

SPECIALFØLERE



**LYS- &
BEVÆGELSESENSORER**

Room light intensity sensors with multi-range switching and active output

The room light intensity sensor **PHOTASGARD® RHKF** with four switchable measuring ranges (four devices in one) measures the luminous intensity with a diffuser and is used to control luminaries, lighting systems, Venetian blinds and canvas blinds, etc., to monitor lighting conditions at workplaces, in storage halls, workshops and corridors, in indoor areas, in industrial halls, in offices as well as in residential and business facilities, for daylight-dependant constant light control, as light intensity or twilight sensor and to control sunshade equipment avoiding unnecessary heating-up of rooms. Therefore it minimizes your variety of types and stock keeping while covering a greater range of universal applications. The sensor used in PHOTASGARD® light intensity sensors was specifically adapted to the sensitivity of the human eye. Its greatest sensitivity is in the range of 400nm to 700nm. With its special filter, the sensor is therefore ideally suited for measuring exposure to daylight and/or for measuring artificial light of high colour temperature (similar to sunlight).

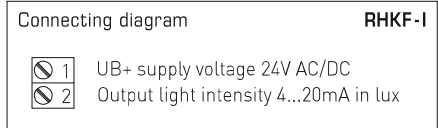
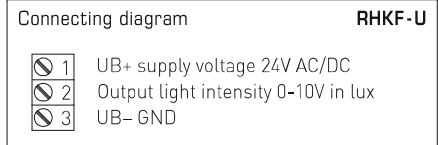
RHKF



TECHNICAL DATA

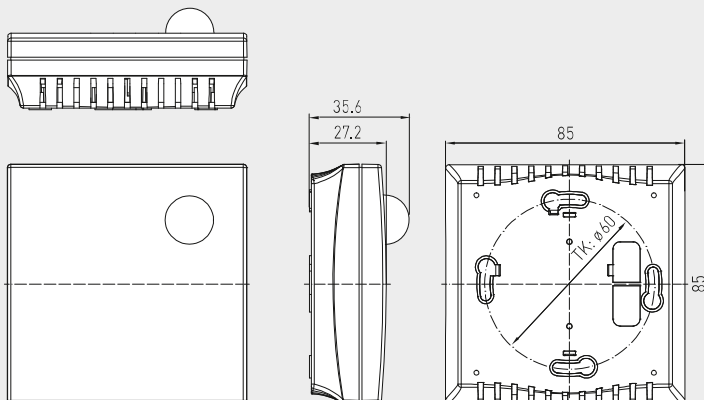
Power supply:	24 V AC (±20%); 15...36 V DC for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ±0.3 V
Working resistance:	$R_a \text{ (ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	light sensor with diffuser (see beginning of this chapter)
Measuring ranges:	multi-range switching (via DIP switches) 0...500 Lux / 1 kLux / 5 kLux / 20 kLux (other individual ranges optional, e. g. 100 kLux)
Output:	4...20mA or 0-10V (2- or 3-wire connection)
Deviation:	typically < 5% of final value
Ambient temperature:	0...+50 °C
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	85 x 85 x 27 mm (Baldur 1)
Installation:	wall mounting or on in-wall flush box, Ø55mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top/bottom in case of plain on-wall installation
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU

Measuring ranges [selectable]	DIP 1	DIP 2	DIP 3	DIP 4
0...500 Lux	ON	OFF	OFF	OFF
0... 1 kLux (default)	OFF	ON	OFF	OFF
0... 5 kLux	OFF	OFF	ON	OFF
0... 20 kLux	OFF	OFF	OFF	ON

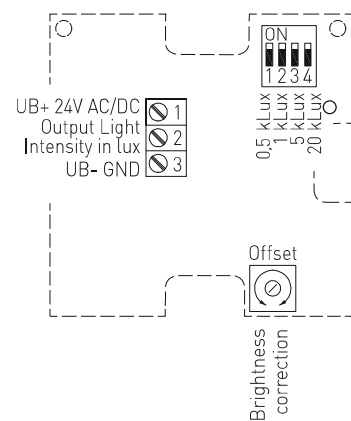


Dimensional drawing

Housing **Baldur 1**
RHKF



Schematic diagram **RHKF**



PHOTASGARD® RHKF Room light intensity sensors

Type/WG01	Measuring Range Light Intensity (adjustable)	Output Light Intensity	Item No.	Price
RHKF				
RHKF-I	0...500 Lux / 1 kLux / 5 kLux / 20 kLux	4 ... 20mA	1601-41A2-2000-000	95,98 €
RHKF-U	0...500 Lux / 1 kLux / 5 kLux / 20 kLux	0-10V	1601-41A1-2000-000	95,98 €
Extra charge:	Other individual measuring ranges optional, e. g. 100 kLux		on request	



The light intensity sensor / twilight sensor **PHOTASGARD® AHKF** with six switchable measuring ranges (six devices in one) measures the luminous intensity and is used to control luminaries, lighting systems, Venetian blinds and canvas blinds, etc., to monitor lighting conditions at work-places, in greenhouses, storage halls, workshops, corridors, in outdoor areas, in industrial halls, in offices as well as in residential and business facilities, for daylight-dependant constant light control, as light intensity or twilight sensor and as sun protection control to avoid unnecessary room heating. Therefore it minimizes your variety of types and stock keeping while covering a greater range of universal applications. The sensor used was specifically adapted to the sensitivity of the human eye. Its greatest sensitivity is in the range of 400 nm to 700 nm. With its special filter, the sensor is therefore ideally suited for measuring exposure to daylight and / or for measuring artificial light of high colour temperature (similar to sunlight).

TECHNICAL DATA

Power supply:	24 V AC (±20%); 15...36V DC for U variant 15...36V DC for I variant, depending on working resistance, residual ripple stabilised ±0.3V
Working resistance:	$R_a(\text{ohm}) = (U_0 - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	light sensor (see beginning of this chapter)
Measuring ranges:	multi-range switching (via DIP switches) 0...500 Lux / 1 kLux / 2 kLux / 5 kLux / 20 kLux / 60 kLux (other individual ranges optional, e. g. 100 kLux)
Output:	4...20 mA or 0-10V (2- or 3-wire connection)
Deviation:	typically < 5% of final value
Ambient temperature:	-30...+70 °C
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016). Housing cover is transparent!
Housing dimensions:	72 x 64 x 43.3 mm (Tyr 1)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector (optional on request)
Installation:	on-wall
Protection class:	III (according to EN 60 730)
Protection type:	IP 67 (according to EN 60 529) housing tested, TÜV SÜD, report no. 713139052 (Tyr 1)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU



AHKF

Measuring ranges (selectable)	DIP 1	DIP 2	DIP 3	DIP 4
0...500 Lux	OFF	OFF	OFF	-
0... 1 kLux	ON	OFF	OFF	-
0... 2 kLux	OFF	ON	OFF	-
0... 5 kLux	ON	ON	OFF	-
0... 20 kLux (default)	OFF	OFF	ON	-
0... 60 kLux	ON	OFF	ON	-

