



thermokon®

Keep in touch with the future



# Products

## 2012·2013

World Edition





## Thermokon at a Glance

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- 1987** Company foundation in Mittenaar
- 1994** New building in Aarstr. 6 in Mittenaar
- 1997** Extension of company building
- 2000** Extension of company building to 2000 sqm office and production space
- 2007** Extension of the building by 600 sqm
- 2011** Another extension of the building by 600 sqm

### Foundation of subsidiaries:

- 1998** Thermokon Components GmbH Austria
- 2002** Thermokon-Danelko Elektronik AB Sweden
- 2011** Thermokon Automation Equipment Co. Ltd., China

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**Managing Directors:** H. Zygan & J. Teichmann

**Number of employees:** 130

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### Export Initiative Energy Efficiency

Thanks to energy-efficient products and services in the field of energy efficiency, Thermokon also contributes internationally to a safe and cost-effective energy supply, which is of paramount importance to the climate protection.

**Thermokon: We build the future – by sensors made in Germany!**



# 25 Years of Energy-efficient Technology at Highest Stage



Thermokon has committed to a responsible use of natural resources and the climate protection. By means of energy-efficient sensors we are contributing actively to a lasting reduction of the CO<sub>2</sub> emission.

## Long-Standing Experience in Technology

Thermokon offers 25 years of international know-how in technology and market experience. Thanks to the core expertise in the field of sensors for heating systems and buildings, our technical know-how can be found in all our products and meets highest demands on technology and quality.

## Strong Export Business

Worldwide presence in the global market is guaranteed by having a headquarter in Germany, branches in Austria, Sweden and China and sales offices as well as various distributors in many parts of the world. Thermokon's portfolio is exported to more than 80 countries.

## Lasting Performance – Continuous Development

Ever since Thermokon was founded, the main pillars of our success in the international market have been a lasting performance and achievement potential as well as continuous further development of our portfolio. Besides new innovative product concepts also redesigns and further developments of existing products towards their marketability are of paramount importance.

## Flexibility, Efficiency, Sustainability

Nowadays, the topic “sustainability” is of paramount importance for strategic corporate planning. In the field of building automation, the idea of “green buildings” is omnipresent and stands for a sustainable and energy-efficient use of existing resources in buildings. Besides flexibility and efficiency, the top requirements on functional buildings are also potentials for energy savings.

*The complete portfolio of Thermokon is designed for intelligent and sustainable buildings which shall make it to premium classifications according to the directives DIN EN 15232, LEED or Green Star.*

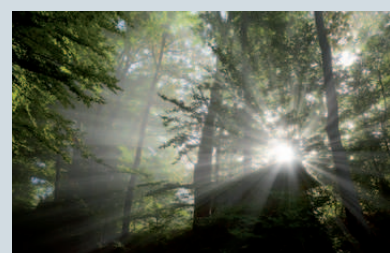
*We are pleased to support our customers to select appropriate products for high energy-efficient buildings.*

## High-Grade Materials – Best Quality

Thanks to a close cooperation with our German partners only high-tensile plastics and stainless steel are used. Last but not least we are guaranteeing best accuracy and compliance with highest safety classes in premium quality which is approved regularly by the certification DIN EN ISO 9001



» Managing Director  
Harald Zygan



# Light & Motion

Our intelligent sensors enable a significant increase of physical and emotional well-being of people living and working in a room. For an individual, comfortable and energy-saving use of your rooms, a precise and reliable detection of occupancy and brightness is granted.

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<b>MDS</b>	Ceiling multi sensor	<b>P. 162</b>	<b>WRF04I</b>	Surface-mounting motion sensor	<b>P. 168</b>
<b>Li04</b>	Room light sensor	<b>P. 164</b>	<b>WRF06I</b>	Flush-mounting motion sensor	<b>P. 169</b>
<b>Li65</b>	Room light sensor	<b>P. 165</b>	<b>RDI</b>	Ceiling motion sensor	<b>P. 170</b>
<b>LDF</b>	Ceiling light sensor	<b>P. 166</b>			

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## » MDS – Ceiling Multi Sensor



### Application

The ceiling multi sensor MDS is designed for motion and light detection in room and office spaces. The measured quantity can be used for a fixed light control by means of downstream dimming resistances.

Due to the flat construction, the device is specially suitable for an inconspicuous installation in ceilings. Depending on the type, the MDS offers different output interfaces for coupling to a building control system.

