

# Light and energy management

Smart design when managing energy and resources in residential and commercial buildings must encompass flexibility in order to realise genuine efficiencies over the true lifetime of a building. Hager's eco-ficient solutions offer you long-term cost saving benefits and help meet power density requirements set out by the BCA.





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### Analogue time switches



EH010	EH011	EH110	EH111	EH710	EH711	EH171	EH771
Without reserve	Reserve 200 h	Without reserve	Reserve 200 h	Without reserve	Reserve 200 h	Reserve 200 h	Reserve 200 h
230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
1 channel	1 channel	1 channel	1 channel	1 channel	1 channel	1 channel	1 channel
daily	daily	daily	daily	daily	daily	weekly	weekly
1 module	1 module	3 modules	3 modules	72x72	72x72	3 modules	72x72
Min. switching 15min	Min. switching 15min	Min. switching 15min	Min. switching 15min	Min. switching 2hrs	Min. switching 20min	Min. switching 20min	Min. switching 2hrs
Manual override auto/on	Manual override auto/on	Manual override auto/on/off	Manual override auto/on/off	Manual override auto/on/off	Manual override on/off	Manual override on/off	Manual override on/off

### Recommendation

Hager strongly recommend the installation of modular contactors with all time switches

### Description

Electromechanical 1 channel time switches, with daily or weekly programming. For control of lighting, heating, household appliances, shop windows etc, to improve comfort and save energy.

### Applications

- Domestic and commercial premises.

### Connection capacity:

- 1 to 4mm<sup>2</sup>

### Modular technical data

- Complies with EN60730
- Programming by captive segments.
- Manual override
  - On 1 module devices: Auto, Perm ON
  - On 3 module devices: Auto, Perm ON, Perm OFF

### Minimum switching time:

- 15min for daily versions
- 2hrs for weekly versions
- 15min and 2hrs on the daily and weekly version

### 72 x 72 technical data

- Suitable for surface, flush or DIN rail mounting
- Programming by captive segments
- Manual override with automatic return to programmed
- Operating reserve: 200hrs after connection for 120hrs
- Output: voltage free changeover contact 16A/250V

Hager strongly recommend the installation of modular contactors with all time switches.

Technical information:  
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### Analogue time switches - DIN mount

Description	Characteristic	Width	Cat ref.
Compact versions	24hr	1 mod	<b>EH010</b>
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	1 mod	<b>EH011</b>
- 16A AC1 contact rating	With battery reserve		
Standard versions	24hr	3 mod	<b>EH110</b>
- Supply: 230V 50Hz	Without battery reserve		
- 1NO changeover	24hr	3 mod	<b>EH111</b>
- 16A AC1 contact rating	With battery reserve		
	7 day	3 mod	<b>EH171</b>
	With battery reserve		



EH010

### Analogue time switches - panel mount

Description	Characteristic	Cat ref.
Daily cycle versions	24hr	<b>EH710</b>
- Supply: 230V 50Hz	Manual override	
- 16A AC1 contact rating	Without battery reserve	
- Programming in steps of 10mins	24hr	<b>EH711</b>
- Minimum time between 2 switching intervals: 20min	Manual override	
	With battery reserve	
Weekly cycle version	7 day	<b>EH771</b>
- Supply: 230V 50Hz	Manual override	
- 16A AC1 contact rating	With battery reserve	
- Programming in steps of 1hr		
- Minimum time between 2 switching intervals: 2hrs		
- Switching accuracy: 10min		



EH711



EH771



### Digital time switches

<b>EG010 (1)</b>	<b>EG071 (1)</b>	<b>EG103E</b>	<b>EG203E</b>	<b>EG293B (2)</b>	<b>EG403E</b>	<b>EG493E</b>
230 V	230 V	230 V	230 V	230 V	230 V	230 V
1 channel	1 channel	2 channels	2 channels	4 channels	4 channels	4 channels
daily	weekly	weekly	weekly	yearly	weekly	yearly
1 module	1 module	2 modules	2 modules	4 modules	4 modules	4 modules
5 prog.	Free prog.	Enhanced	Enhanced	Standard	Enhanced	Enhanced

