

NEW! THREE VARIANTS FOR
REMOTE CONTROL

DEFENSOR IS **ESY** BECAUSE IT SIMPLY OFFERS MORE PROTECTION

MOTION DETECTORS AND TWILIGHT SWITCHES FROM THE DEFENSOR SERIES

- Time-dependent operating modes
- Intelligent vandalism and sabotage protection
- Switch-off delay times based on motion direction detection

PERFORMANCE FOR SIMPLICITY

ESYLUX GmbH | sales@esylux.com | www.esylux.com



Easily adjust DEFENSOR functions to meet any requirement via
remote control – or with the ESY-Pen and ESY-App!

PROTECTION AROUND THE CLOCK

LIGHT CONTROL FOR ENHANCED SAFETY, CONVENIENCE AND ENERGY EFFICIENCY

The motion detectors and twilight switches from the DEFENSOR series are not only stylishly designed and easy to install, they also feature first-class functionality that delivers safety, convenience and energy efficiency.

The various products within the range offer a host of options for flexible yet precise control of outdoor lighting, including time-dependent operating modes, intelligent vandalism and switch-off delay times based on motion direction detection. Durability is also a given, thanks to zero-cross switching to protect the relay from the high in-rush currents of LEDs, and particularly high overvoltage protection.

- Time-dependent operating modes
- Intelligent vandalism and sabotage protection
- Switch-off delay times based on motion direction detection

Functions

Motion detectors

Twilight switches



MD 280° / 230° MD 200° TST TS

Time-dependent operating modes	•		•	
Intelligent vandalism and sabotage protection	•			
Creep protection for unbroken coverage	•			
Switch-off delay times based on motion direction detection	•			
Customisable fields of detection	•			
Impulse feature	•	•		
Integrated push button input	•	•	•	•
Zero-cross switching to protect the relay	•	•	•	•
Password-protected parameterisation	•	•	•	•
High overvoltage protection	•	•	•	•
Easy configuration with the ESY-Pen and ESY-App	•	•	•	•
Easy adjustment using the DEFENSOR remote controls	•	•	•	•

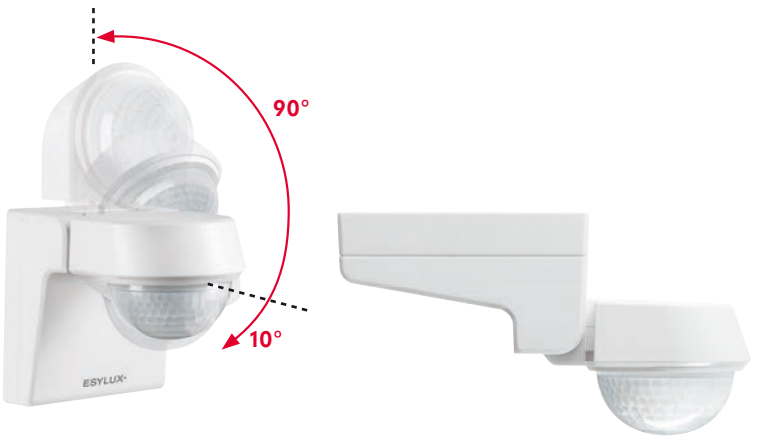
LET THERE BE LIGHT

DEFENSOR MOTION DETECTORS

The DEFENSOR motion detectors can be relied upon in every situation thanks to time-dependent operating modes or intelligent vandalism and sabotage protection. Particularly convenient: With the factory settings, the device can be commissioned immediately and the settings can be conveniently adjusted at a later date using the ESY-Pen and ESY-App. Tailored configuration of fields of detection and variants with switch-off delay times based on motion direction detection mean that this device can be controlled even more precisely, while the many mounting options ensure great flexibility.

TILTING SENSOR HEAD FOR WALL AND CEILING MOUNTING

MD 280° / 230°



ROTATING AND TILTING DETECTOR LENS

MD 200°



280°



230°

- > TIME-DEPENDENT OPERATING MODES
- > INTELLIGENT VANDALISM AND SABOTAGE PROTECTION
- > SWITCH-OFF DELAY TIMES BASED ON MOTION DIRECTION DETECTION
- > CREEP PROTECTION FOR UNBROKEN COVERAGE



280°



230°



200°

- > CUSTOMISABLE FIELDS OF DETECTION
- > INTEGRATED PUSH BUTTON INPUT
- > PASSWORD-PROTECTED PARAMETERISATION
- > HIGH OVERVOLTAGE PROTECTION



DISCREET **KEEPERS**

DEFENSOR TWILIGHT SWITCHES

The DEFENSOR twilight switches reliably and discreetly increase safety around the building. Once darkness falls, they automatically or semi-automatically switch on the lights in the event of insufficient ambient lighting.