#### TYPES AVAILABLE

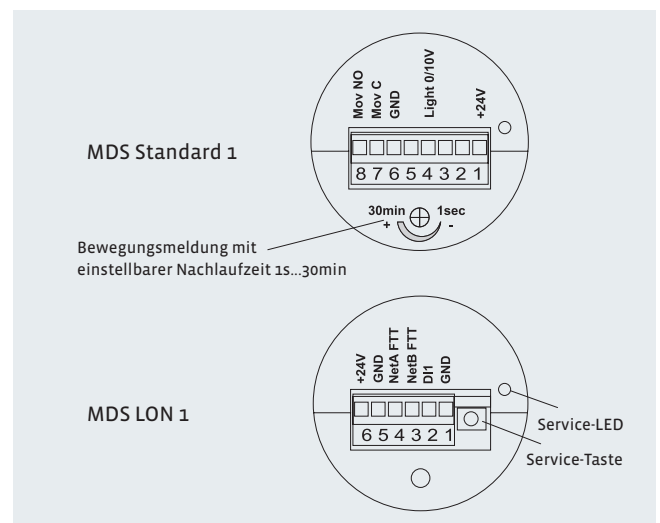
Type	Model	Output
MDS	Standard 1	<b>Motion:</b> PIR-motion sensor 360° with relay output <b>Light:</b> Active light sensor 0-10V
MDS	LON 1	<b>Motion:</b> PIR-motion sensor 360° via LON <b>Light:</b> Light sensor and constant light controller via LON, temperature controller



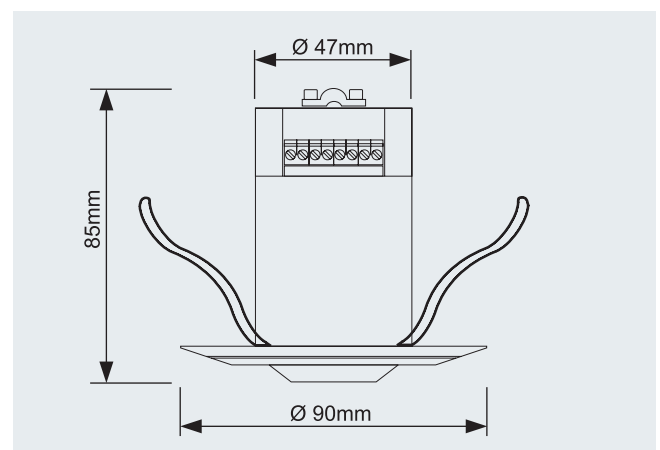
#### TECHNICAL DATA

LON interface	FT5000
Analogue output	0-10V, load max. 10mA
Relay output	Make contact, max. 24V/1A
Motion sensor	4-element PIR (passive infrared), With status LED for motiondetection
Light sensor	0...1kLux, photo diode incl. green filter Accuracy typ. ±50Lux
Ambient temperature	0°C...50°C
Enclosure	Basic enclosure: Material ABS, colour orange Housing cover: Material ABS, colour pure white
Power supply	15-24V= (±10%) or 24V~ (±10%)
Power consumption	Standard: Typ. 1,2W / 4VA LON: Typ. 1,5W / 4,2VA
Terminal clamp	Pluggable screwing terminal max. 1,5mm <sup>2</sup>
Protection	IP20
Notice	Optional enclosure for surface-mounting