Connecting diagram **AHKF-U**

- 1 UB+ supply voltage 24V AC/DC
- 2 Output light intensity 0-10V in lux
- 3 UB- GND

Connecting diagram **AHKF-I**

- 1 UB+ supply voltage 24V AC/DC
- 2 Output light intensity 4...20mA in lux

Dimensional drawing **AHKF**

M12 connector (optional on request)

Schematic diagram **AHKF**

PHOTASGARD® AHKF Outdoor light intensity sensors / twilight sensors

Type/WG01	Measuring Range Light Intensity (adjustable)	Output Light Intensity	Item No.	Price
AHKF				
AHKF-I	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	4... 20mA	1601-1112-1000-000	95,98 €
AHKF-U	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	0-10V	1601-1111-1000-000	95,98 €
Extra charge:	Other individual measuring ranges optional, e. g. 100 kLux		on request	

**In-ceiling light intensity sensors,
with multi-range switching
and active output**

The light-intensity sensor **PHOTASGARD® DHKF** with six switchable measuring ranges (six devices in one) for installation in suspended ceilings. The connecting head is pluggable for quick and easy mounting. The measuring transducer is accommodated in a separate housing.

The sensor used was specifically adapted to the sensitivity of the human eye. Its greatest sensitivity is in the range of 400nm to 700nm. With its special filter, the sensor is therefore ideally suited to exposure measurement of daylight and/or for measuring artificial light of high colour temperature (similar to sunlight).

It is used for daylight-dependent constant light control, to control luminaires, lighting systems, Venetian blinds and canvas blinds, and to control light intensity and sun protection hoods to avoid unnecessary heating-up of rooms. It is used in greenhouses, storage halls, industrial halls, workshops, corridors, residential and commercial buildings.

DHKF
Connecting head,
pluggable



TECHNICAL DATA

Power supply:	24 V AC (±20%); 15...36 V DC for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ±0.3 V
Working resistance:	$R_a \text{ (ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	light sensor (see beginning of this chapter)
Measuring ranges:	multi-range switching (via DIP switches) 0...500 Lux / 1 kLux / 2 kLux / 5 kLux / 20 kLux / 60 kLux (optional other individual measuring ranges, e. g. 100 kLux)
Output:	4...20 mA or 0-10 V
Deviation:	typically < 5 % of final value
Ambient temperature:	-30...+70 °C
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	72 x 64 x 37,8 mm (Tyr 1)
Electrical connection:	2- or 3-wire (see connecting diagram), 0.14 - 1.5 mm ² , via terminal screws
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Connecting cable:	PVC, LiYY, 4 x 0.14 mm ² , cable length (KL) = approx. 2 m
Connecting head:	made of plastic, material polycarbonate (PC), colour white, pluggable , Ø = approx. 35 mm, H = approx. 29 mm
Mounting (sensor):	in the suspended ceiling, ceiling cut-out Ø = 30 mm, cover Ø = < 35 mm
Protection type:	IP67 (according to EN 60529) Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) IP30 (according to EN 60529) Sensor in the built-in state
Protection class:	III (according to EN 60730)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, EMC directive 2014 / 30 / EU

Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3
0...500 Lux	OFF	OFF	OFF
0... 1 kLux	ON	OFF	OFF
0... 2 kLux	OFF	ON	OFF
0... 5 kLux	ON	ON	OFF
0... 20 kLux (default)	OFF	OFF	ON
0... 60 kLux	ON	OFF	ON

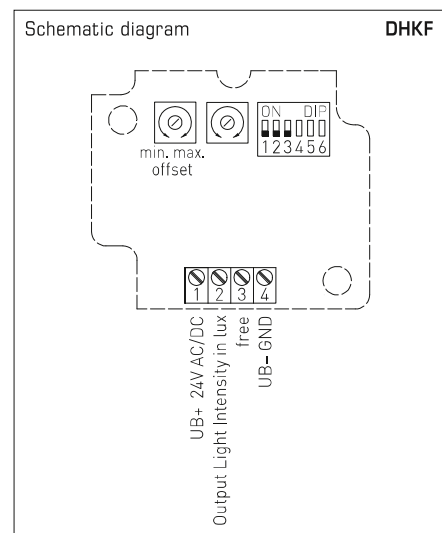
Note: **DIP 4, 5, 6** are not assigned!

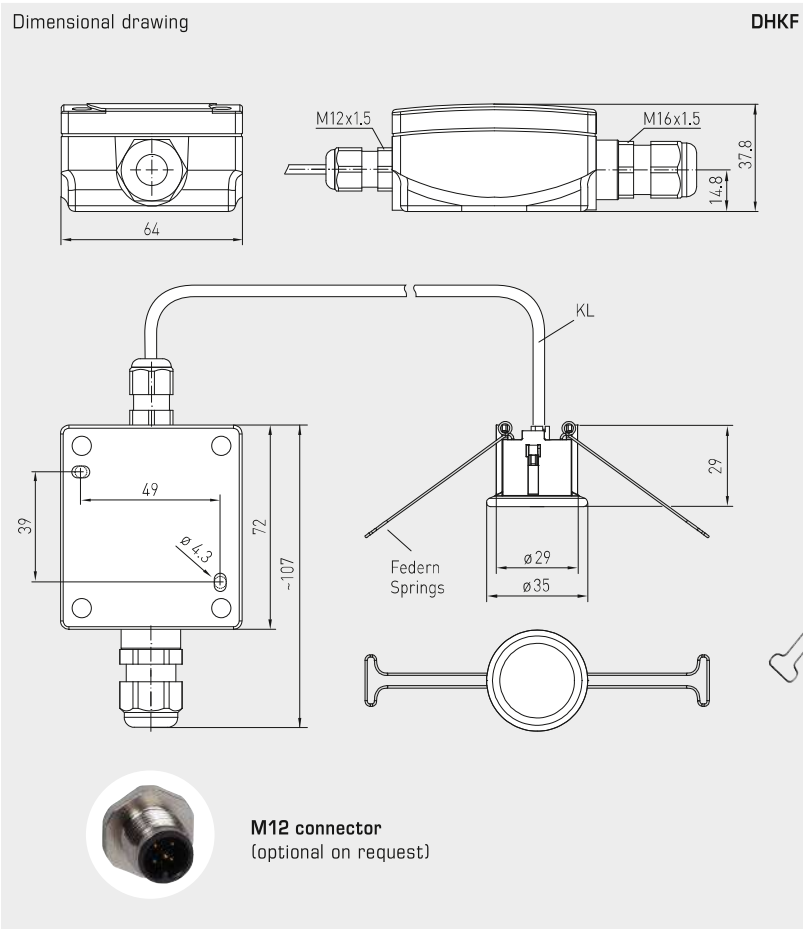
Connecting diagram DHKF-U

1	UB+ supply voltage 24V AC/DC
2	Output light intensity 0-10V in lux
3	free
4	UB- GND

Connecting diagram DHKF-I

1	UB+ supply voltage 24V AC/DC
2	Output light intensity 4...20mA in lux





DHKF

PHOTASGARD® DHKF In-ceiling light intensity sensors				
Type / WG01	Measuring Range Light Intensity (adjustable)	Output Light Intensity	Item No.	Price
DHKF				
DHKF I	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	4... 20mA	1601-6122-1000-000	141,15 €
DHKF U	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	0-10V	1601-6121-1000-000	141,15 €
Extra charge:	Other individual measuring ranges optional, e.g. 100 kLux		on request	
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101		on request	