The T variant features time-dependent operating modes that allow for highly customisable configurations. The twilight switches therefore guarantee flexibility and energy efficiency, as well as protecting the relay during the operation of LED lights, for instance, due to zero-cross switching. The factory settings allow the device to be commissioned immediately and the settings can be conveniently adjusted using the ESY-Pen and ESY-App.



TS T

> TIME-DEPENDENT OPERATING MODES



TS T



TS

> INTEGRATED PUSH BUTTON INPUT

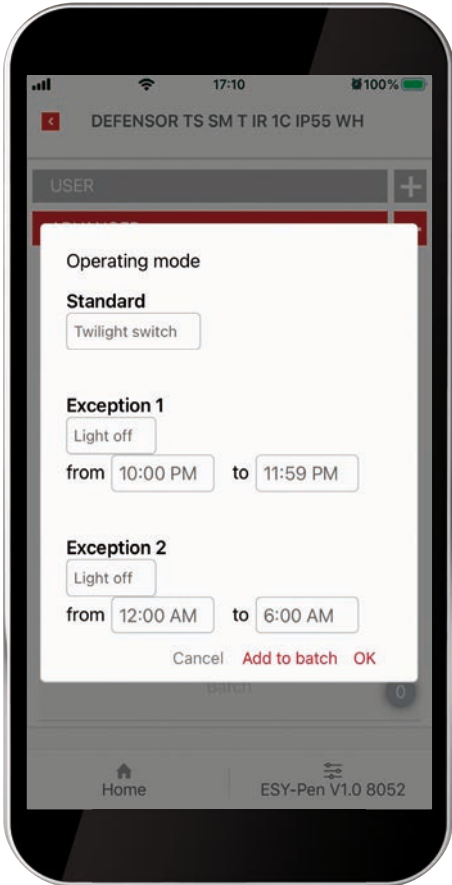
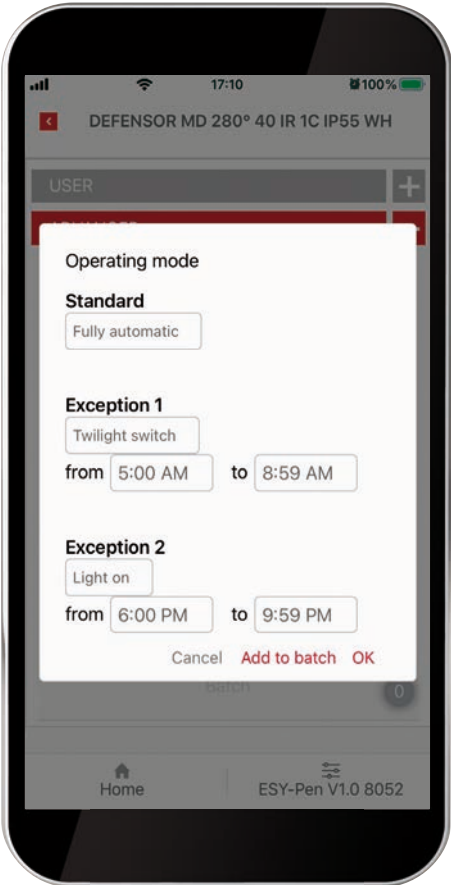
> PASSWORD-PROTECTED PARAMETERISATION

> HIGH OVERVOLTAGE PROTECTION

TIME-DEPENDENT OPERATING MODES

DEFENSOR motion detectors are generally used in fully automatic mode, switching on the lighting based on motion detection and daylight conditions. However, the operating mode can easily be changed to suit a particular place of use or individual requirements. The 280° and 230° variants offer a particularly high degree of flexibility, as they have an internal clock.

Within a 24-hour day, the clock allows two time windows to be defined in which, from the standard operating mode can be deviated from. You can choose between fully automatic, semiautomatic, a twilight switch mode as well as selective switching on or off of the lighting. Set the date to allow automatical switching between summer and winter time.



As their name suggests, the DEFENSOR twilight switches switch on the lighting when dusk begins to fall and only switch it off again the next morning once there is sufficient daylight. However, there are various scenarios in which it may be necessary to deviate from this operating mode.

For this reason, with the T variant it is possible to deactivate twilight switch mode for specific time windows due to an internal clock and parameterisation using the ESY-Pen and ESY-App. This means that lighting can be intentionally switched on or off at specific times.



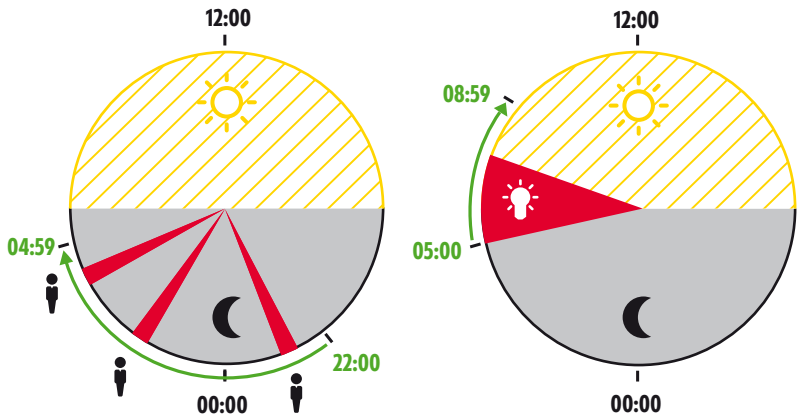
Configuring the DEFENSOR series
Easy to parameterise using the ESY-App.
The ESY-Pen creates a bridge for transfer.

