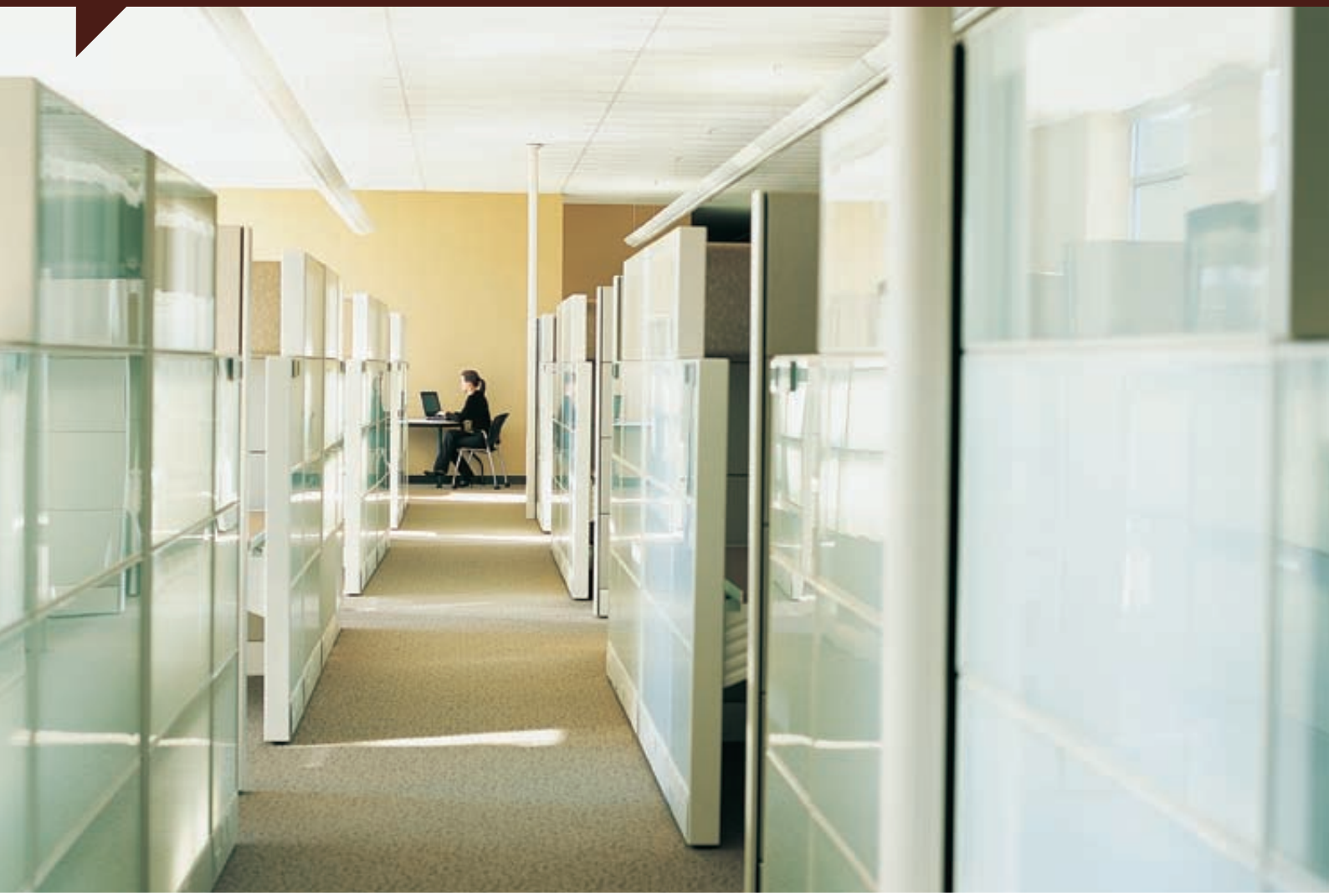
merten

ARGUS PRESENCE DETECTOR

SAVE ENERGY WITH ARGUS PRESENCE DETECTORS

ARGUS PRESENCE DETECTOR

KEEPING ENERGY COSTS DOWN



Increasing energy costs and growing awareness of the environment in modern buildings management now mean that more innovative solutions for efficient energy use are required than ever before.