**Room motion sensor
with switching output**

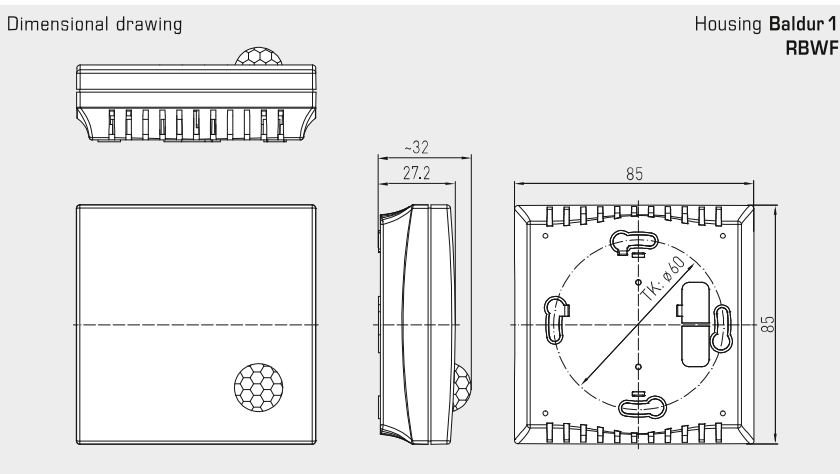
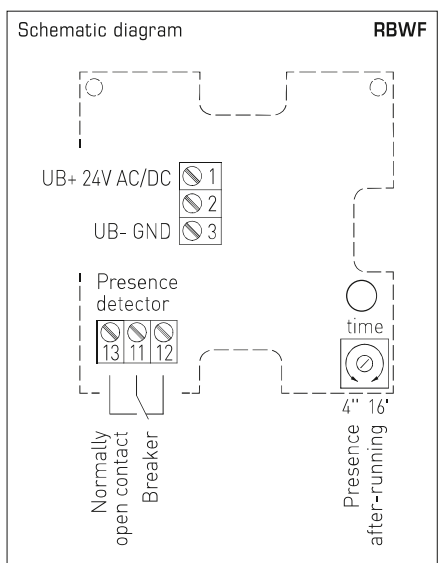
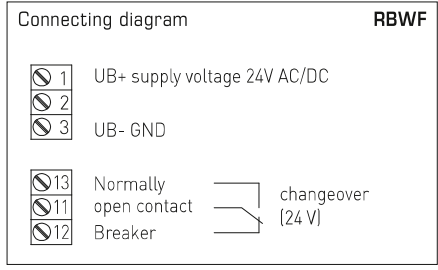
The motion sensor and presence detector **KINASGARD® RBWF** detects the presence of persons and motions and has a switching output (changeover contact). The sensor detects motions over an aperture angle of 110° and a perimeter of 360°. The patented lens system with 20 individual lenses results in only very small dark areas that are only a few centimetres wide even at a distance of 10 m, thereby reliably detecting small movements. Elegant housing made of plastic with snap-on lid, base with 4-hole attachment for installation on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry in case of on-wall installation. The room motion sensor is used to monitor and recognise conditions and for the motion-dependent control of room functions, e.g. for lowering temperatures in unused rooms as a motion detector. This residential room motion detector is installed in corridors, in outdoor areas, in industrial halls, in offices, in residential rooms and business facilities.

RBWF



TECHNICAL DATA

Power supply:	24 V AC (± 20 %); 15...36 V DC
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	infra-red motion sensor (see beginning of this chapter)
Detection range:	perimeter 360°, aperture angle 90° / 110°, reach approx. 10 m, circular
Motion detection:	of persons and objects, necessary temperature difference between subject and surroundings ≥ 5 K
Output:	without / with motion + presence, potential-free changeover contact (24 V), 1 A ohmic load
After-running time:	adjustable from 4 s to 16 min
Ambient temperature:	0...+50 °C
Electrical connection:	0.14 - 1.5 mm², via terminal screws
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	85 x 85 x 27 mm (Baldur 1)
Mounting:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU



KINASGARD® RBWF Room motion sensor				
Type / WG01	Detection	Output	Item No.	Price
RBWF	Presence + Motion	Presence + Motion		
RBWF-W	Yes / No (relay on / off)	Changeover contact	1401-41A0-4000-000	103,66 €

The motion sensor and presence detector **KINASGARD® ABWF** detects the presence of persons and motions. It is used to observe and recognise conditions and for motion-dependent control of room functions, e.g. as a motion detector to lower temperatures in unused rooms. The motion sensor is used in corridors, in outdoor areas, in industrial halls, in offices, residential rooms and business facilities. The sensor detects motions over an aperture angle of 110° and a perimeter of 360°. The patented lens system with 20 individual lenses results in only very small dark areas that are only a few centimetres wide even at a distance of 10 m, thereby reliably detecting small movements. The sensor recognizes changes in the infra-red radiation spectrum, so in heat radiation, resulting from the movement of persons or objects. Such movements generate a temporary change of the temperature gradient in the field. Due to the constant presence of body (heat) radiation, this sensor is ideally suitable for detecting persons. The temperature difference between sensor and object must be > 5K.