OPERATING MODES ACCORDING TO TIME

MOTION DETECTOR MODE:
light on when motion and brightness switching value is not reached.

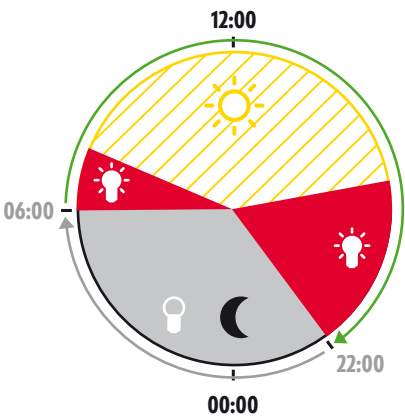
TWILIGHT SWITCH MODE:
light off when there is sufficient daylight.

TIMER MODE:
light on.



OPERATING MODES ACCORDING TO TIME

TWILIGHT SWITCH MODE:
light off when there is sufficient daylight or fixed time.





INTELLIGENT VANDALISM AND SABOTAGE PROTECTION

Outdoor motion detectors can only enhance protection around a building if they themselves are adequately protected against external influences – such as extreme temperatures, water and dust and also vandalism or sabotage.

That is why the 280° and 230° variants of the DEFENSOR motion detectors feature intelligent vandalism and sabotage protection that is designed to keep everything safe: The lighting stays switched on permanently if the sensor head is knocked off by a forceful impact, turning the spotlight on the perpetrator!

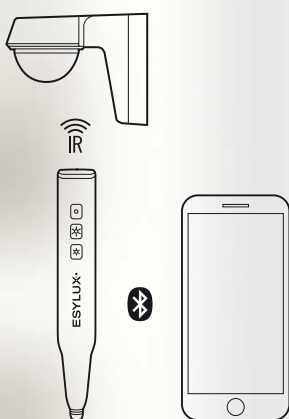
**BURGLAR PROTECTION:
LIGHTS ON!**



PASSWORD-PROTECTED PARAMETRISATION

The DEFENSOR motion detectors and twilight switches are ready for immediate use without any changes to the factory settings. However, anyone wishing to adjust the parameters to suit their specific conditions or customise the intelligent device functions for their own use can do so with ease using the ESY-Pen and ESY-App. The ESY-App is available free of charge and the ESY-Pen acts as a bridge, transmitting the commands from the mobile end devices to the infrared sensor technology.

The DEFENSOR series offers enhanced protection here too: To prevent sabotage, the housing has been designed with no controls on the outside, and a personal password in the ESY-App keeps the configuration process secure!



Configuring the DEFENSOR series
Easy to parameterise using the ESY-App.
The ESY-Pen creates a bridge for transfer.



Always ready with the right tool
Use the ESY-Pen and ESY-App for easy parametrisation, remote control, light measurement and mobile project management of all remotely controlled ESYLUX automation and lighting solutions!