### Connection



### Dimensional Drawing (mm)



## Standard

MDS		PG1
Type	Art. No.	
MDS Standard 1	271318	

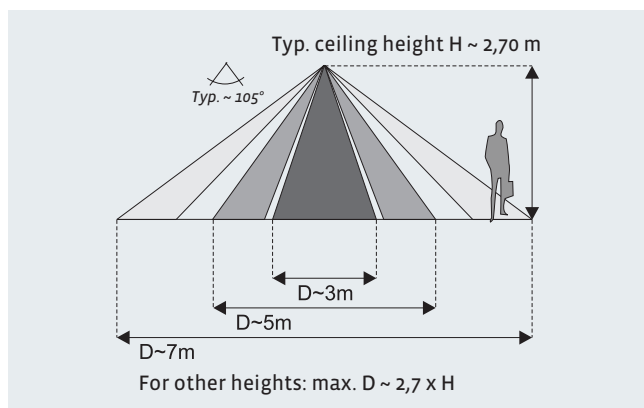
## LON

MDS		PG1
Type	Art. No.	
MDS LON 1	279000	

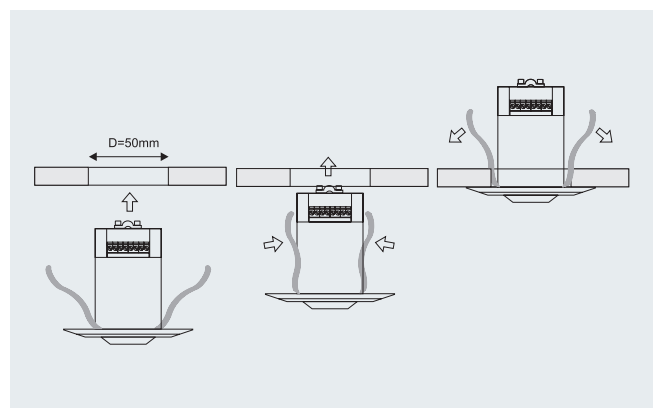
## OPTIONS

MDS		PG1
Description	Art. No.	
Surface-mounting box pure white	448512	

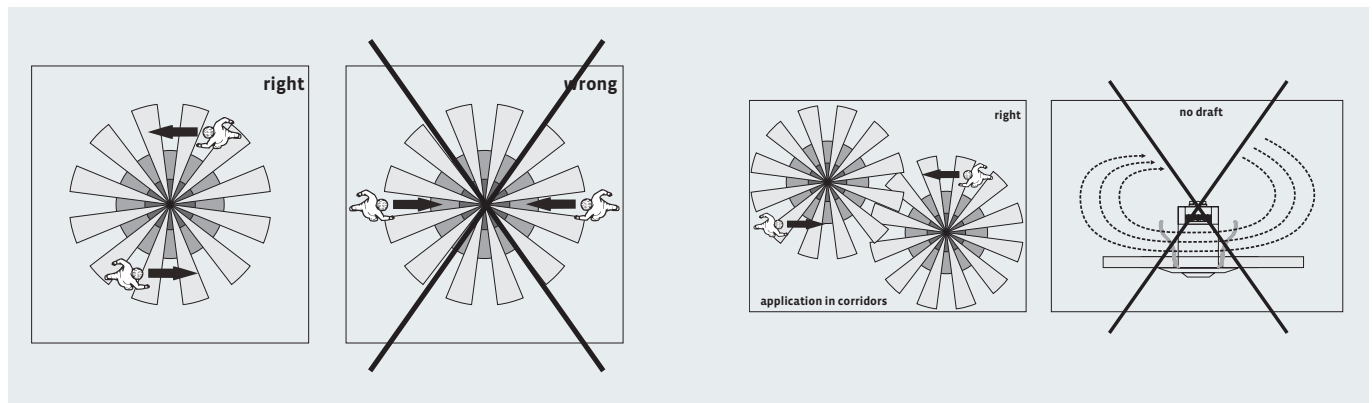
## Detection Range



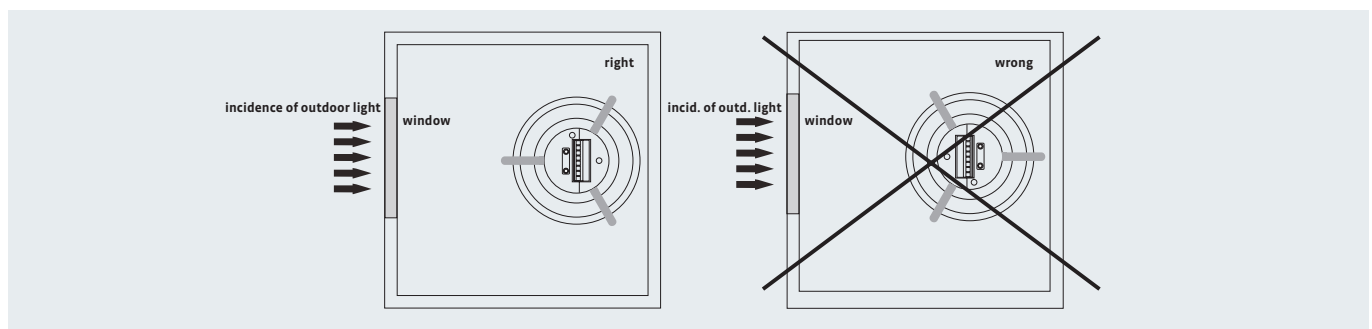
## Installation



## Mounting Notice



## Direction of Internal Light Sensor



## » Li04 – Room Light Sensor active / LON

### Application

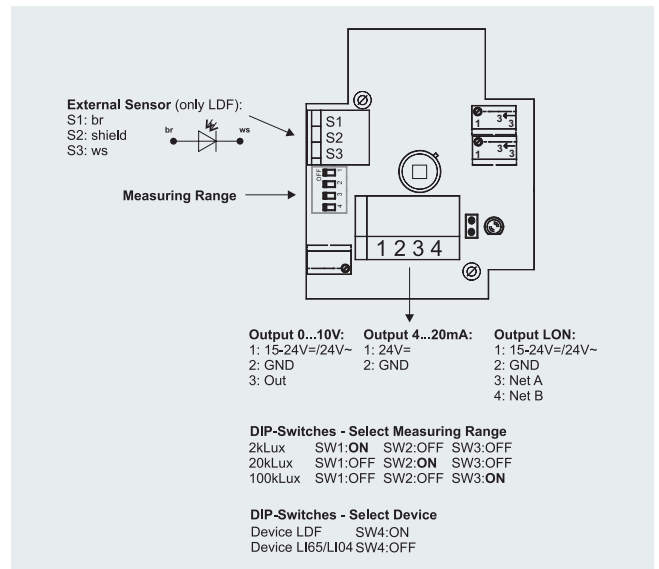
For light detection in room and office spaces etc. Designed for locking on control and display systems. The sensors have an integrated colour filter (green filter) which is adapted to the sensitivity of human eyes.

TYPES AVAILABLE		
Type	Model	Output
Li04	A	active, 4-20mA
Li04	V	active, 0-10V