### Functions

Program steps	6	20	56	56	300	300	300
Display							
Program key							
Pulse							
Cycle							
Day-light saving							
External input							
Overrides							
Keyboard locking							
Holiday							
Random							
Hour counter							

### Accessories

Programming key EG005	Programming key EG005	Programming key EG007	Programming key EG007
Locking key EG004	Range module EG006	Interface and software with USB EG003	

(1) No key

(2) Key optional

### Recommendation

Hager strongly recommend the installation of modular contactors with all time switches

### Description

For the control of lighting, school bells, pumps, etc. in domestic and commercial premises, schools, irrigation.

#### 1 module time switch

- 1 channel cycle
- Manual override
- Operating reserve 3 years
- 5 pre-recorded (adjustable) programs (EG010)
- 20 program steps (EG071)

#### 2 module time switch

- Ability to download program to multiple time switches via EG003U
- Keypad locking key EG004
- Permanent and temporary override and pulse
- Operating reserve 5 years
- 56 Program steps
- Software programming option
- Bar graph for quick program overview
- Programmable holiday mode
- Programmable summer/winter mode

#### 4 module time switch

- Ability to download program onto multiple time switches via EG003U
- Impulse control
- Manual override and pulse
- Programmable without mains supply
- Operating reserve 10 years
- 300 program steps
- Programmable summer/winter adjustment
- 240V input for remote operation

**Technical information:**  
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Hager strongly recommend the installation of modular contactors with all time switches.

### 24 hour time switch

Description	Characteristics	Width	Cat ref.
1 channel - 5 adjustable pre-recorded programs: 6 commutations max per day (3 ON and 3 OFF)	24hr Voltage rating: 230V AC 50Hz	1 mod	<b>EG010</b>



EG010

### 7 day time switches

Description	Characteristics	Width	Cat ref.
1 channel - Capacity: 20 program steps	7 day Voltage rating: 230V AC 50Hz	1 mod	<b>EG071</b>
1 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	<b>EG103E</b>
2 channel - Capacity: 56 program steps - Delivered with key EG005	7 day Voltage rating: 230V AC 50Hz	2 mod	<b>EG203E</b>
4 channel - Delivered with key EG007	7day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	<b>EG403E</b>



EG203E

### Yearly time switches

Description	Characteristics	Width	Cat ref.
2 channel - Programming key facility	365 day Voltage rating: 230V AC 50Hz Output: 2 changeover contacts	4 mod	<b>EG293B</b>
4 channel - Delivered with key EG007	365 day Voltage rating: 230V AC 50Hz Output: 3 changeover contacts	4 mod	<b>EG493E</b>



EG493E

### Accessories

Description	Characteristics	Cat ref.
Programming key	For EG403E, EG493E, EG293B	<b>EG007</b>
	For EG103E, EG203E	<b>EG005</b>
Keypad locking key	For EG103E, EG203E	<b>EG004</b>
USB interface Software available to download from <a href="http://www.hagerelectro.com.au">www.hagerelectro.com.au</a>	Minimum PC configuration: Windows XP, vista, 7, 8, 8.1	<b>EG003G</b>



EG003G

### Description

To provide all types of automatic control i.e. lighting, ventilation, watering, machine preheating, automatic door and visual audible indication, cycle control etc.  
For timing and automation in residential and commercial premises. The input

signal can be via various switching devices (push button, latching switch, time clock etc.) and the timed output used to control the application.