ABWF

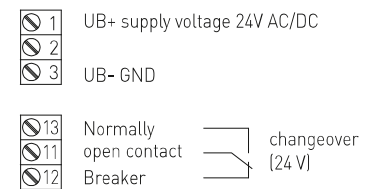


TECHNICAL DATA

Power supply:	24 V AC (± 20 %); 15...36 V DC
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	infra-red motion sensor (see beginning of this chapter)
Detection range:	perimeter 360°, aperture angle 90° / 110°, reach approx. 10 m, circular
Motion detection:	of persons and objects, required temperature difference between subject and surroundings ≥ 5 K
Output:	without / with motion + presence, potential-free changeover contact (24 V), 1 A ohmic load
After-running time:	adjustable from 4 s to 16 min
Ambient temperature:	-10...+50 °C
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector (optional on request)
Installation:	on-wall
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529) housing tested, TÜV SÜD, report no. 713139052 (Tyr 1)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU

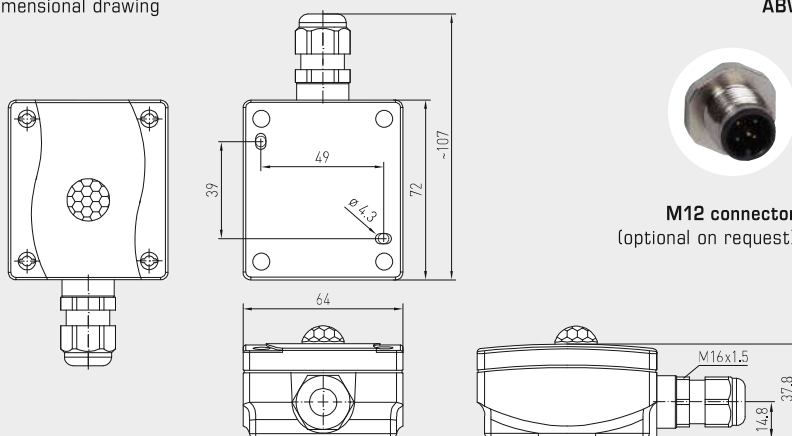
Connecting diagram

ABWF



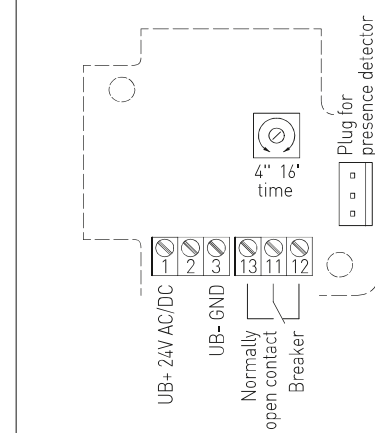
Dimensional drawing

ABWF



Schematic diagram

ABWF



KINASGARD® ABWF Outdoor motion sensor

Type / WG01	Detection	Output	Item No.	Price
ABWF	Presence + Motion	Presence + Motion		
ABWF-W	Yes / No (relay on / off)	Changeover contact	1401-1110-4000-000	123,64 €

**In-ceiling motion sensor
with switching output**

The in-ceiling motion sensor and presence detector **KINASGARD® DBWF / DBWF-C** detects the presence of persons and movements and has a switching contact as an output. It has been designed for monitoring and detecting statuses and for motion-dependent control of room functions, e.g. for lowering the temperature of unused rooms.

The in-ceiling motion sensor is used for installation in suspended ceilings in corridors, offices, as well as in residential and business facilities. The connecting head is pluggable for quick, easy mounting. The measuring transducer is accommodated in a separate housing. The sensor detects motions over an aperture angle of 110° and a perimeter of 360°. The patented lens system with 20 individual lenses results in only very small dark areas that are only a few centimetres wide even at a distance of 10 m, thereby reliably detecting small movements.

**DBWF
DBWF-C**
connecting head,
pluggable



TECHNICAL DATA

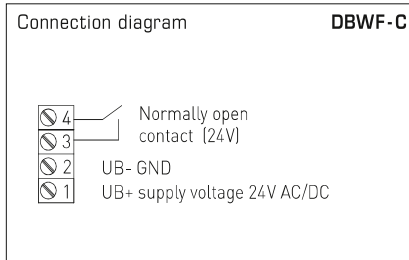
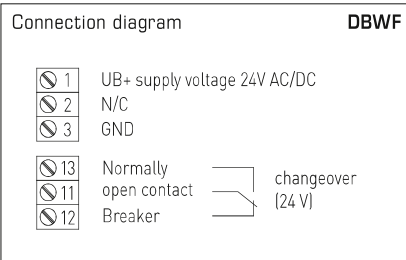
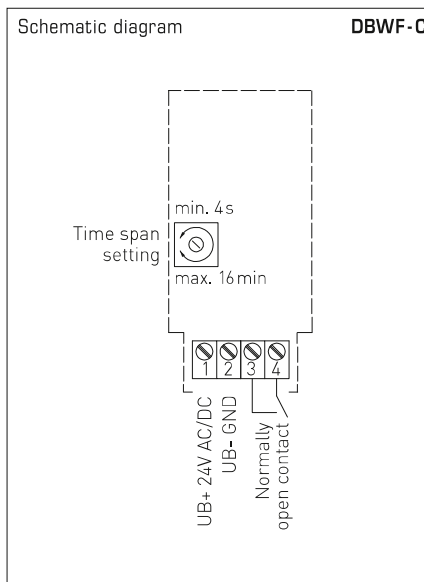
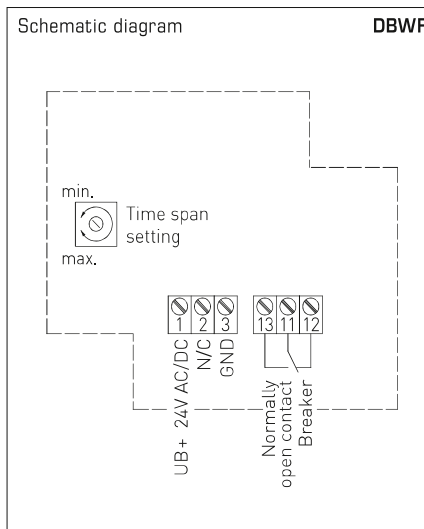
Power supply:	24 V AC (± 20%); 15...36 V DC
Power consumption:	< 1 W at 24 V DC; < 2 VA at 24 V AC
Sensor:	infra-red motion sensor (see beginning of this chapter)
Detection range:	perimeter 360°, aperture angle 90° / 110°, reach approx. 10 m, circular, at an installation height of approx. 3 m the sensor covers a detection radius (r) of approx. 3.4 m
Motion detection:	of persons and objects, necessary temperature difference between subject and surroundings ≥ 5 K
After-running time:	adjustable from 4 seconds to 16 minutes
Ambient temperature:	-10...+50 °C
Connecting head:	plastic, material polycarbonate (PC), colour white, pluggable
Connecting cable:	PVC, LiYY, 4 x 0.14 mm ² , cable length (KL) = approx. 2 m
Electrical connection:	0.14 - 1.5 mm ² via terminal screws
Mounting (sensor):	in the suspended ceiling, ceiling cutout Ø = 30 mm, cover Ø = < 35 mm
Protection type (sensor):	IP 30 (according to EN 60 529) in the built-in state
Protection class (sensor):	III (according to EN 60 730)
Standards:	CE-conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU

