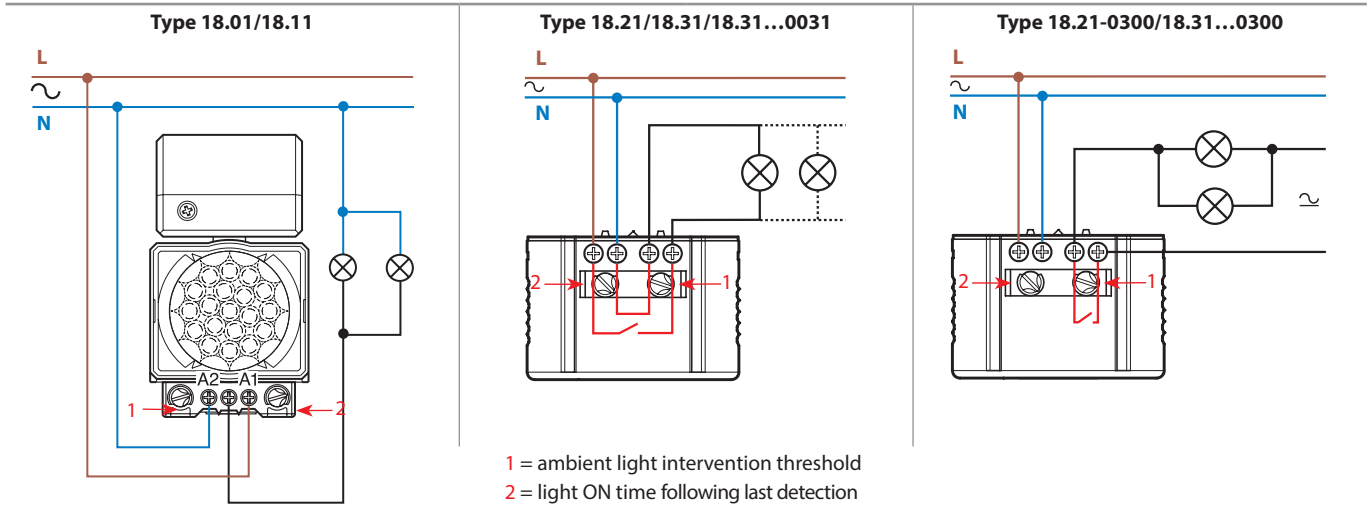
Insulation						
Dielectric strength between open contacts		V AC	1000 (except for type 18.91 TRIAC output)			
Between supply and contact		V AC	1500 (types 18.21...0300, 18.31...0300, 18.41, 18.51, 18.61)			
EMC specifications						
Type of test		Reference standard				
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV			
	air discharge	EN 61000-4-2	8 kV			
Radiated electromagnetic field (80...2000 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 (surge 1.2/50 µs)	common mode	EN 61000-4-5	4 kV (2 kV for 18.91)			
	differential mode	EN 61000-4-5	4 kV (2.5 kV for 18.01/11, 1 kV for 18.91)			
Radiofrequency common mode voltage (0.15...230 MHz)	on supply terminals	EN 61000-4-6	3 V			
Voltage dips	70% U _N , 40% U _N	EN 61000-4-11	10 cycles			
Short interruptions		EN 61000-4-11	10 cycles			
Radiofrequency conducted emissions (0.15...30)MHz		EN 55014	class B			
Radiated emissions (30...1000)MHz		EN 55014	class B			
Terminals			18.01, 18.11, 18.21, 18.31, 18.91		18.41, 18.51, 18.51...B300, 18.61, 18.A1	
Type		Screw terminal	Push-in (see pag. 18)			
Screw torque		Nm	0.5		—	
Max. wire size		solid cable		stranded cable		
		mm ²	1 x 6 / 2 x 4	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		without output current	W	0.3		
		with rated output current	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.