### Connection capacity:

- Rigid capacity: 1.5 to 10mm<sup>2</sup>
- Flexible capacity: 1 to 6mm<sup>2</sup>

### Technical data

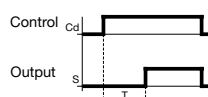
- Voltage range:  
12 & 24 to 48V DC  
12 & 24 to 230V AC
- Adjustable time delay from 0.1s to 10 hours.
- LED indicator complies with EN60669-2-1

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EZN001

### Delay ON

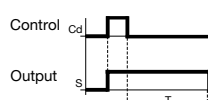


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN001</b>



EZN002

### 1 Delay OFF

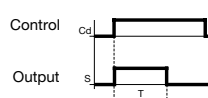


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN002</b>



EZN003

### Adjustable time ON

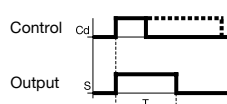


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN003</b>



EZN004

### Timer

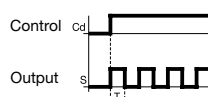


Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN004</b>



EZN005

### Symmetrical flasher



Characteristics	Width	Cat ref.
1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN005</b>



EZN006

### Multifunction

Description	Characteristics	Width	Cat ref.
6 individual functions including: D - delay on C - delay off E - adjustable time ON B - adjustable time OFF A - timer F - symmetrical flasher - ON - OFF	1 c/o contact 8A AC1 contact rating Time delay T: 0.1s to 10hr	1 mod	<b>EZN006</b>



### Time lag switch description

Time lag switches provide control of lighting circuits with automatic switch-off after a preset time. (e.g. for staircase, corridors lighting). Compact design with a two position switch permanent/timed lighting implementation facility.

**Technical information:** [Page 279](#)

### Universal dimmer features:

- Soft start (progressive start) to increase the working life of lamps
- Last dimming level memorised
- Protection against overheating
- Control possible by illuminated push button up to 5mA.

### Dimmer 1000W:

- Universal products with automatic recognition of the load type (inductive/capacitive)
- Electronic protection against overheating and overload.

**Technical information:** [Page 280](#)



### Standard staircase time lag switch

Description	Characteristics	Width	Cat ref.
- Adjustable time delay setting: 30s until 10min - Retrigger	- Supply voltage: 230V 50/60Hz - 16A - 250V AC1 - 2300W incandescent halogen and fluorescent	1 mod	<b>EMN001</b>



EMN001

### Universal dimmer 1000W

Description	Characteristics	Width	Cat ref.
Functional mode selection: - Control via push button (local) - Remote control via 1/10V (slave) Min/Max setting via potentiometer LED indication: - 230V power supply/load error - Overload / overheating	230V AC / 50Hz 20 - 1000W 1/10V input Load type: - Incandescent - 230V halogen lamps - ELV halogen lamps with ferromagnetic transformer (inductive) - ELV halogen lamps with electronic transformer (capacitive)	5 mod	<b>EV100</b>



EV100

### Heat dissipation insert

Description	Width	Cat ref.
To help minimise heat transfer between devices	0.5 mod	<b>LZ060</b>



LZ060



### Light sensitive switches

A photo-electric cell measures the light level and in conjunction with the relay, provides ON/OFF control of a circuit. This device controls lighting circuits in relation to ambient light, based on user settings.

### Applications

Street lighting, display lighting, illuminated signs etc....

### Features:

- Front cover sealability
- Protective cable clamps
- LED shows status of changeover contact.
- 4 position override switch:  
Auto: normal operating mode  
On: permanently on  
Off: permanently off  
Test: mode for easy adjustment

### Technical data:

- Output: 1 changeover AC1
- Contact:  
16A AC1 230V (EE702)
- Rigid capacity: 1.5 to 10mm<sup>2</sup>
- Flexible capacity: 1 to 6mm<sup>2</sup>
- Maximum distance between photocell and controller: 50m

Should be used in conjunction with a suitably rated contactor

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EEN100

### Light sensitive switch

Description	Characteristics	Width	Cat ref.
Delivered with a separate surface photo electric cell EEN003	<ul style="list-style-type: none"> <li>- Voltage rating: 230V AC +10-15% 50Hz</li> <li>- Output: 1 changeover 16A AC1 contact rating</li> <li>- Sensitivity: 2 ranges                             <ul style="list-style-type: none"> <li>- 5 to 100 lux</li> <li>- 50 to 2000 lux</li> </ul> </li> </ul>	3 mod	<b>EEN100</b>