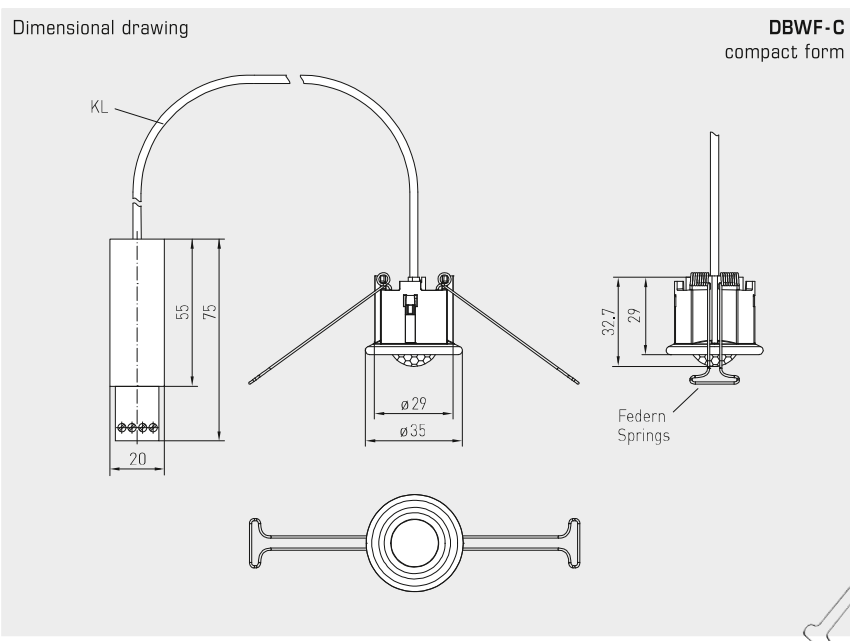
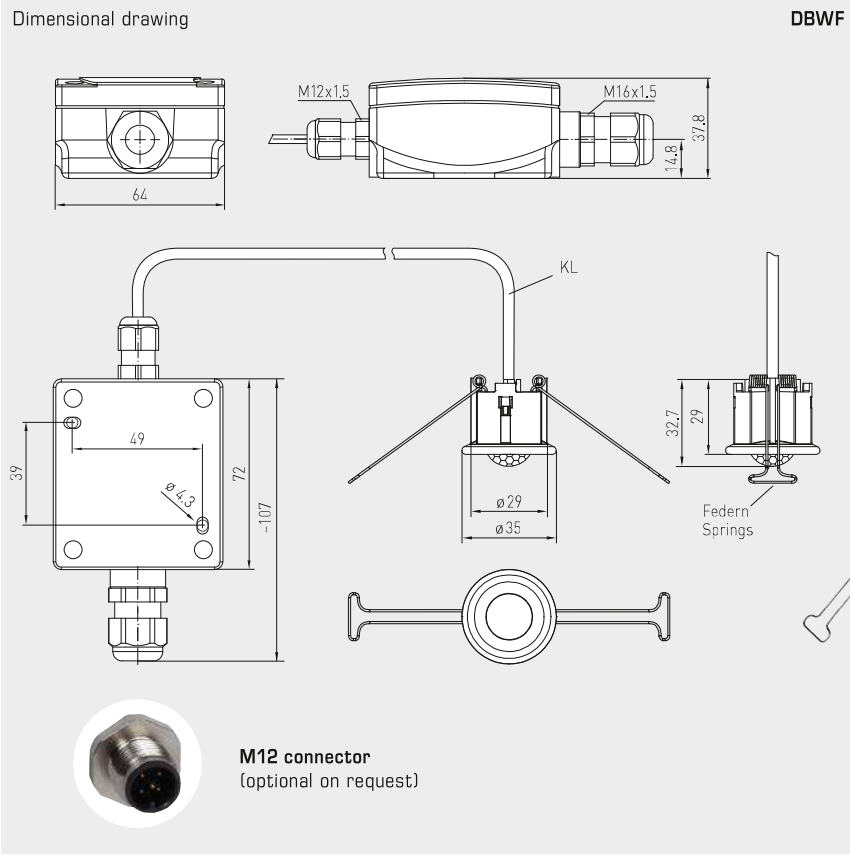
DBWF measuring transducer

Output:	potential-free changeover contact (24 V), 1 A ohmic load
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Protection type (housing):	IP 67 (according to EN 60 529) housing tested, TÜV SÜD, report no. 713139052 (Tyr 1)

DBWF-C measuring transducer

Output:	potential-free normally open contact , signal relay, max. 24 V / 0.5 A
Housing:	plastic, material PVC, colour black
Housing dimensions:	55 x 20 x 15 mm (compact form)
Protection type (housing):	IP 20 (according to EN 60 529) (compact form)





KINASGARD® DBWF		In-ceiling motion sensor		
KINASGARD® DBWF-C		In-ceiling motion sensor, compact form		
Type / WG01	Detection	Output	Item no.	Price
	Presence + Movement	Presence + Movement		
DBWF				
DBWF-W	Yes / No (relay on / off)	Changeover contact	1401-6120-3000-000	132,44 €
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101		on request	
DBWF-C				
DBWF-C	Yes / No (relay on / off)	Normally open contact	1401-6130-1000-006	99,03 €

Room motion sensor and light sensor, multisensors with active and switching output

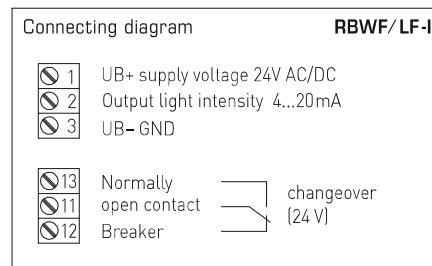
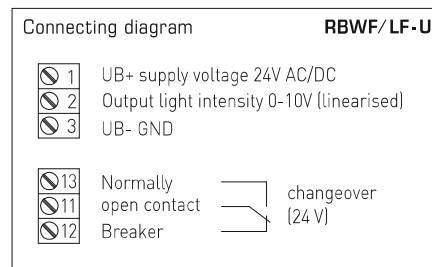
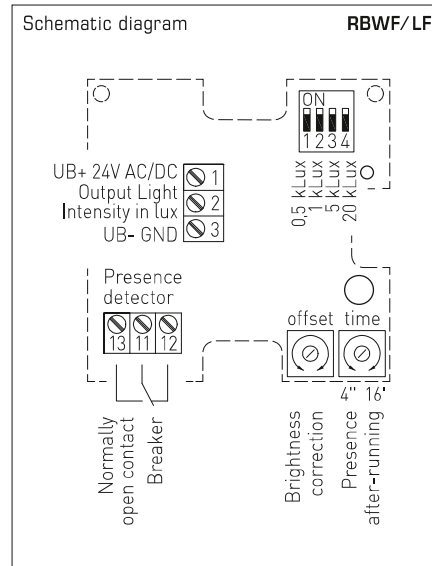
The room motion and light sensor and presence detector **KINASGARD® RBWF-LF** is a combined instrument that detects motion and light intensity using a diffuser as well as the presence of persons and is used to recognize conditions. RBWF-LF issues a standard signal of 0-10V or 4...20mA for light intensity and has a switching (normally open contact) output for detecting motion.