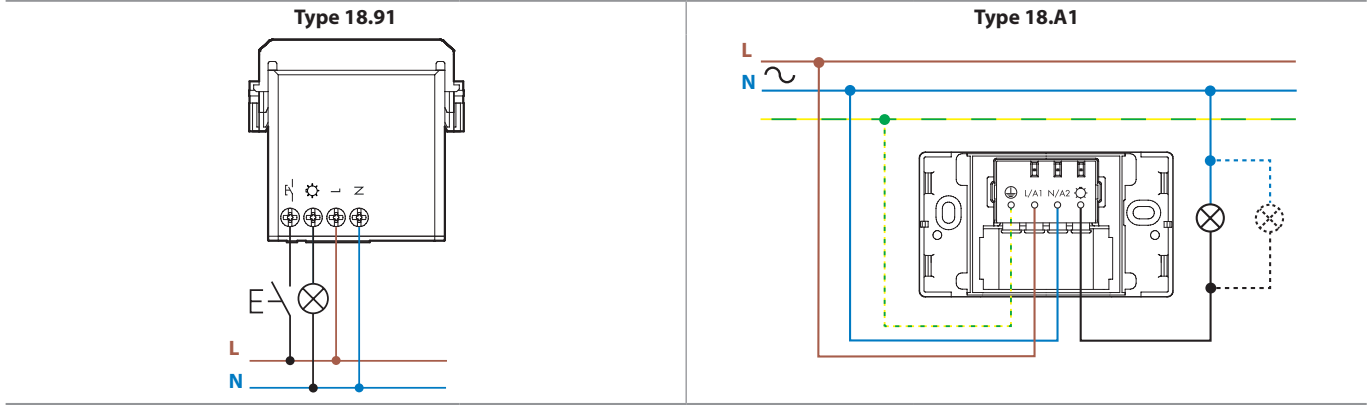
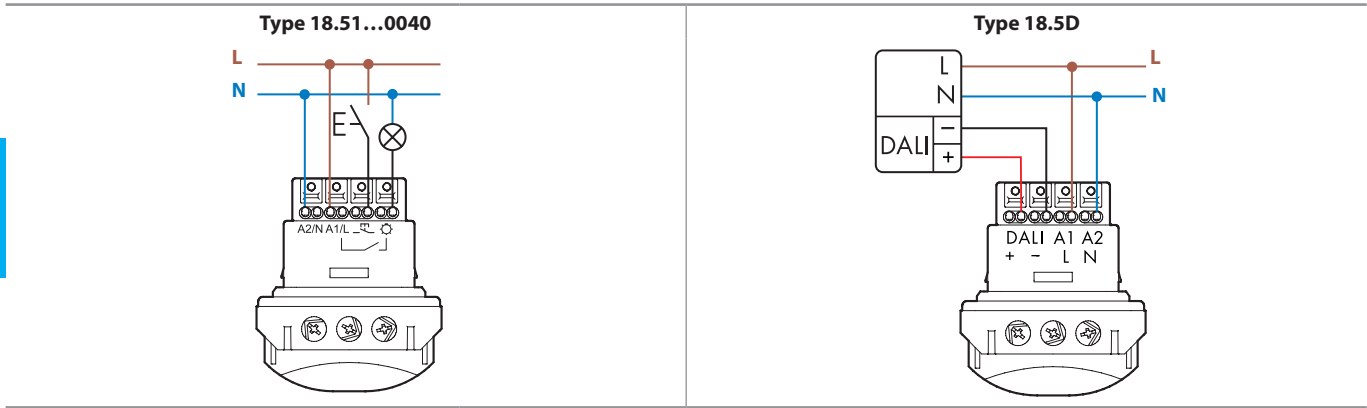
The behaviour of the output during this period can vary depending on the product type, and in some cases on the state of the detector before the power interruption and on the lighting level.