ESY-PEN
Item no. EP10425356

Find out more at:
www.esylux.com/esy-pen

ESY-APP
Download for free



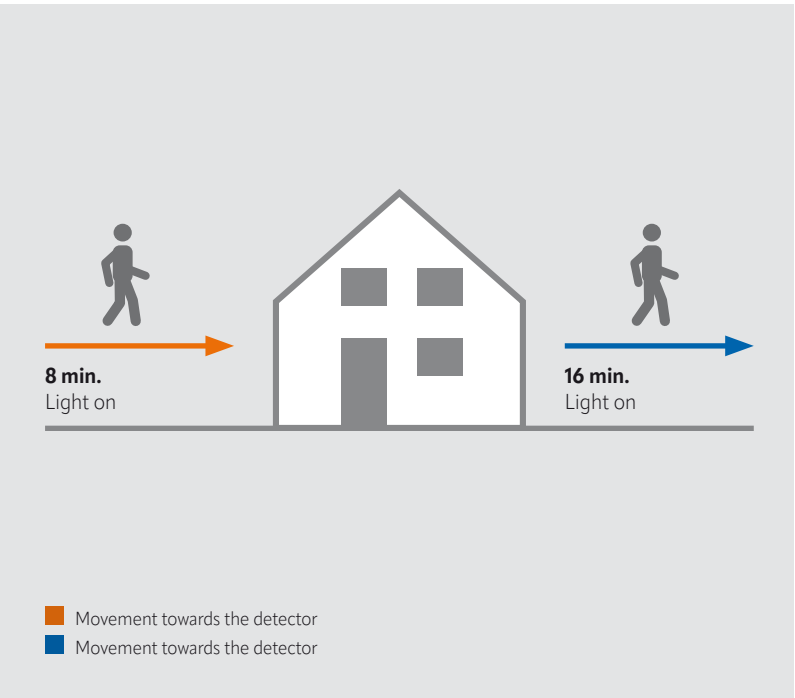


SWITCH-OFF DELAY TIMES BASED ON MOTION DIRECTION DETECTION

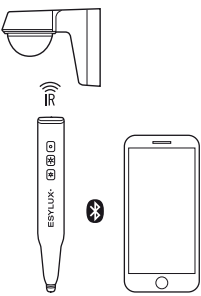
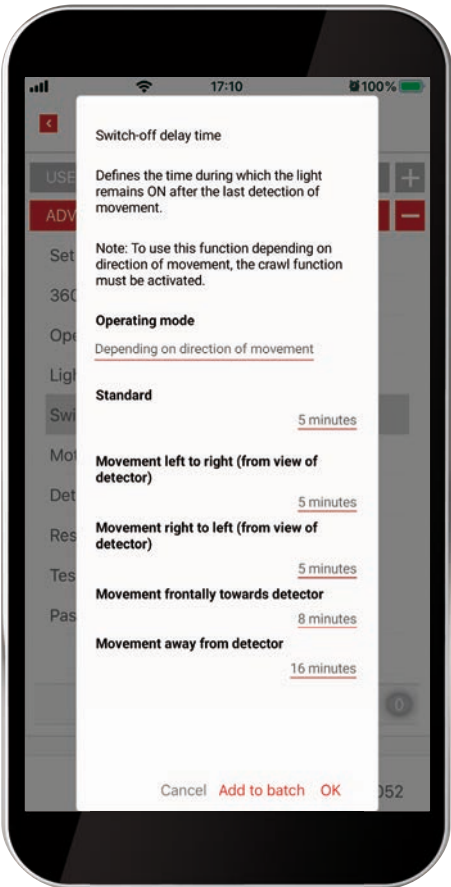
The switch-off delay time built into motion detectors means that the lighting only remains on while it is actually needed, in order to reduce energy consumption and optimise the lifetime of LEDs. However, requirements in this area can vary greatly – e.g. depending on whether someone is entering or leaving the premises.

For this reason, the 280° and 230° variants can detect whether someone is passing the detector from the right or from the left, or whether someone is moving underneath the detector and is therefore entering or leaving the creep protection area. A customised switch-off delay time can be selected for each of these four directions of movement.

DELAY TIMES ACCORDING TO WALKING DIRECTION



A 230° motion detector is mounted above a door area. If someone enters the house and walks towards the detector, the overrun time ends after an energy-saving 8 minutes. When walking in the opposite direction, the overrun time allows the light to shine for another 16 minutes, thus creating security through an illuminated outdoor area.



Configuring the DEFENSOR series
Easy to parameterise using the ESY-App.
The ESY-Pen creates a bridge for transfer.



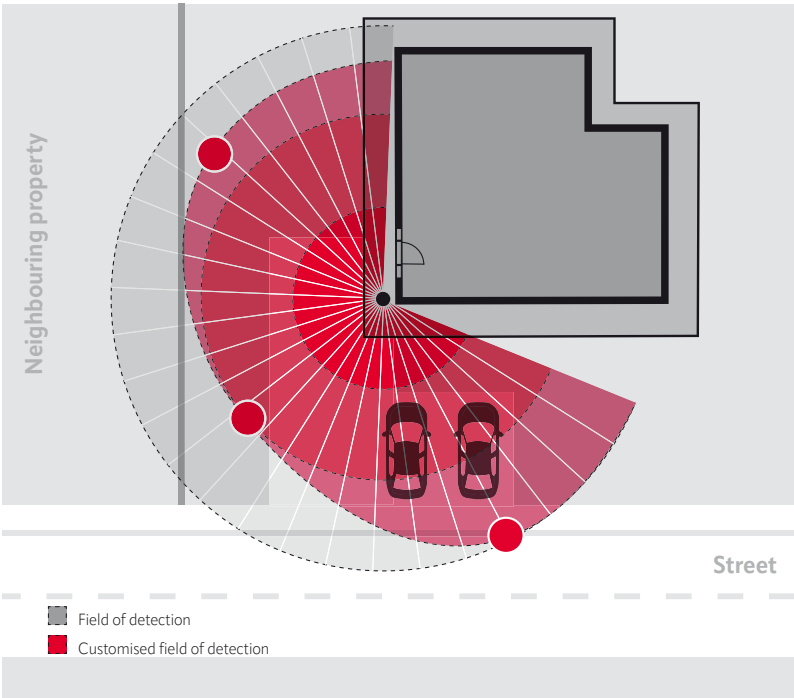
CUSTOMISABLE FIELDS OF DETECTION

The field of detection of the DEFENSOR motion detectors ensures maximum security in outdoor areas. In some cases, however, it may be necessary to adjust the field of detection in order to prevent a detector from being triggered in error. If the lens mask doesn't offer you sufficient flexibility to make the required adjustments, using the ESY-Pen and ESYApp could give you a little more freedom.