This multi-sensor is used in building automation, in corridors, at workplaces, in industrial halls, in offices and business facilities for the control of lighting as needed, e.g. to control sunshade equipment, for daylight-dependant constant light control, for activating Venetian blinds or luminaries, for automatic energy conservation, and to avoid unnecessary heating-up or cooling of unoccupied rooms.

TECHNICAL DATA

Power supply:	24V AC (±20%); 15...36V DC for U variant 15...36V DC for I variant, depending on working resistance, residual ripple stabilised ±0.3V
Working resistance:	$R_a(\text{ohm}) = (U_b - 14V) / 0.02A$ for I variant
Load resistance:	$R_L > 5k\Omega$ for U variant
Power consumption:	< 1W at 24V DC; < 2VA at 24V AC
Sensor:	infra-red motion sensor and light sensor with diffuser (see beginning of this chapter)
Output, motion sensor:	without / with motion + presence, potential-free normally open contact (24V), 1A ohmic load
After-running time:	adjustable from 4s to 16min
Measuring ranges:	multi-range switching (via DIP switches) 0...500 Lux / 1 kLux / 5 kLux / 20 kLux (other individual ranges optional, e. g. 100 kLux)
Output, light sensor:	0-10V (linearised, active, 3-wire connection) or 4...20mA
Deviation, light sensor:	typically < 5% of final value
Ambient temperature:	0...+50 °C
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	85 x 85 x 27 mm (Baldur 1)
Installation:	wall mounting or on in-wall flush box, Ø55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation
Protection class:	III (according to EN 60730)
Protection type:	IP 30 (according to EN 60529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, EMC directive 2014 / 30 / EU

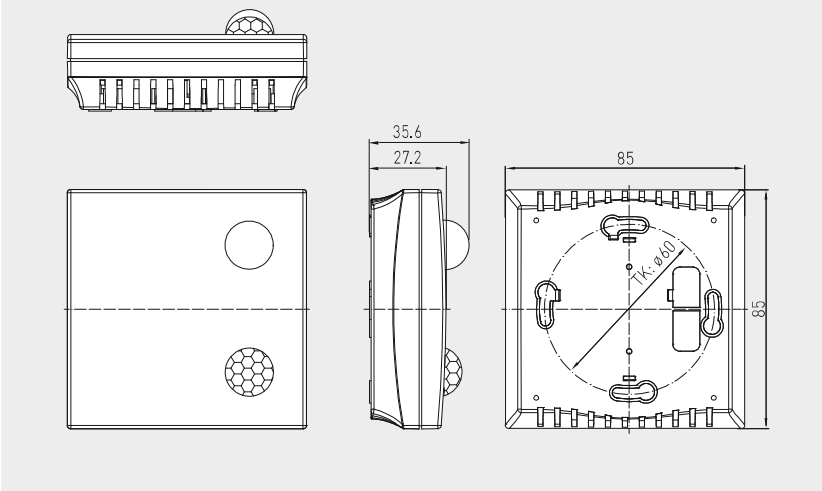
Measuring ranges (selectable)	DIP 1	DIP 2	DIP 3	DIP 4
0...500 Lux	ON	OFF	OFF	OFF
0... 1 kLux (default)	OFF	ON	OFF	OFF
0... 5 kLux	OFF	OFF	ON	OFF
0... 20 kLux	OFF	OFF	OFF	ON





Dimensional drawing

Housing Baldur 1
RBWF/LF



RBWF/LF



KINASGARD® RBWF/LF Room motion sensor and light sensor

Type / WG01	Detection, Measuring Range	Output	Item No.	Price
RBWF-LF-U				
1. Presence + Motion	Yes / No (relay on / off)	Changeover contact	1401-41A1-1100-000	157,17 €
2. Light Intensity	0...500 Lux / 1 kLux / 5 kLux / 20 kLux	0 -10V (linearised)		
RBWF-LF-I				
1. Presence + Motion	Yes / No (relay on / off)	Changeover contact	1401-41A1-3200-000	157,17 €
2. Light Intensity	0...500 Lux / 1 kLux / 5 kLux / 20 kLux	4...20 mA		
Extra charge:	Other individual measuring ranges optional, e. g. 100 kLux		on request	

Outdoor motion sensor and light sensor, multisensors with active and switching output

The room motion and light sensor and presence detector **KINASGARD® ABWF / LF** is a combined instrument that detects motions and light intensity as well as the presence of persons and is used to recognize conditions. ABWF / LF issues a standard signal of 0-10V or 4...20mA for light intensity and has a switching (changeover contact) output for the detection of motions.

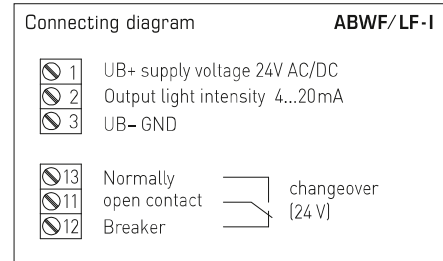
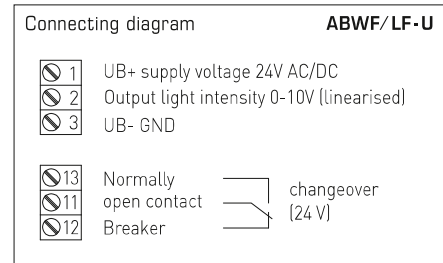
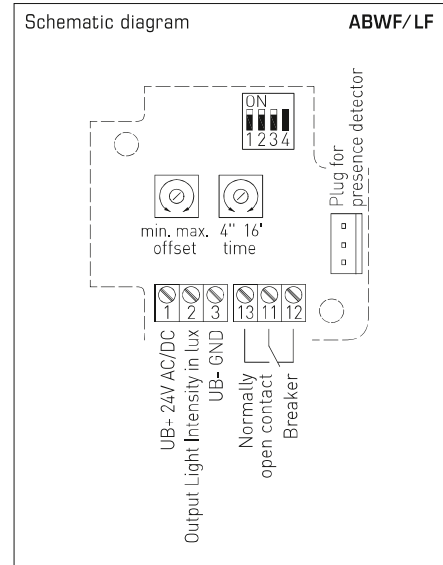
The motion sensor / presence detector detects the presence of persons and motions. It is used to monitor and recognise conditions and for motion-dependent control of room functions, e.g. as a motion detector to lower temperatures in unused rooms. The motion sensor is used in corridors, in outdoor areas, in industrial halls, in offices, residential rooms and business facilities.