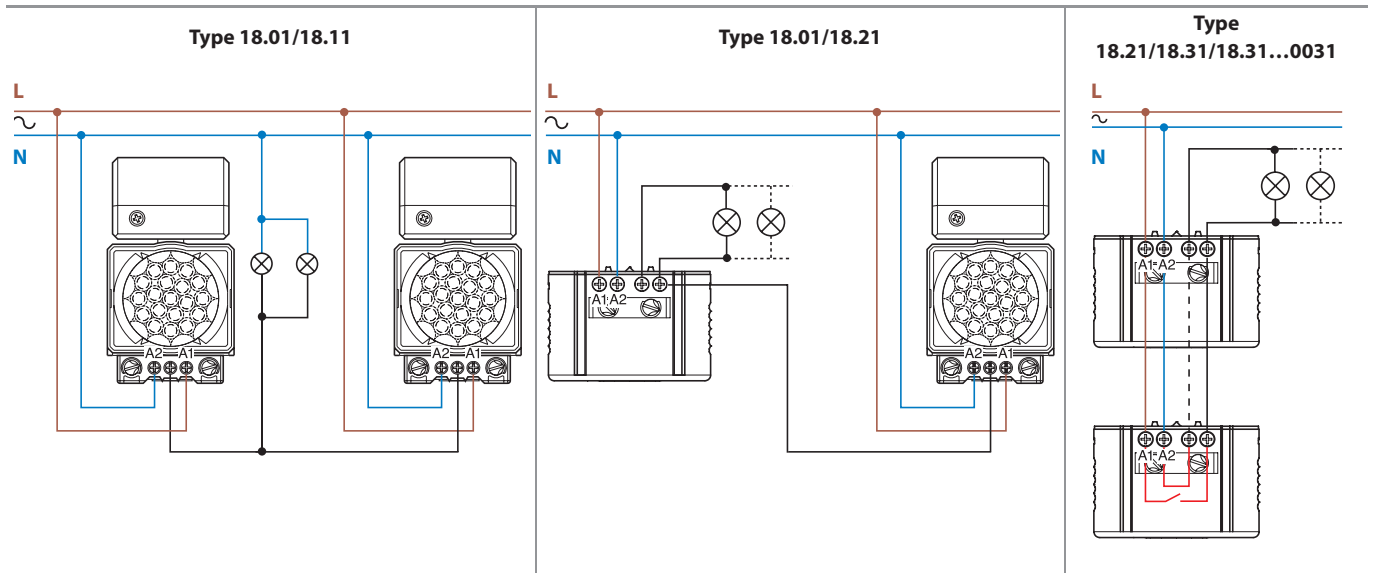
Wiring diagram



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



Note: Observe the polarity indicated for Phase and Neutral

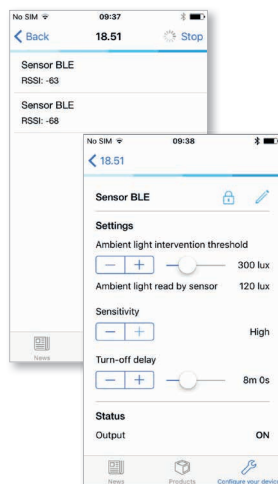
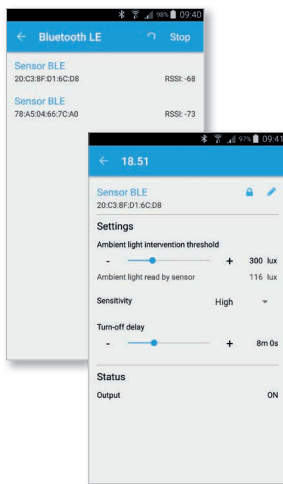
Type 18.51-B300 - Bluetooth

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.



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.