On the 200° variants, the sensitivity of the entire field of detection can be reduced in multiple stages. In addition, with the 280° and 230° variants it is even possible to customise individual detection zones via the ESY-App: This is done either by moving adjusting visual controls using your finger, or by entering percentage values.



DETECTION RANGE ADJUSTMENT



In the example, the maximum field of detection would extend to the street and to the neighbouring property, and as such would result in the lighting frequently being switched on unnecessarily. The range in these zones has therefore been reduced accordingly.



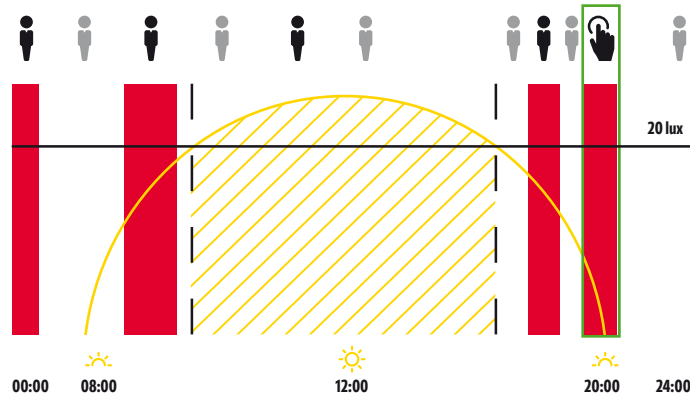
INTEGRATED PUSH BUTTON INPUT

Customers who opt to use fully automatic DEFENSOR motion detectors with motion- and daylight-dependent light control will enjoy enhanced security with no additional effort. But even in this scenario, homeowners might wish to switch on the outdoor lighting themselves, e.g. in order to check that everything is OK when spontaneously looking out of the window.

Integrated push button input creates greater security and convenience in this instance, allowing the end user to activate the lighting from inside regardless of which operating mode is being used. And if the user forgets to switch off the lights, the motion detector will take care of it automatically once the switch-off delay time has come to an end.

The twilight switches also feature push button input. As with the motion detectors, the feature not only allows for spontaneous activation of the lighting but also for permanent activation or deactivation of the outdoor light for either 4 or 12 hours.

INTEGRATED PUSH BUTTON INPUT EXAMPLE



A 200° motion detector is installed on the front of a detached house. In fully automatic mode, it uses motion- and daylight-dependent light control. The user can also switch on the lighting manually from inside using a button.

- Artificial light
- ▨ Sufficient daylight
- Present
- Absent
- ✎ Button press



200 % OVERVOLTAGE PROTECTION

Lightning strikes and temporary overloading of the power supply systems can cause irreparable damage to installed devices. For this reason, the DEFENSOR motion detectors and twilight switches, just like other ESYLUX products, feature overvoltage protection that exceeds standards requirements by a full 100 %:

Surge 2 kV, burst 4 kV!

Surge: surge voltage Burst: repeating fast transients

EASY TO INSTALL

DUE TO VERSATILE COMPONENTS



MOUNTING BASE
 The mounting base for the DEFENSOR series allows easy through-wiring due to its two cable entries with elastic sealing membrane. Earthing cable wiring with a sheath diameter of up to 15 mm is also possible.

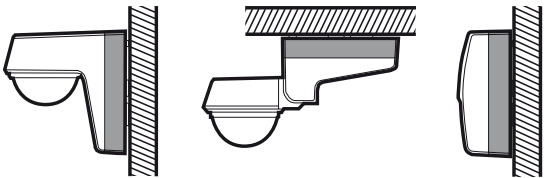
CORNER BRACKET
 Customers wishing to install motion detectors or twilight switches on the corner of a house can simply use the corner bracket, which is available as an accessory.



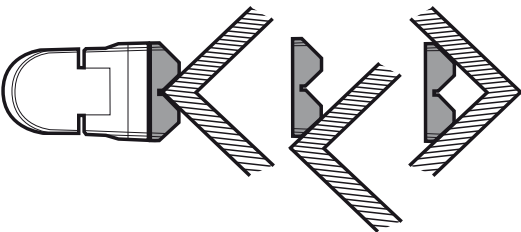
SPACER
 Spacers (available separately) are an easy way to slightly increase the distance from the mounting surface, e.g. for mounting using a cable duct.

MOUNTING BASE
 The new platform concept from ESYLUX also creates future-proof flexibility: The screw holes on the back of the base are exactly the same as those for the RC series from ESYLUX. Customers who own an RC motion detector but wish to make use of the new DEFENSOR functions can therefore easily use the two interchangeably!