You can count on the ARGUS presence detectors from Merten. At the end of the day, they reduce heating and power costs by up to 70%, and bring an end to unnecessary energy consumption in offices, classrooms, long corridors and entrance halls. This is because they control the lighting, heating or ventilation in individual rooms according to need.

The following pages illustrate the advantages offered to you and your clients by ARGUS presence detectors and also show how they work.

Actual size

THE ARGUS PRESENCE DETECTOR FAMILY: THE RIGHT SOLUTION FOR ANY APPLICATION

ARGUS presence detectors:

- for offices, corridors and schools

INSTABUS ARGUS presence detectors:

- to incorporate needs-dependent control into intelligent building system technology

ARGUS presence detectors with IR receiver and for extension input:

- as for the ARGUS presence detectors, plus:
- Permanent ON, OFF and AUTOMATIC functions can be remote controlled
- lighting can be switched on manually by using the extension input push-button

INSTABUS ARGUS presence detectors with IR receiver:

- as for the INSTABUS ARGUS presence detectors, plus:
- up to 10 channels can be remote controlled

ARGUS presence detector system:

- for the uninterrupted monitoring of large offices and long corridors
- up to eight sensor heads can be switched in sequence (to monitor rooms and corridors up to 64 m)
- lighting can be switched on manually by using the extension input push-button

INSTABUS ARGUS presence detectors with light control:

- as for the INSTABUS ARGUS presence detectors, plus:
- light control using a light-dependent brightness sensor

APPLICATION EXAMPLES
CLEVER, PRACTICAL, GOOD

APPLICATION EXAMPLE – INDIVIDUAL OFFICE

To control the lighting in a way which responds to both movement and brightness, a single ARGUS presence detector, mounted above the desk, is sufficient for each room.

The maximum use can be made of energy saving options if the heating is also included (e.g. by using night economy when no movement is detected).

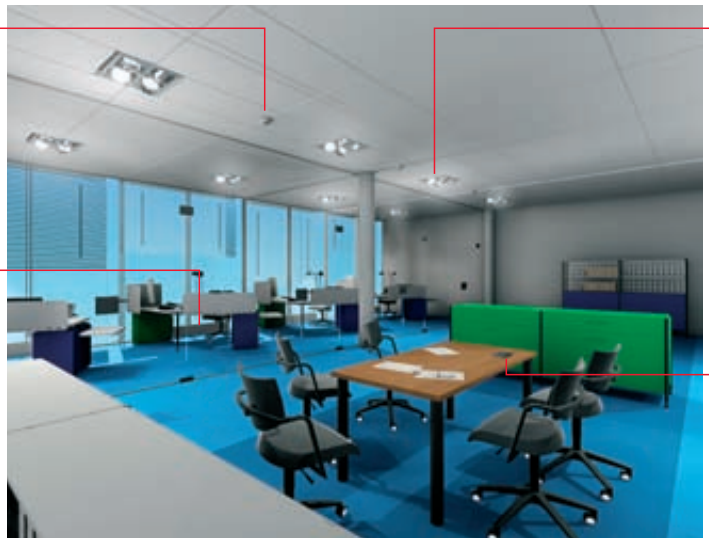
The light control ensures perfect comfort. If the lighting can be dimmed, it will automatically adjust itself to the external brightness.

You can manually switch the lighting on and off at any time using a push-button.

APPLICATION EXAMPLE – LARGE OFFICE

Presence detectors switched individually or in a group provide complete lighting control which is dependent on movement and brightness.

Additional energy saving potential can be gained by including the heating in the system (e.g. the heating only starts up when movement is registered in the area of detection of the ARGUS presence detector).



The light control ensures perfect comfort. If the lighting can be dimmed, it will automatically adjust itself to the external brightness.

You can switch the lighting on and off from the comfort of your desk using a radio push-button.