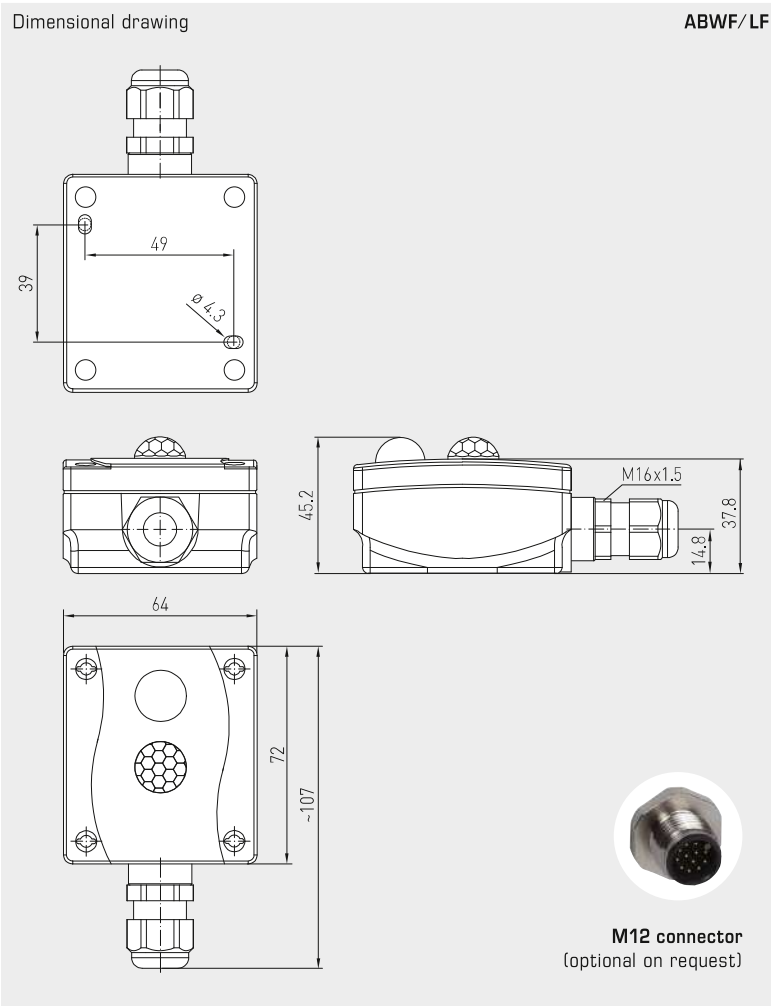
The light intensity sensor / twilight sensor with six switchable measuring ranges (six devices in one) measures the luminous intensity and is used to control luminaries, lighting systems, Venetian blinds and canvas blinds, etc., to monitor lighting conditions at workplaces, in greenhouses, storage halls, workshops, corridors, in outdoor areas, in industrial halls, in offices as well as in residential and business facilities, for daylight-dependant constant light control, as light intensity or twilight sensor and to control sunshade equipment avoiding unnecessary heating-up of rooms.

TECHNICAL DATA

Power supply:	24V AC (±20%); 15...36V DC for U variant 15...36V DC for I variant, depending on working resistance, residual ripple stabilised ±0.3V
Working resistance:	$R_a \text{ (ohm)} = (U_b - 14V) / 0.02A$ for I variant
Load resistance:	$R_L > 5k\Omega$ for U variant
Power consumption:	< 1W at 24V DC; < 2VA at 24V AC
Sensor:	infra-red motion sensor and light sensor (see beginning of this chapter)
Output, motion sensor:	without / with motion + presence, potential-free normally open contact (24V), 1A ohmic load
After-running time:	adjustable from 4s to 16min
Measuring ranges:	multi-range switching (via DIP switches) 0...500 Lux / 1 kLux / 2 kLux / 5 kLux / 20 kLux / 60 kLux (other individual ranges optional, e.g. 100 kLux)
Output:	0-10V (linearised, active, 3-wire connection) or 4...20mA
Deviation, light sensor:	typically < 5% of final value
Ambient temperature:	-10...+50 °C
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	72 x 64 x 37.8mm (Tyr 1)
Cable connection:	 cable gland , plastic (M16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Installation:	on-wall
Protection class:	III (according to EN 60730)
Protection type:	IP65 (according to EN 60529) housing tested, TÜV SÜD, report no. 713139052 (Tyr 1)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, EMC directive 2014/30/EU

Measuring ranges (selectable)	DIP 1	DIP 2	DIP 3	DIP 4
0...500 Lux	OFF	OFF	OFF	-
0... 1 kLux	ON	OFF	OFF	-
0... 2 kLux	OFF	ON	OFF	-
0... 5 kLux	ON	ON	OFF	-
0... 20 kLux (default)	OFF	OFF	ON	-
0... 60 kLux	ON	OFF	ON	-





ABWF/LF



KINASGARD® ABWF/LF Outdoor motion sensor and light sensor				
Type / WG01	Detection, Measuring Range	Output	Item No.	Price
ABWF-LF-U				
1. Presence + Motion	Yes / No (relay on / off)	Changeover contact	1401-1111-2100-000	167,00 €
2. Light Intensity	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	0 - 10V (linearised)		
ABWF-LF-I				
1. Presence + Motion	Yes / No (relay on / off)	Changeover contact	1401-1111-3200-000	167,00 €
2. Light Intensity	0...500 Lux / 1 / 2 / 5 / 20 / 60 kLux	4...20 mA (linearised)		
Extra charge:	Other individual measuring ranges optional, e. g. 100 kLux		on request	
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101		on request	

In-ceiling motion detector, light, humidity and temperature sensor, multisensors with switching output

The in-ceiling sensor **KINASGARD® DBWF/LF/FTF** is used to detect persons within a distance of up to 10 meters and to measure luminous intensity or brightness, relative humidity and temperature. It has been designed for installation in suspended ceilings.

The sensor detects **motion** over an aperture angle of 110° and a perimeter of 360°. The patented lens system with 20 individual lenses results in only very small dark areas that are only a few centimetres wide even at a distance of 10 m, thereby reliably detecting small movements. If motion is detected, the potential-free relay output is switched. The hold time of the output, measured from the moment of the last detected movement, can be preset internally in the device via potentiometer within a range of 4 seconds to approx. 17 minutes.

For the **temperature and humidity**, an analogue output 0-10 V corresponding to 0...+50 °C or 0...100 % r. H. is available. Deviations due to the mounting position and location can be compensated internally using one offset regulator respectively.

For **luminous intensity or brightness** of 0...1000 lux or 0...5000 lux (selectable via DIP switches), an analogue output 0-10 V is also available. It is also possible to activate the motion output depending on brightness with the help of a jumper.

Fields of application for the DBWF/LF/FTF include residential room monitoring, automatic switching of lights, control technology, alarm technology, and motion-dependent control of room functions, e. g. for lowering the temperature in unused rooms.