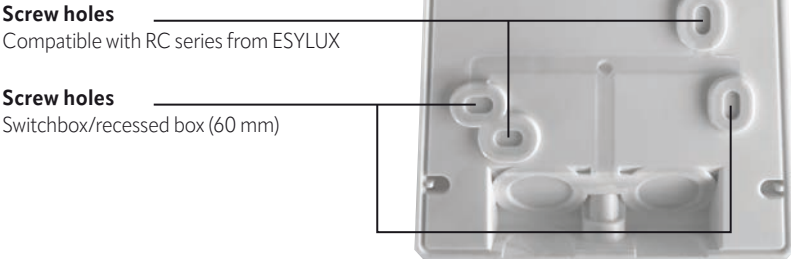
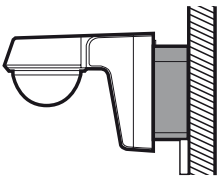
WALL AND CEILING MOUNTING



MOUNTING ON INNER AND OUTER CORNERS



SPACER MOUNTING



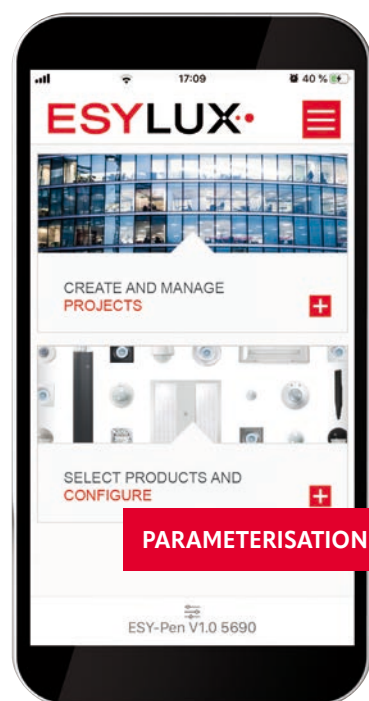
SET PARAMETERS INDIVIDUALLY USING THE ESY-PEN AND ESY-APP

EASY PARAMETRISATION, REMOTE CONTROL, LIGHT MEASUREMENT AND MOBILE PROJECT MANAGEMENT

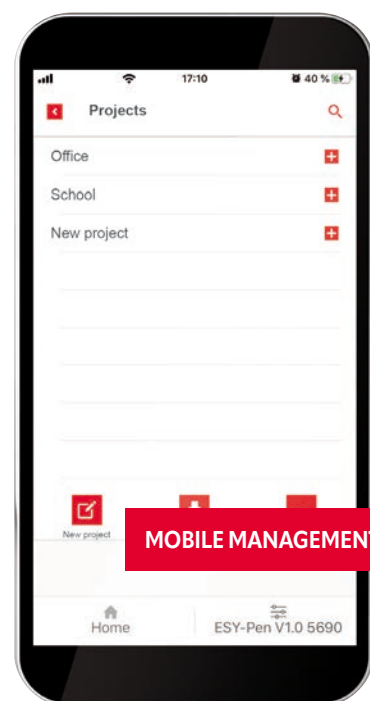
Whether you use presence detectors, outdoor lights with motion detectors or lighting systems with ESYLUX Light Control, the ESY-Pen and the ESY-App ensure you always have the right tools for all remotely controlled ESYLUX solutions.



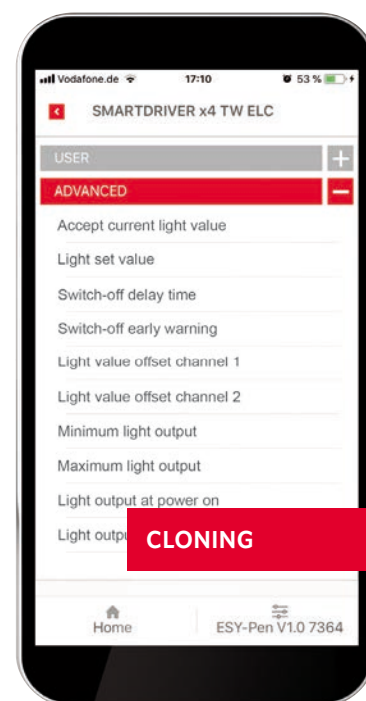
Bluetooth control for
Android and iOS



The ESY-Pen and the ESY-App make commissioning and parameterisation easy.



With the ESY-App, you have access to your project library at all times! And for optimum flexibility, you can create projects in your office and then easily transfer the configuration when at the construction site.



Previously implemented configurations can be stored and transferred to products of the same type via the ESY-Pen using the cloning function.



The project documentation is integrated into a PDF report that can then be emailed and printed off as required.