Li04	LON	active, FTX

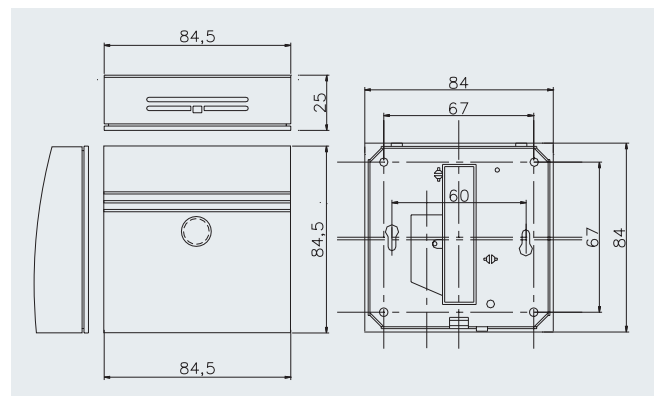
TECHNICAL DATA	
Sensor	BPW21
Measuring range	2kLux, 20kLux, 100kLux (adjustable via internal DIP-switch)
Accuracy	Typ. $\pm 5\%$ of measuring range
Ambient temperature	$-20^{\circ}\text{C} \dots +70^{\circ}\text{C}$
Power supply	A: 15-24V ( $\pm 10\%$ ) V/LON: 15-24V ( $\pm 10\%$ ) or 24V~ ( $\pm 10\%$ )
Power consumption	A: max. 20mA/24V= V: max. 15mA/24V= LON: max. 30mA/24V=
Terminal clamp	Terminal strip, max. 1,5mm <sup>2</sup>
Enclosure	Material ASA, colour pure white similar to RAL9010, mountable on standard deep flush-mounting box, housing bottom can be premounted and prewired separately from housing cover.
Cable entry	From behind or sidewise top/bottom
Protection	IP30



### Connection



### Dimensional Drawing (mm)



A / V / LON			
Li04			
Type	Out	Art. No.	PG1
Li04 A	4-20mA	207911	
Li04 V	0-10V	207904	
Li04 LON	FTX	207898	