APPLICATION EXAMPLE – CLASSROOM

The light control ensures perfect comfort. If the lighting can be dimmed, it will automatically adjust itself to the external brightness.

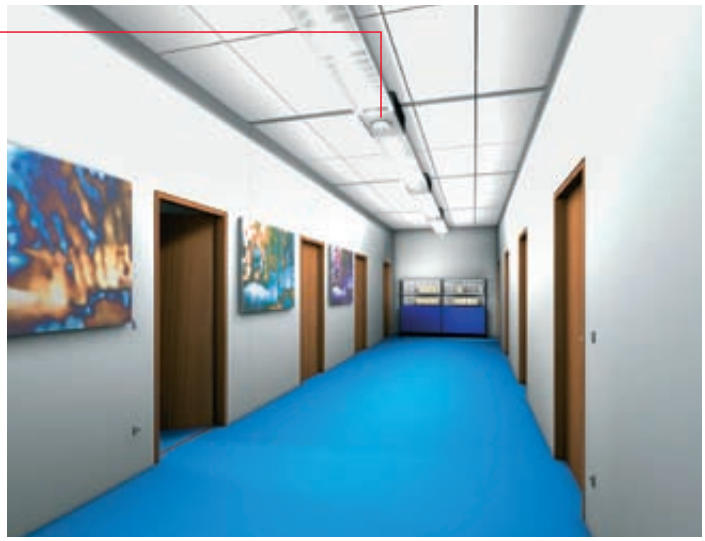
The maximum energy saving potential can be gained by including the heating in the system.

Thanks to the lighting control, which is dependent on movement and brightness, only classrooms which are actually in use will be lit and heated.

You can also manually switch the lighting on and off at any time using a push-button.

APPLICATION EXAMPLE – CORRIDOR

ARGUS presence detectors - also ideal for entrance halls, corridors, stairwells, warehouses or sanitation rooms. During the day, they provide sufficient lighting, while increasing security by acting as movement detectors as night. If they detect a movement, the security guard, for example, will receive a signal.



Interested in more practical application examples? Whether in your home, in hospitals or in offices, in hotels or in schools? Then log on to www.mymerten.com, or ask for our free Merten CD.

ADVANTAGES AT A GLANCE

1 Compact design and maximum detection sensitivity

Flat, compact and with an attractive form, the ARGUS presence detector will fit on - and under - any ceiling. With 5 sensors, 6 extensive detection levels and 544 switching segments, it can pick up even the smallest of movements in the room.

The maximum detection quality, thanks to:
- 5 sensors
- 6 extensive detection levels
- 544 switching segments

2 Surface-mounted housing

ARGUS presence detectors can also be surface-mounted using a special housing.

3 Large area of detection

Installed under the ceiling, the ARGUS presence detector can detect the presence of people within an area of detection of 14m (at a mounting height of 2.5 metres). The advantages, e.g. in a large office: fewer presence detectors are required. And in larger rooms, the light is switched on as soon as someone enters.

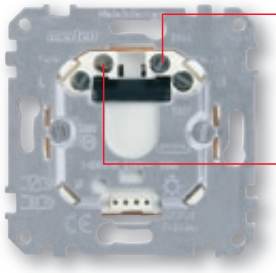
Mounting height	Area of detection – sitting persons	Area of detection – walking persons
approx. 2 m	approx. Ø 10 m	approx. Ø 11 m
approx. 2.5 m	approx. Ø 12 m	approx. Ø 14 m
approx. 3 m	approx. Ø 14.5 m	approx. Ø 17 m

4 Convenient remote control

The permanent ON/OFF and AUTOMATIC functions can be simply and conveniently operated using the infrared remote control.

5 Noticeable energy saving

Thanks to the two relay outlets, the lighting, heating, air conditioning and ventilation can be controlled with just one device, leading to energy cost savings of up to 70%.