MOBILE PROJECT MANAGEMENT

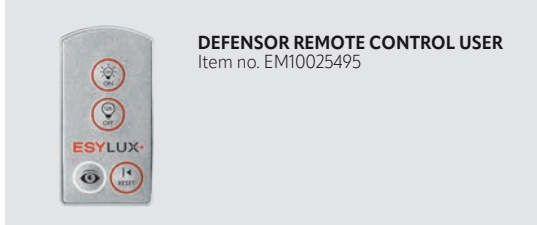
The ESY-Pen and the ESY-App allow users to save, access and transfer configured projects:

- Each project can be saved with a unique name and description in the ESY-App
- No project is too big for the ESY-App: Up to 64 floors can be created, each with up to 64 rooms and up to 64 devices per room
- Within the ESY-App, a few clicks take the user from the project to the room of their choice where they can quickly identify, select and configure ESYLUX products
- Configured projects can be stored in the ESY-App or forwarded on to other users as necessary. Previously stored configurations can be easily transferred to products of the same type via the ESY-Pen using the cloning function
- The project documentation is integrated into a project report that can then be sent as a PDF document and also printed off as required


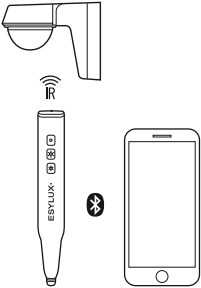


...OR BY REMOTE CONTROL



- DEFENSOR REMOTE CONTROL
- Adjust parameters quickly and conveniently without the need for a ladder
 - Easily adjust the brightness level and switch-off delay time to suit individual requirements
 - Automatically read in the current light value
 - Adjust the motion detector sensitivity
 - "Continuous lighting ON/OFF" function (4 or 12 hours) for manual light switching without a push button
 - Activate impulse mode
 - Wall-mounted holder included



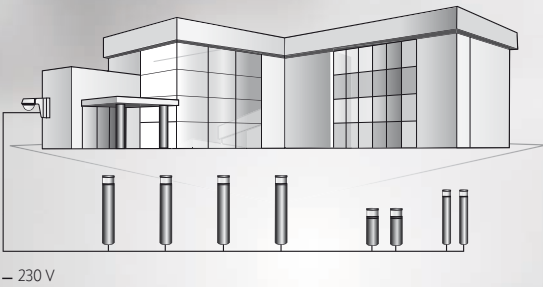
- DEFENSOR REMOTE CONTROL FOR END USERS
- The brightness level is set by automatically reading in the current light value
 - Option to set the switch-off delay time (5 or 15 minutes)
 - Lighting ON/OFF for 12 hours

	ESY-Pen and ESY-App	DEFENSOR REMOTE CONTROL	DEFENSOR REMOTE CONTROL USER
			
Lighting on / off	•	•	
Lighting on / off for four hours	•	•	
Lighting on / off for 12 hours	•	•	•
Reset to automatic mode	•	•	•
Set time and date	•		
360° creep protection on / off	•	•	
Fully automatic operating mode	•	•	
Semi-automatic operating mode	•	•	
Twilight switch operating mode	•	•	
Time-dependent operating modes	•		
Brightness level of 2 - 2000 lx (TS: 500 lx)	•	2 lx, 5 lx, 20 lx, 100 lx	
Automatically read in brightness level	•	•	•
Switch-off delay time	•	1 min, 2 min, 5 min, 8 min, 16 min, 30 min, 1 h	5 min, 15 min
Switch-off delay times based on motion direction detection	•		
Impulse feature	•	•	
Overall motion detector sensitivity	•	100 %, 75 %, 50 %	
Motion detector sensitivity for individual detection zones	•		
Sensor LED on / off	•	•	
Reset to default settings	•	•	
Test mode	•	•	
Password protection*	•		
Clone parameters	•		
PDF documentation	•		
Batch processing of parameters	•		

* Password protection that is activated using the ESY-App and ESY-Pen cannot be overridden by the remote controls.

DURABLE
SYNERGY. ESY!
ALVA OUTDOOR LIGHTS
AND DEFENSOR

Even just the matching colour schemes and elegant design of the ALVA outdoor lights from ESYLUX makes them the ideal partner for the DEFENSOR series. Combine the DEFENSOR protection functions with an aluminium housing that is protected against sea air, a high level of impact resistance and the durability of the LEDs used, and you have an intelligent and extremely reliable lighting solution.



Controlling bollard lights from the ALVA series using a DEFENSOR motion detector creates a lighting solution for outdoor areas that is every bit as intelligent as it is visually harmonious. Alternatively, or even in addition, the ALVA series includes bollard lights with integrated DALI motion detectors, for instance.