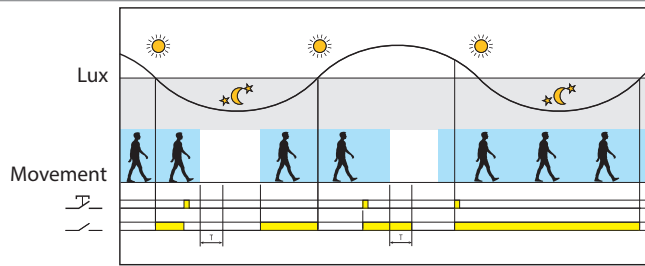
Detectors can be named and uniquely identified within a building. The ambient light level threshold can be adjusted between 4 lux and 1000 lux, the Light On delay time can be set from 12 seconds to 25 minutes, and the movement detector set to one of three sensitivity levels. When Bluetooth connection 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.

J

Functions

Type Functions

18.51...0040



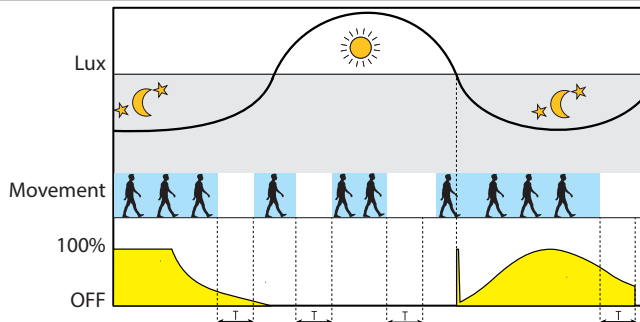
Push-button function

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

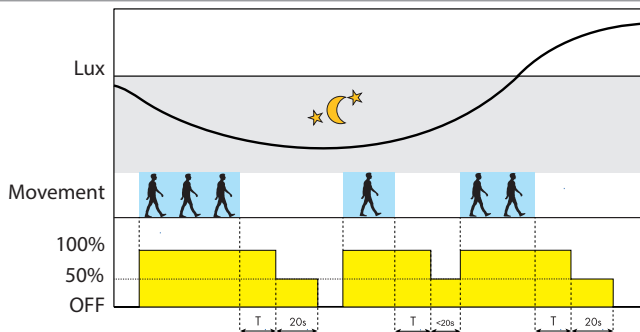
By incorporating Finder's Patented "light feedback compensation" principle, the 18.51...0040 is able to calculate the artificial light contributed by the lamps controlled by the output relay. In effect, this means the 18.51...0040 is able to continuously monitor the natural ambient light level, even 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 minimise 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



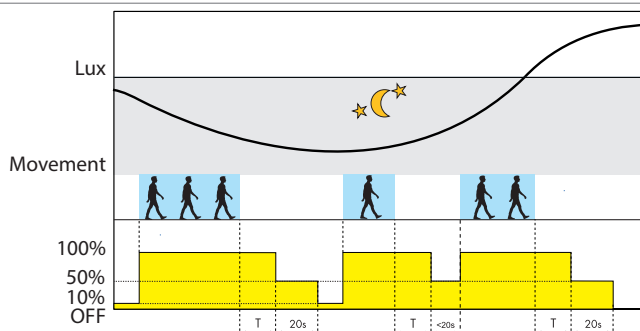
Comfort - Daylight-linked constant light level control

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

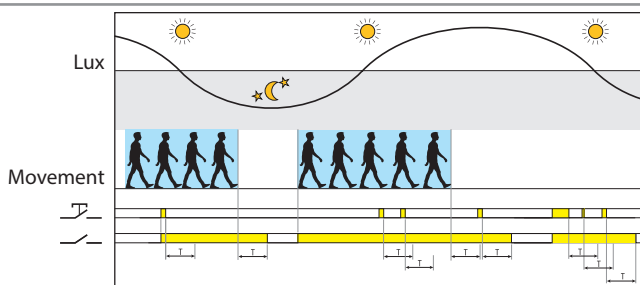
Works as a simple movement detector, activating the lamps at 100% power. But provides an early warning of the next shutdown with a power reduction to 50% for 20 seconds. Avoids a sudden total shutdown of lighting.