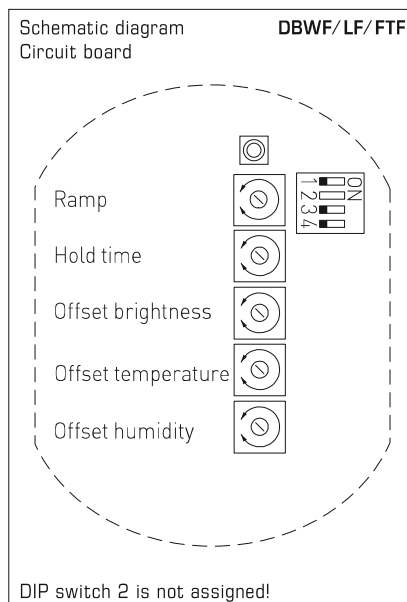
TECHNICAL DATA

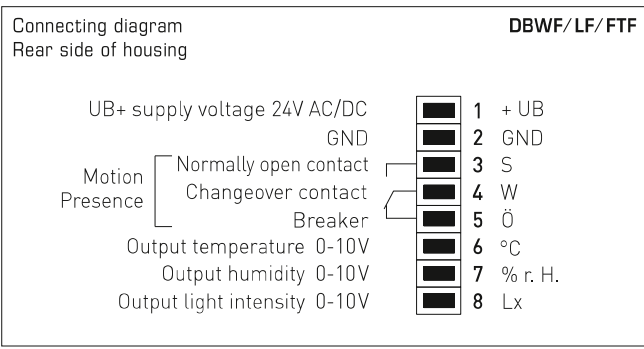
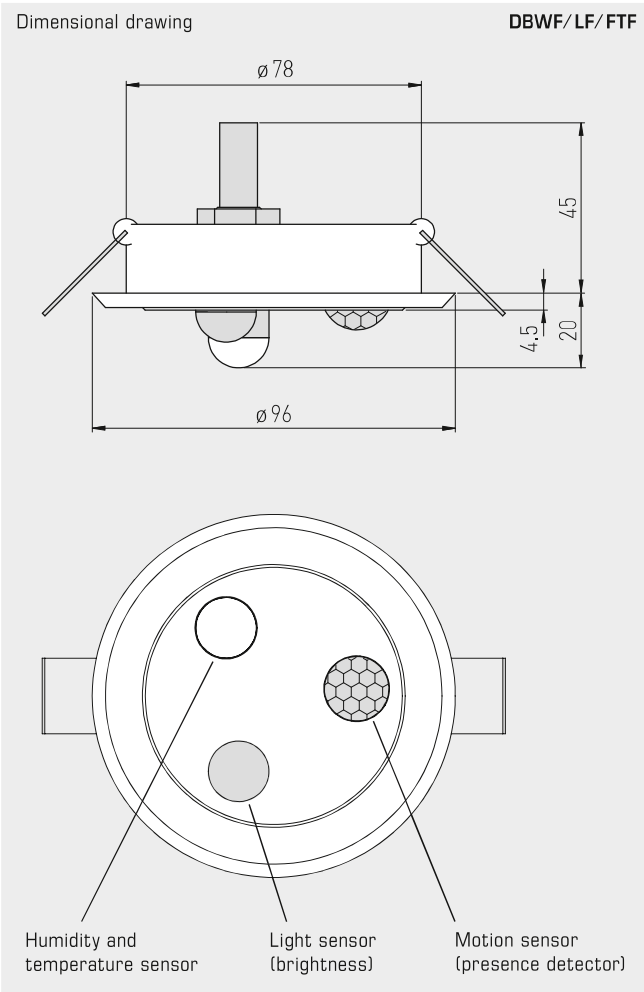
Power supply:	24 V AC / DC (half-wave rectification, read the instructions!)
Power consumption:	< 3.6 VA at 24 V DC
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Outputs:	0-10 V or inverted 10-0 V (selectable via DIP switches)
MOTION	
Sensor:	infra-red motion sensor (see beginning of this chapter)
Detection range:	perimeter 360°, aperture angle 90° / 110°, reach approx. 10 m, circular, at an installation height of approx. 3 m the sensor covers a detection radius (r) of approx. 3.4 m
Motion detection:	of persons and objects, necessary temperature difference between subject and surroundings ≥ 5 K
Output, motion sensor:	potential-free changeover contact, for switching safety extra-low voltage only, up to 1 A
After-running time:	adjustable from 4 s to 17 min
LIGHT INTENSITY	
Sensor:	light sensor with diffusor (see beginning of this chapter)
Measuring range, light sensor:	0...1000 lux / 0...5000 lux (selectable via DIP switches)
Output, light sensor:	0- 10 V
Deviation, light sensor:	typically < ± 10 % of final value (referred to calibration reference source, approx. 5700 K)
Temperature drift:	< ± 5 % of final value / 10 K at +20 °C
HUMIDITY	
Measuring range, humidity:	0...100 % r.H. (output corresponding to 0- 10 V)
Operating range, humidity:	10...95 % r.H. (non-precipitating air)
Deviation, humidity:	typically ± 3 % r.H. (20...80 %); at +20 °C, otherwise ± 5 % r. H.
Output, humidity:	0-10 V
TEMPERATURE	
Measuring range, temperature:	0...+50 °C (output corresponding to 0- 10 V) other measuring ranges on request!
Operating range, temperature:	0...+50 °C
Deviation, temperature:	typically ± 0.8 K at +20 °C, under standard conditions
Output, temperature:	0-10 V
Ambient temperature:	0...+50 °C
Storage temperature:	-20...+50 °C
Housing:	steel, white painted
Housing dimensions:	cover: Ø 96 mm, height of housing: 30 mm
Installation dimensions:	ceiling cutout: Ø 80 mm installation depth: < 45 mm (incl. connector system) on-wall protrusion: > 13 mm (motion sensor) > 20 mm (humidity sensor)
Sensor protection:	mounted inside ceiling installation housing
Protection class:	III (according to EN 60 730)
Protection type (housing):	IP 20 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU

Function output (direction adjustable)	DIP 1
normal (default) 0 % = 0 V 100 % = 10 V	OFF
inverted 0 % = 10 V 100 % = 0 V	ON

Brightness (adjustable measuring range)	DIP 3
0... 1000 Lux (default)	OFF
0... 5000 Lux	ON

Motion (mode selectable)	DIP 4
Motion mode (default) Motion detector is independent of threshold value	OFF
Auto mode If the set threshold value is not reached, the motion detector is active	ON





KINASGARD® DBWF/LF/FTF In-ceiling motion, light, temperature and humidity sensor				
Type / WG02	Detection, Measuring Range	Output	Item No.	Price
DBWF-LF-FTF-W				
1. Presence + Motion	yes / no (relay on / off)	Changeover contact	1401-6114-3100-000	224,59 €
2. Light Intensity	0...1000 lux / 0...5000 lux (DIP)	0-10V (linearised)		
3. Temperature	0... 50 °C	0- 10V		
4. Humidity	0...100% r.H.	0- 10V		
Outputs: 0-10V or inverted 10-0V (selectable via DIP switches)				



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