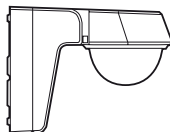
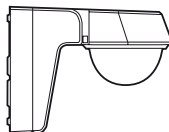
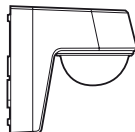


ALVA SERIES
LED OUTDOOR LIGHTS

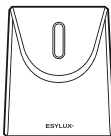

- > ROBUST ALUMINIUM HOUSING THAT IS PROTECTED AGAINST SEA AIR
- > DIRT-RESISTANT ANTI-GRAFFITI EFFECT
- > VARIANTS WITH INTEGRATED MOTION DETECTOR

THE BENEFITS AT A GLANCE

DEFENSOR MOTION DETECTORS

Product group / product name		DEFENSOR MD 280°	DEFENSOR MD 230°	DEFENSOR MD 200°
Item no.	White	EM10025396	EM10025372	EM10025358
	Anthracite grey	EM10025402	EM10025389	EM10025365
				
MOTION DETECTION				
Detection angle		280°	230°	200°
Detection range diagonally		Ø 40 m	Ø 40 m	Ø 24 m
Detection range head-on		Ø 10 m	Ø 10 m	Ø 8 m
360° creep protection (factory setting: ON; can be deactivated)		Ø 4 m	Ø 4 m	
Field of detection		Up to 979 m²	Up to 804 m²	Up to 252 m²
Electronic sensitivity adjustment via ESY-App		• (3 detection zones; separate adjustment)	• (2 detection zones; separate adjustment)	•
Movable sensor lens				Rotates horizontally +/- 30°, tilts downwards through 10°
Movable sensor head		Tilts vertically through +90°/-10°	Tilts vertically through +90°/-10°	
Level of brightness (factory setting: 20 lx)		2 – 2000 lx	2 – 2000 lx	2 – 2000 lx
FUNCTIONS				
Time-dependent operating modes (factory setting: not defined)		•	•	
Switch-off delay times based on motion direction detection		•	•	
Vandalism and sabotage protection (permanently ON)		•	•	
Push button input for manual ON/OFF and 4-hour/12-hour permanent ON/OFF		•	•	•
Twilight switch function		•	•	•
High overvoltage protection (surge 2 kV, burst 4 kV)		•	•	•
Smart factory settings mean device is ready for immediate use		•	•	•
Password-protected parameterisation		•	•	•
Easy to configure using the ESY-Pen and ESY-App		•	•	•
LIGHTING				
Interface		Switching	Switching	Switching
Contact		normally open / non-floating	normally open / non-floatingt	normally open / non-floating
Switching capacity		230 V / 50 – 60 Hz 2300 W / 10 A (cos phi = 1), 1150 VA / 5 AX (cos phi = 0,5)	230 V / 50 – 60 Hz 2300 W / 10 A (cos phi = 1), 1150 VA / 5 AX (cos phi = 0,5)	230 V / 50 – 60 Hz 2300 W / 10 A (cos phi = 1), 1150 VA / 5 AX (cos phi = 0,5)
Zero-cross switching		•	•	•
Switch-off delay time (factory setting: 5 min.)		60 s...240 min	60 s...240 min	60 s...240 min
Impulse feature		•	•	•
Push button input		•	•	•
TECHNICAL DATA				
Nominal voltage		220 – 240 V / 50 – 60 Hz	220 – 240 V / 50 – 60 Hz	220 – 240 V / 50 – 60 Hz
Permissible ambient temperature during operation		-25 °C...+50 °C	-25 °C...+50 °C	-25 °C...+50 °C
Protection type		IP55	IP55	IP55
Protection class		II	II	II
Impact resistance		IK07	IK07	IK07
Dimensions		108 x 92 x 138 mm	108 x 92 x 138 mm	108 x 92 x 108 mm

DEFENSOR TWILIGHT SWITCHES

Product group / product name	DEFENSOR TS T	DEFENSOR TS
Item no.	ED10025464	ED10025471
		
FUNCTIONS		
Time-dependent operating modes (factory setting: not defined)	•	
Push button input for manual ON/OFF and 4-hour/12-hour permanent ON/OFF	•	•
High overvoltage protection (surge 2 kV, burst 4 kV)	•	•
Password-protected parameterisation	•	•
Passwortgeschützte Parametrierung	•	•
Easy to configure using the ESY-Pen and ESY-App	•	•
LIGHTING		
Interface	Switching	Switching
Contact	normally open / non-floating	normally open / non-floating
Switching capacity	230 V / 50 - 60 Hz 2300 W / 10 A (cos phi = 1), 1150 VA / 5 AX (cos phi = 0,5)	230 V / 50 - 60 Hz 2300 W / 10 A (cos phi = 1), 1150 VA / 5 AX (cos phi = 0,5)
Zero-cross switching	•	•
Push button input	•	•
Level of brightness (factory setting: 20 lx)	2 - 500 lx	2 - 500 lx
TECHNICAL DATA		
Power supply	220 - 240 V / 50 - 60 Hz	220 - 240 V / 50 - 60 Hz
Permissible ambient temperature during operation	-25 °C...+50 °C	-25 °C...+50 °C
Protection type	IP55	IP55
Protection class	II	II
Impact resistance	IK07	IK07
Dimensions	108 x 92 x 46 mm	108 x 92 x 46 mm

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