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

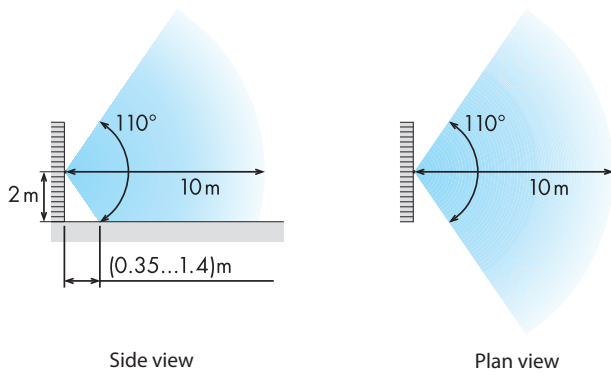


Detection of movement

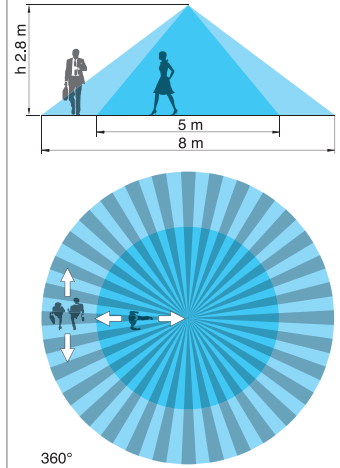
Detected movement closes, or keeps closed, the output contact. Operating the push-button closes, or keeps closed, the output contact - for the set time T.

Sensing area

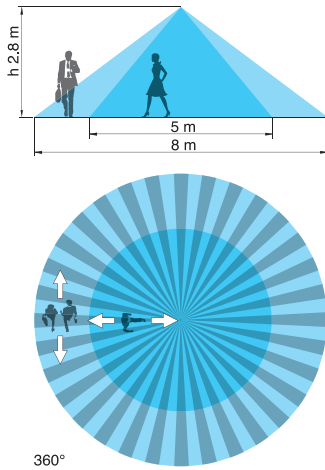
18.01, 18.11, 18.A1 - Wall mounting



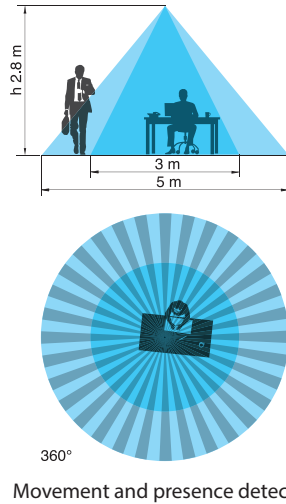
18.01, 18.11 - Ceiling mounting



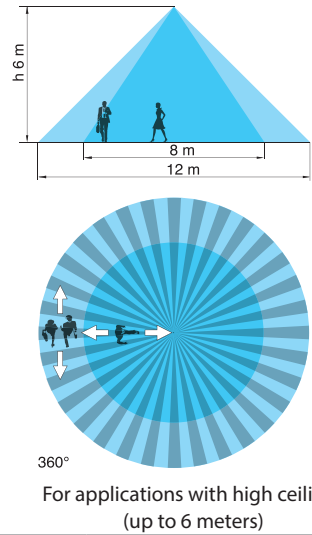
18.21, 18.31 - Ceiling mounting



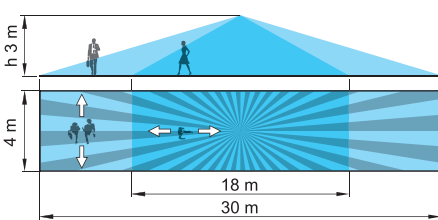
18.31...0031 - Internal ceiling installation, surface mounting