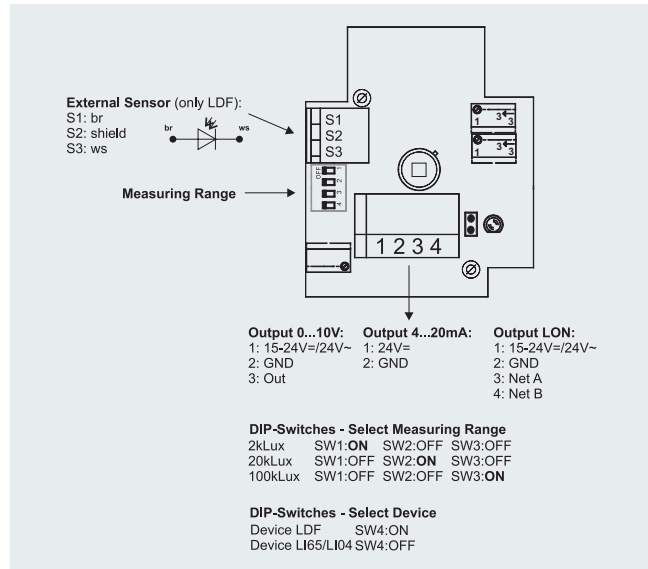
ACCESSORY	
Li04	
Description	Art. No.
Rawlplugs and screws (2 pcs. each)	102209

## Application

For light detection in room and office spaces etc. Designed for locking on control and display systems. The sensors have an integrated colour filter (green filter) which is adapted to the sensitivity of human eyes.



## Connection



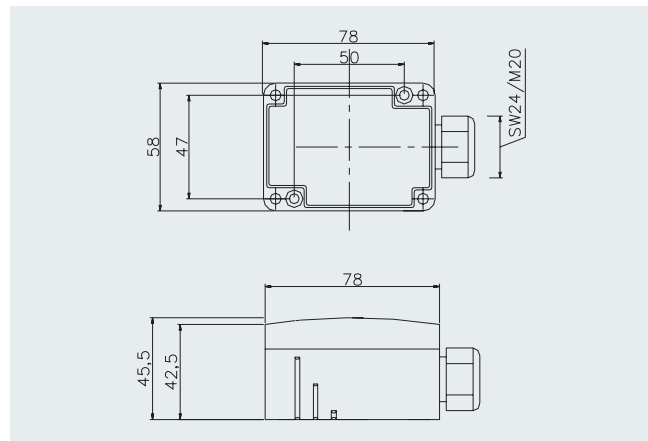
TYPES AVAILABLE	
Type	Model
Li65	A
Li65	V
Li65	LON

TECHNICAL DATA	
Sensor	BPW21
Measuring range	2kLux, 20kLux, 100kLux (adjustable via internal DIP-switch)
Accuracy	Typ. ±5% of measuring range
Ambient temperature	-20°C...+70°C
Power supply	A: 15-24V= (±10%) V/LON: 15-24V= (±10%) or 24V~ (±10%)
Power consumption	A: max. 20mA/24V= V: max. 15mA/24V= LON: max. 30mA/24V=
Terminal clamp	Terminal strip, max. 1,5mm <sup>2</sup>
Enclosure	Bottom: Material PA6, colour pure white (similar to RAL9010) Cover: Material PC, transparent, with quick release and fastener screws
Cable entry	M20
Protection	IP65
Notice	Other measuring ranges on request



## Dimensional Drawing (mm)



A / V / LON			
Type	Out	Art. No.	PG1
Li65 A	4-20mA	185783	
Li65 V	0-10V	185776	
Li65 LON	FTX	185745	

ACCESSORY	
Description	Art. No.
Rawlplugs and screws (2 pcs. each)	102209



# » LDF – Ceiling Light Sensor active / LON

## Application

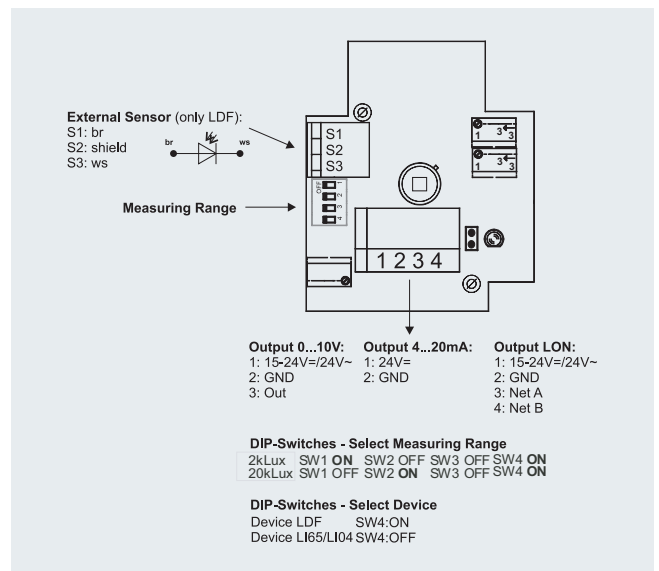
Light sensor for ceiling installation. With straight and diagonal prism for light control. Designed for connection to control and display systems. The sensors have an integrated colour filter (green filter) which is adapted to the sensitivity of human eyes.