EE702

### Compact light sensitive switch

Description	Characteristics	Width	Cat ref.
IP55 / integrated cell	<ul style="list-style-type: none"> <li>- Normally open contact 16A AC1 contact rating</li> <li>- 2300W incandescent switching</li> <li>- Delay either fixed or adjustable (1s - 120s)</li> </ul>	-	<b>EE702</b>



EE110

### Programmable light sensitive switch

Description	Characteristics	Width	Cat ref.
Delivered with a separate surface photo electric cell EE003	<ul style="list-style-type: none"> <li>- 24hr</li> <li>- Electromechanical time switch</li> <li>- 16A AC1 contact rating</li> </ul>	5 mod	<b>EE110</b>



EEN003

### Photo electric cell

Description	Cat ref.
Surface cell IP54 for EEN100	<b>EEN003</b>



### Motion detectors

Wall mounted	Wall mounted	Wall mounted	Wall mounted	Ceiling	Ceiling	Ceiling	Ceiling	Light with PIR	Light with PIR
IP55 Standard	IP55 Standard	IP55 Enhanced	IP55 Enhanced	Flush	Surface	Flush	Half flush	Flood light 60W	Flood light 15W
140°	360°	220°	220/360°	360°	360°	360°	360°	220/360°	140°
<b>EE820</b> white	<b>EE840</b> white	<b>EE860</b> white	<b>EE870</b> white	<b>EE805</b> white	<b>EE804</b> white	<b>EE815</b> 1 channel	<b>EE810</b> 1 channel	<b>EE600</b> white	<b>EE610</b> white
		<b>EE861</b> charcoal	<b>EE871</b> charcoal		<b>EE883</b> white IP54	<b>EE816</b> DALI/DSI	<b>EE811</b> 2 channels		
							<b>EE812</b> 1/10 V		

### Accessories

Ceiling mount <b>EE827</b> white		Remote control <b>EE806</b> installer and user	Remote control <b>EE806</b> installer and user		Remote control <b>EE807</b> installer		Remote control <b>EE806</b> installer and user	Remote control <b>EE806</b> installer and user
Corner mounting <b>EE825</b> white	Corner mounting <b>EE855</b> white	Corner mounting <b>EE855</b> white	Corner mounting <b>EE855</b> white		Remote control <b>E808</b> user			
	Corner mounting <b>EE856</b> charcoal	Corner mounting <b>EE856</b> charcoal	Corner mounting <b>EE856</b> charcoal					

Recommended for commercial applications



### Motion detectors description

These devices are made for automatic control of lighting in both the residential and private/public industry sectors.

- Large range from 140° basic to 220°/360°
- IP55 reinforced waterproofing
- Detection head with overmoulded fresnel lenses and pyro detectors

### Features:

- 140°/220°/360° frontal detection zone
- Twin 220°/360° to detect in a frontal and downwards zone.
- Time, lux and sensitivity are achieved locally, via potentiometers.
- The enhanced range and LED lights can be set with an IR remote control which provides

speed and convenience when setting final adjustments.

- Detectors can be mounted in corners or to ceilings utilising the relevant mounting accessory.

### Power supply:

- Basic detector
  - 230V AC + 10% / -15% (50/60Hz)
  - Output: 10A AC1 relay and cut phase
- Enhanced detector
  - 230V AC + 10% / -15%
  - Output: 16A AC1 relay potential free

### LED lights description

LED lights with an infrared sensor to easily replace any existing lighting fixture, to ensure automatic operation

of lighting from the approach of a person. Integrated detector sensitive to infrared radiation for operation during the day and night or only at night.