Channel 1:
Lighting

Channel 2:
Heating
Ventilation
Monitoring

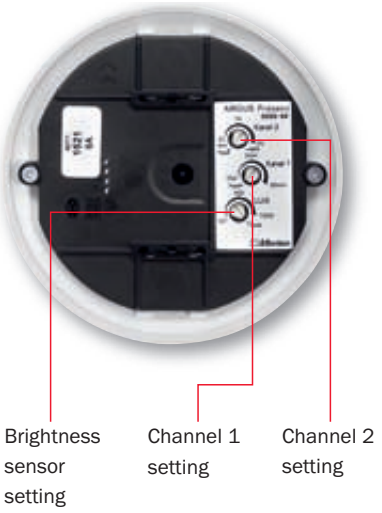
Do you want to see a sample calculation? Page 8 shows a breakdown of why ARGUS presence detectors quickly pay their way.

DOUBLY CLEVER

THE OPERATING PRINCIPLE

Installed under the ceiling, the ARGUS presence detector can detect people up to 14 metres away (at an installation height of 2.50 metres) and simultaneously measures the intensity of the natural light. If brightness has fallen below a preselected light threshold, the smallest movements in the room are sufficient to switch on the lighting via channel 1 automatically. However, if the ambient brightness is adequate, or if it no longer detects a person in the room, the ARGUS presence detectors switches off the lights again, thus saving costs. Acting independently from the first channel, the second channel controls all systems connected to it, such as heating or ventilation. If there is sufficient external brightness, for example, the light is switched off, while the heating/ventilation remains on.

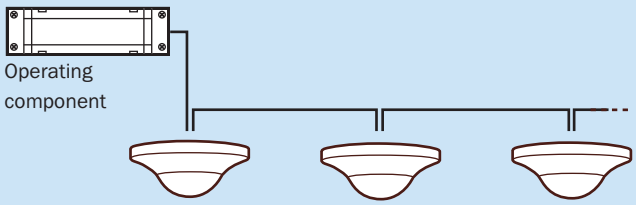
Channel 1	Channel 2
Dependent on brightness and high sensitivity	Independent of brightness
Switches the lights on if brightness is insufficient	Only switches on if several movements are detected within a specific time period
Even if no further movements are detected, it learns the appropriate level of brightness required for it to switch off	The ON time (after the last movement detection) can be set in a continuously variable manner between 5 min - 2 h
The brightness sensor can be set in a continuously variable manner between 10 - 1,000 lux	Suitable for controlling heating systems or fan motors
The ON time (after the last movement detection) can be set in a continuously variable manner between 10 s - 30 min	



The ARGUS presence detector system – series efficiency

The ideal solution if several presence detectors are required for the complete monitoring of large rooms or long corridors. Up to eight sensor heads can be connected to an operating component. Corridors of up to 64 m can be monitored and controlled systematically. Push-buttons can be integrated via the extension input for convenient lighting control which is ideal for large offices.

Up to 8 sensor heads can be switched in sequence



INSTABUS ARGUS presence detectors – the intelligent solution

There are more options for modern building management if the system is used in conjunction with the INSTABUS EIB, such as the networking of several presence detectors, the reporting of faults and system statuses, shutter control and the central control of all building functions.

The IR receiver model offers the maximum convenience. Up to 10 channels can be controlled via a remote control unit (6 x switches/dimmers and 2 x shutters).

Or try the INSTABUS ARGUS presence detectors with light control: An integrated brightness sensor enables the dimmable lighting to be automatically adapted to the external brightness.

SAMPLE CALCULATION

HERE'S HOW TO MAKE EASY SAVINGS

WHAT ARE THE ENERGY COSTS PER YEAR?

Electric output of the lighting/HVAC* (kW)	x	Length of operation per year (h/year)	x	Energy costs per kilowatt-hour (EUR/kWh)	=	Energy costs per year
Example:						
1.1 kW	x	2,000 h	x	0.12 EUR	=	264.00 EUR

WHAT DOES IT COST TO USE AN ARGUS PRESENCE DETECTOR?

Price per ARGUS presence detector	+	Installation costs per item	x	Number of ARGUS presence detectors	=	Total costs – ARGUS presence detector
Example:						
129.91 EUR	x	35.79 EUR (= 1 hour)	x	1	=	165,70

HOW QUICKLY DOES IT PAY TO USE AN ARGUS PRESENCE DETECTOR?