TYPES AVAILABLE		
Type	Model	Output
LDF	A	aktiv, 4-20mA
LDF	V	aktiv, 0-10V
LDF	LON	aktiv, FTX

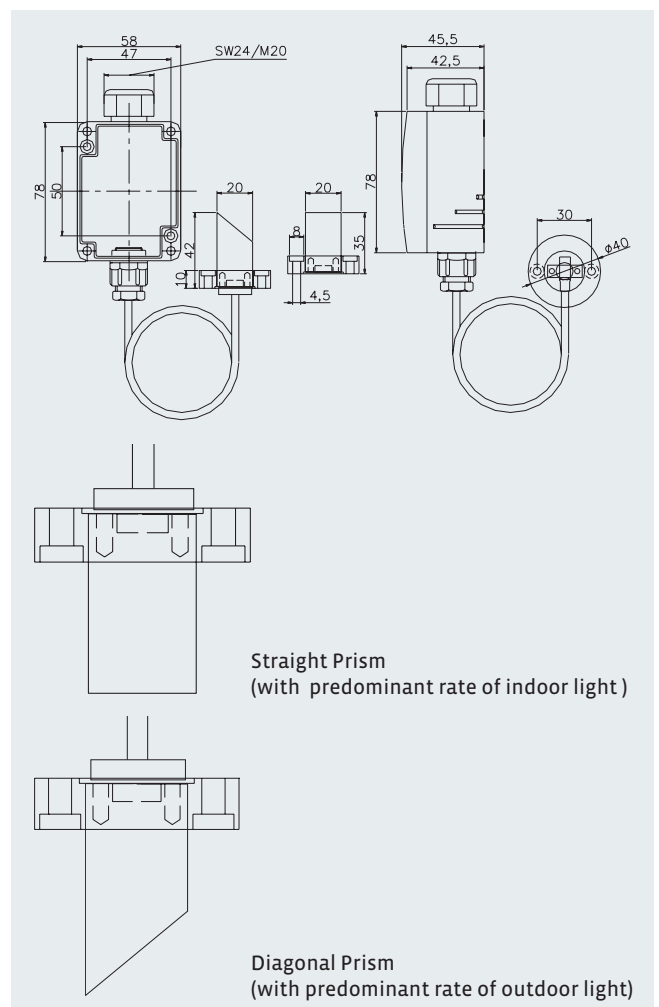
TECHNICAL DATA	
Sensor	BPW21
Measuring ranges	2kLux, 20kLux (adjustable via internal DIP-switch)
Accuracy	Typ. ±5% of measuring range
Connection wire	PVC, shielded, cross-section 0,25mm <sup>2</sup> , L=1m, other standard length 2m
Terminal clamp	Terminal strip, max. 1,5mm <sup>2</sup>
Ambient temperature	-25°C...+65°C
Power supply	A: 15-24V= (±10%) V/LON: 15-24V= (±10%) or 24V~ (±10%)
Power consumption	A: max. 20mA/24V= V: max. 15mA/24V= LON: max. 30mA/24V=
Prism	Straight or diagonal, Material clear acrylic glass
Enclosure	Material PA6, colour pure white, similar to RAL9010
Cable entry	M20
Notice	Please specify kind of prism when ordering



## Connection



## Dimensional Drawing



## A / V / LON

### LDF – CONNECTION WIRE 1m

PG1

Type	Out	Art. No.
LDF1000 A straight prism	4-20mA	185721
LDF1000 V straight prism	0-10V	185714
LDF1000 LON straight prism	FTX	185707
LDF1000 LON straight prism	4-20mA	201575
LDF1000V diagonal prism	0-10V	201568
LDF1000 LON diagonal prism	FTX	201582

## OPTION

### LDF

PG1

#### Description

Cable length per additional meter

# » WRF04I – Surface-Mounting Motion Sensor passive / LON

## Application

For presence detection in room and office spaces, for surface-mounting. Designed for connection to control and display systems.