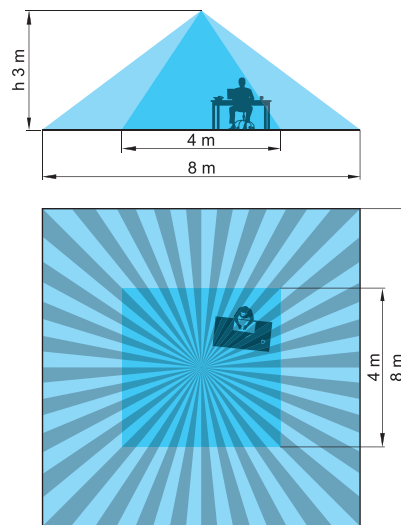
18.31...0031 - High ceilings installations



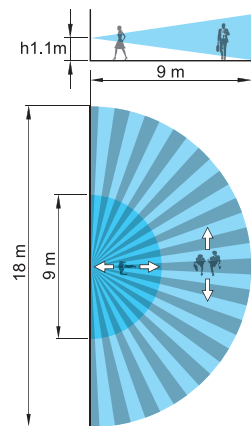
18.41/18.4K



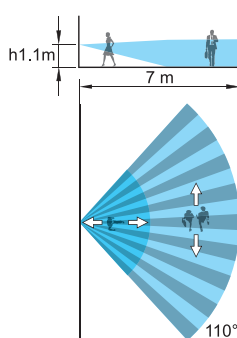
18.51/18.51...B300/18.5K



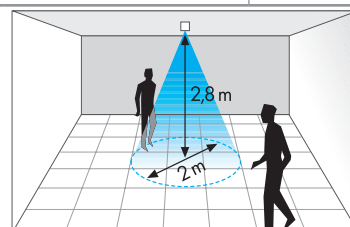
18.61



18.91



Accessories



Example: 18.21/18.31 with Beam limiter

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

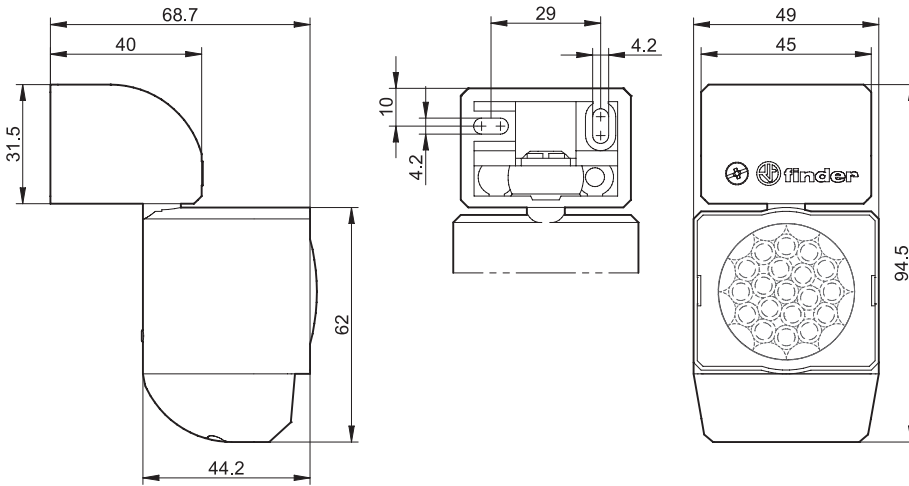
At an installation height of 2.8 meters the area of survey will reduce at:
 18.21/18.31: diameter 2 meters
 18.41: 2.5 x 6 meters
 18.51: 2 x 2 meters