### Features

- Architectural design
- LED energy saving technology
- 140° or 220°/360° detection up to 12m
- IP55
- Settings can be adjusted with the EE806 IR remote control

### Technical information:

[Motion detectors Page 284](#)  
[Motion detectors w LED Page 289](#)



EE820

### Basic range

Description	Cat ref.
Detector 140° White	<b>EE820</b>
Detector 360° White	<b>EE840</b>



EE860

### Enhanced range

Description	Cat ref.
Detector 220° White	<b>EE860</b>
Detector 220° Charcoal Grey	<b>EE861</b>
Detector Twin 220°/360° White	<b>EE870</b>
Detector Twin 220°/360° Charcoal Grey	<b>EE871</b>



EE806

### Accessories

Description	Characteristics	Cat ref.
IR remote control compatible with EE86x /EE87x / EE6xx	Sets time, sensitivity, lux, detection angle used (for Twin model), lock/unlock, test and override ON/OFF	<b>EE806</b>
Ceiling mount accessory	Suits 140° White	<b>EE827</b>
Corner mount accessory	Suits 140° White	<b>EE825</b>
	Suits 220°/360°/Twin White	<b>EE855</b>
	Suits 220°/360°/Twin Charcoal Grey	<b>EE856</b>



EE600

EE610

### Motion detectors with LED lights

Description	Characteristics	Cat ref.
Floodlight with Twin 220°/360° detector	60W (eq. to 300W halogen)	<b>EE600</b>
Decorative lamp with 140° detector	15W	<b>EE610</b>

### Indoor motion detector description

Motion detectors are made for the automatic control of lighting in indoor circulating zones throughout the residential and private/public commercial sectors. They automatically switch on lighting when movement is detected and light is needed. They turn off the light after a preset duration.

#### Features:

- Surface mounted (EE804) or flush fitting (EE805).
- Mounting of EE805 connection system conform of false ceiling installation standards (cable clamp, fixing spring and protection cover

#### Setting:

The timer and the lux level are defined via potentiometers  
Output: Potential free relay  
contact 10A AC1, 1000W

### Hyper frequency detector description

The hyper frequency EE883 motion detector is applicable for wall and ceiling installations because of its practical two-screw mounting system and it allows for a detection coverage of 360° without any dead angles. The detection range diameter is adjustable within 1 to 8 metres. The hyper frequency (HF) detection is independent of the temperature detection, which can detect light through partitions (drywall, wood, glass).

#### Features

- 230V AC
- IP54
- Detection zone of 8m
- Detection area 360°

### Corridor detector description

Corridor detectors from Hager don't miss a thing. Thanks to their 360° all-round vision these detectors are perfect for covering large areas of up to 4m wide x 20m long. The high quality Fresnel precision lenses react sensitively to infrared light, e.g. to the body heat of people veering into the detection area. Their motion is detected quickly and reliably via a heat sensor underneath the lens. They automatically switch on lighting when movement is detected and light is needed. They turn off the light after a preset duration.

#### Features

- 230V AC
- IP54
- Detection zone of 4mW x 20mL
- Detection area 360°

#### Technical information:

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[Hyper frequency Page 291](#)

[Corridor Page 291](#)



### Motion detectors - 360°

Description	Characteristics	Cat ref.
White surface mount	10A AC1 contact rating	<b>EE804</b>
White flush mount	10A AC1 contact rating	<b>EE805</b>



### Hyper frequency detector

Description	Characteristics	Cat ref.
Hyper frequency detector	Surface mount	<b>EE883</b>



### Corridor detector

Description	Characteristics	Cat ref.
Corridor motion detector	Surface mount	★ <b>EE880</b>





### High performance detectors

EE810, EE811 and EE812  
High performance presence detectors that can be used in premises or in passage areas, where they increase comfort and reduce the energy costs drastically.

### Combination of presence and motion detection area.

The presence area is especially useful in offices, where the motion area may be used in long corridors. Head rotation for detection area adjustment.  
Settings via potentiometers.

### Applications

**EE810** - 1 channel detector  
Direct control of a light load or used as a slave for detection area enlargement.  
- Lux level and ON delay setting via potentiometers.  
- Test mode in order to set lux level and the detection pattern.

**EE811** - 2 channels detector  
- Light relay output for direct control of a light load.  
- Presence output potential free relay.  
- Lux level, ON delay setting for light channel and presence channel via potentiometers.  
- Input for slave (EE810) and/or remote push button.