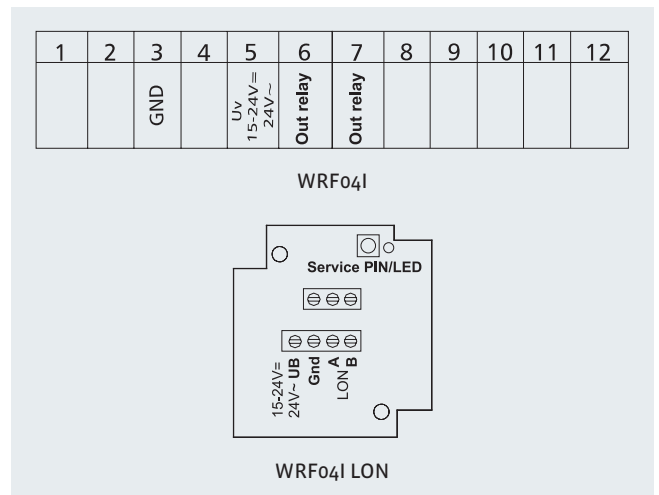


TYPES AVAILABLE	
Type	Output
WRF04I	passive, dry relay contact
WRF04I LON	active, FTT10

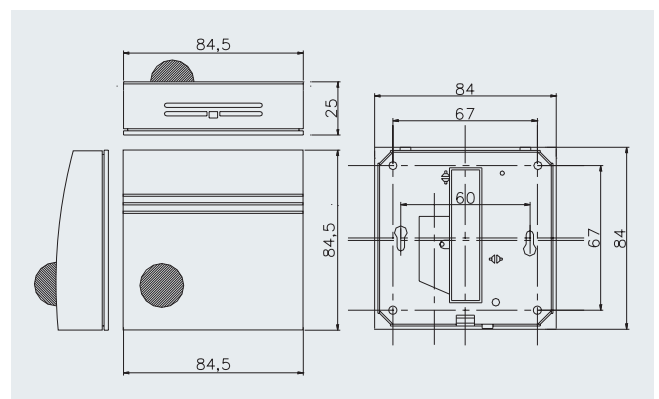
TECHNICAL DATA	
Measuring element	PIR (passive infrared)
Detection range	Conical, aperture angle 100°, range 10m, 80 zones. Circular with radius of approx. 3,2m for a mounting height of 2,8 m, partitioned in 80 zones.
Ambient temperature	-5°C...+50°C
Power supply	15-24V= (±10%) or 24V~ (±10%)
Power consumption	WRF04I: max. 20mA/24V= WRF04I LON: max. 40mA/24V=
Terminal clamp	Screwing terminal, max. 1,5mm <sup>2</sup>
Enclosure	Material ASA, colour pure white similar to RAL9010, mountable on standard flush-mounting box
Cable entry	From back or sidewise top/bottom
Protection	IP30



## Connection



## Dimensional Drawing (mm)



PASSIVE / LON		PG1
WRF04I		
Type	Art. No.	
WRF04I	195812	
WRF04I LON	199476	

ACCESSORY		PG1
WRF04I		
Description	Art. No.	
Rawlplugs and screws (2 pcs. each)	102209	

## Application

For presence detection in room and office spaces, specially for flush-mounting. Designed for connection to control and display systems.

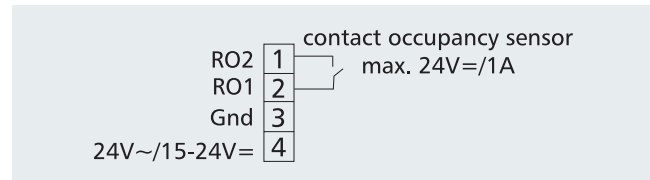
TYPES AVAILABLE	
Type	Output
WRFo6I	passive, dry relay contact