Outline drawings

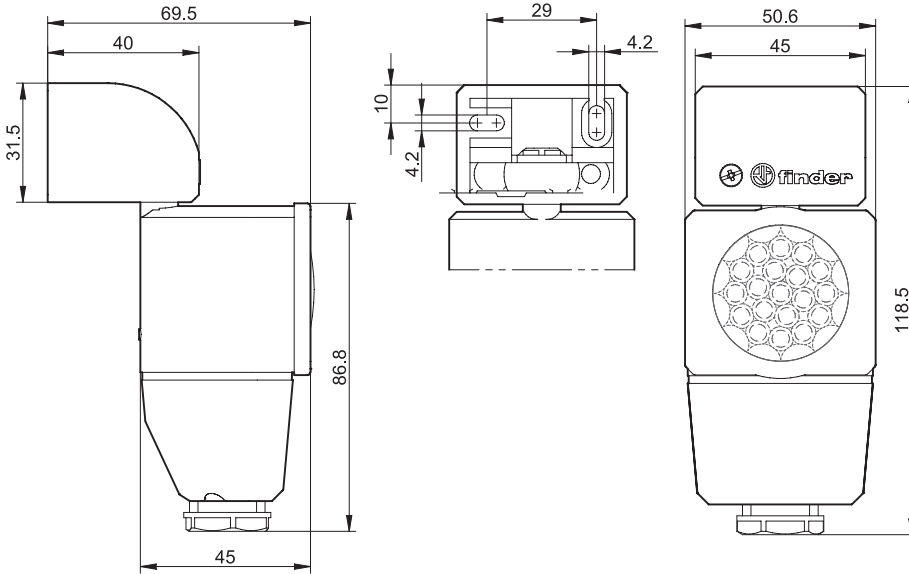
Type	Suspended ceiling mounting	Recess mounting	Surface mounting
18.21			
18.31			
18.31...0031			
18.41			
18.51 18.5D 18.51...B300			
18.4K			
18.5K			
18.61			

Outline drawings

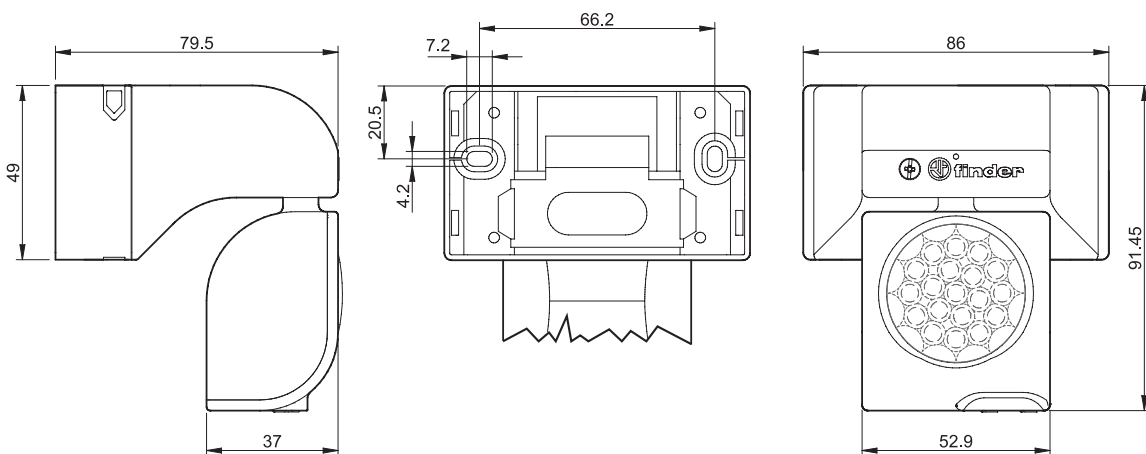
Type 18.01



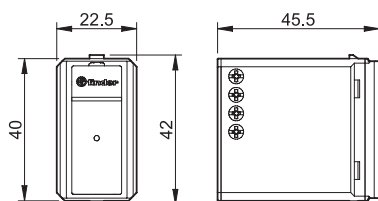
Type 18.11



Type 18.A1

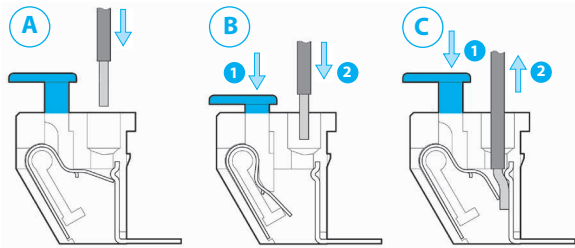


Type 18.91



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.