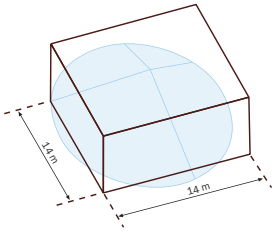
1. Savings potential (assumption: 65 %)				
Savings factor	x	Energy costs per year	=	Cost savings per year
Example:				
0,65	x	264.00 EUR	=	171.60 EUR
2. Amortisation of ARGUS presence detectors				
Total costs ARGUS presence detectors	:	Potential cost savings per year	=	Amortisation in years
Example:				
165.70 EUR	:	171.60 EUR	=	0.97 years

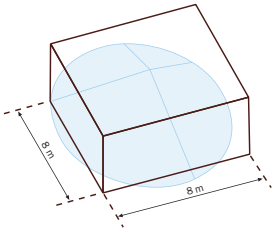
Summary: In less than a year, it will be worth your while to install ARGUS presence detectors.

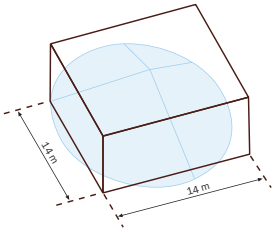
AT A GLANCE

TECHNICAL SPECIFICATIONS

	ARGUS presence detectors	The ARGUS presence detector system	INSTABUS ARGUS presence detectors
Areas of application	Offices, corridors and schools	Large offices, long corridors	Offices, corridors and schools
Angle of detection	360°	360°	360°
Range	7 m radius (at a mounting height of 2.5 metres).	4 m radius (at a mounting height of 2.5 metres).	7 m radius (at a mounting height of 2.5 metres).
Type of installation	Ceiling (flush-mounted/surface-mounted)	Suspended ceiling (flush-mounted)	Ceiling (flush-mounted/surface-mounted)
Mains voltage	AC 230 V, ± 10%, 50 Hz	AC 230 V, ± 10%, 50 Hz	INSTABUS EIB
Incandescent lamps	AC 230 V, max. 1,000 W	AC 230 V, max. 2,300 W	dependent on switch actuator
Halogen lamps	AC 230 V, max. 1,000 W	AC 230 V, max. 2,000 W	dependent on switch actuator
Capacitive load	5 A, 140 µF	max. 140 µF	dependent on switch actuator
Shared connection	5 A, AC 230 V, cos φ = 0.6	5 A, AC 230 V, cos φ = 0.6	dependent on switch actuator
Brightness threshold	Continuously variable 10 - 1,000 lux	Continuously variable 10 - 1,000 lux	Continuously variable 10 - 1,000 lux via ETS
Type of protection	IP 20	IP 20	IP 20
Switching times	Channel 1: 10 s to 30 min Channel 2: 5 min to 2 h Increased protection against false alarms	Channel 1: 10 s to 30 min Channel 2: 5 min to 2 h Increased protection against false alarms	10 s to 152 h via ETS
Design	Merten	Merten	Merten
Article number/Colour	ARGUS presence detectors 5505 90/polar white ARGUS presence detector for extension unit operation with IR receiver 5505 91/polar white Surface-mounted housing 5506 19/polar white	ARGUS Presence detector system 5504 99/polar white ARGUS Presence detector sensor 5504 19/polar white Up to eight sensor heads can be connected to one operating component.	INSTABUS ARGUS Presence detectors 6305 90/polar white INSTABUS ARGUS presence detectors with IR receiver 6305 91/polar white INSTABUS ARGUS presence detectors with light control 6305 92/polar white Surface-mounted housing 5506 19/polar white







SOLUTIONS FOR INTELLIGENT BUILDINGS

merten

Merten GmbH
P.O. Box 100653
D-51606 Gummersbach, Germany
Phone +49 2261 702-203
Fax +49 2261 702-328
export@merten.de
www.merten.com

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Subject to technical modifications.