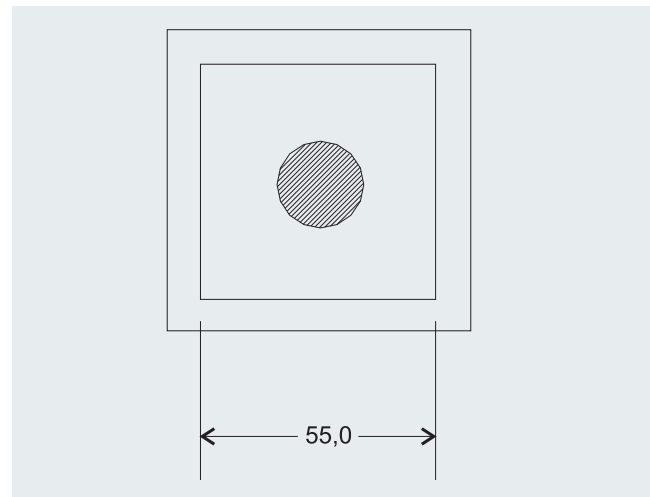
TECHNICAL DATA	
Measuring element	PIR (passive infrared)
Detection range	Conical, aperture angle 100°, range 10m, 80 zones. Circular with radius of approx. 3,2m for a mounting height of 2,8 m, partitioned in 80 zones.
Ambient temperature	-5°C...+50°C
Power supply	15-24V= (±10%) or 24V~ (±10%)
Power consumption	WRFo6I: max. 20mA/24V=
Terminal clamp	Pluggable terminal, max. 1,5mm <sup>2</sup>
Enclosure	Switch programmes of Jung, Gira, Merten (stainless steel not feasible)
Protection	IP20
Notice	Please specify switch programme when ordering



## Connection



## Dimensional Drawing (mm)



PASSIVE	
WRFo6I	PG1
Type	Art. No.
WRFo6I Gira E2 pure white	187183
Same price for switch programmes Gira, Jung and Merten	

OPTIONS	
WRFo6I	PG1
Description	
Switch programme Gira Esprit	

## » RDI / RDI Spot – Ceiling Motion Sensor passive

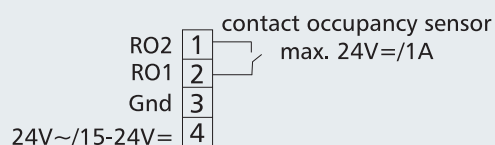
### Application

For presence detection in room and offices spaces. Especially for ceiling installation. Designed for connection to control and display systems. Type RDI Spot with smaller detection range in order to prevent undesired presence detection with certain room layouts.

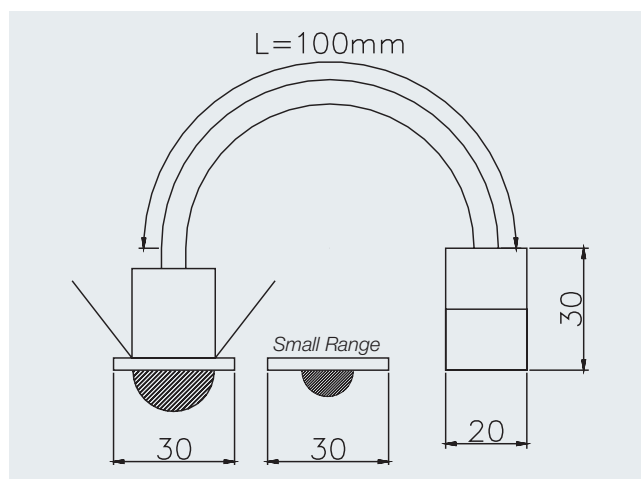
TYPES AVAILABLE	
Type	Output
RDI	passive, floating relay contact
RDI Spot	passive, floating relay contact, with smaller range of detection

TECHNICAL DATA	
Measuring element	PIR (passive infrared)
Range of detection RDI	Conical, aperture angle 100°, range 10m, 80 zones. Circular with radius of approx. 3,2 m for a mounting height of 2,8 m, partitioned in 80 zones. Formula: Diameter (D) = Mounting height (H) x 2,3
Range of detection RDI Spot	Conical, aperture angle 82°, range 5m, 64 zones. Circular with radius of approx. 2,4 m for a mounting height of 2,8 m, partitioned in 64 zones. Formula: Diameter (D) = Mounting height (H) x 1,7
Ambient temperature	-20°C...+50°C
Power supply	15-24V= (±10%) or 24V~ (±10%)
Power consumption	0,5W/1,1VA
Connecting wire	PVC, cross-section 0,25mm <sup>2</sup> , L=0,1m
Terminal clamp	Pluggable terminal, max. 1,5mm <sup>2</sup>
Enclosure	Ceiling installation ring, material ABS, colour white
Protection	IP20

### Connection



### Dimensional Drawing (mm)



RDI

### PASSIVE

#### RDI / RDI SPOT

PG1

Type	Art. No.
RDI	187060
RDI Spot	426503