**EE812** - Light regulator 1/10V  
Light regulator with 1/10V output in order to control electronic ballasts and/or Hager dimmers EV100/EV102. Detector especially dedicated for energy saving and comfort purposes.  
- Input for slave (EE810) and/or dimming push button in order to modify the setpoints.  
- Lux level, ON delay for light channel and min. level via potentiometers.  
- 3 functional modes: no regulation, regulation with local setpoint, regulation with remote setpoint.

**EE813** - surface mounting accessory

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### Presence detector

Description	Characteristics	Cat ref.
1 channel Relay output light channel - Lux level and ON delay (duration or pulse) defined via potentiometers Slave output for association with EE811/EE812 Lux OFF	Power supply: 230V AC 50Hz  Relay output: 16A AC1 contact rating  Master/slave output 0.8A (triac)	<b>EE810</b>
2 channels Relay output light channel - Lux level and ON delay defined via potentiometers - Input slave - 230V input used with push button to toggle the light channel state or with slave to enlarge the detection area Relay output presence channel - ON delay presence defined via potentiometer	Power supply: 230V AC 50Hz  Light relay output: 16A AC1 contact rating  Presence relay output: 2A AC1 contact rating  Slave input: 230V input 50Hz	<b>EE811</b>
1/10V Relay output ON/OFF - used to switch electronic ballast 1/10V output used to dim an electronic ballast or Hager dimmers EV100/EV102 230V input used with push button to toggle the channel or change the dimmed level or with slave to enlarge the detection area.	Power supply: 230V AC 50Hz  Relay output: 10A AC1 contact rating 1/10V 50mA  Slave input: 230V input 50Hz	<b>EE812</b>



EE810



EE812

### Installation boxes

Description	Cat ref.
Surface mount housing for the installation of presence detector EE810/EE811/EE812. For use in applications requiring mounting to the underside of concrete slabs or steel beams e.g. carparks and utility rooms.	<b>EE813</b>
Flush mount housing for the installation of presence detector EE810/EE811/EE812. For use in plasterboard or timber ceiling.	<b>★ EEBOX</b>



EE813



EEBOX

### High performance detectors

EE815 and EE816

High performance flush mounted presence detectors suitable for use in residential and commercial premises where energy control and/or reduction is required.

### EE815 - detector ON/OFF

- Direct control of a light load.
- Lux level and ON delay setting via potentiometers or EE807 remote control.

### EE816 - detector for light regulation

- 3 functional modes.
- Lux level and ON delay setting via potentiometers or EE807 remote control.
- DALI/DSI bus output accommodates up to 24 ballasts.

### EE807 - IR remote control

- Installer remote control to commission settings.

### EE808 - IR remote control

- Customer remote control for override operation.

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### Presence detector

Description	Characteristics	Cat ref.
ON/OFF 360° - Direct control of a light load - Lux level and ON delay defined via potentiometers or with EE807 IR remote control	Power supply: 230V AC 50Hz  Relay output: 16A AC1 contact rating	<b>EE815</b>
DALI/DSI 360° - For light regulation (switching and dimming) - 3 functional Lux modes available - Lux level and ON delay defined via potentiometers or with EE807 IR remote control - Accommodates a maximum of 24 DALI/DSI ballasts	Power supply: 230V AC 50Hz  DALI/DSI bus: up to 24 ballasts	<b>EE816</b>



EE815



EE816

### Remote controls

Description	Cat ref.
Infrared commissioning remote control - For EE815 and EE816 presence detectors - For commissioning	<b>EE807</b>
Infrared user remote control - For EE815 and EE816 presence detectors - For local lighting control through the detector	<b>EE808</b>



EE807



EE808



### Description

Energy meters measure the active energy used in an electric installation. They can monitor the detailed consumption within an installation to provide the consumption data between different appliances and circuits. Not suitable for billing. Not approved with NMI.

### Technical data

- Fully compliant with EN50470-3
- Class B
- Accuracy 1%
- Energy readout: 7 digits
- Backlit display
- Indication of instantaneous power consumption
- Total/partial counter
- Pulsed output on most meters

- Unlimited saving of measurements
- LED flashing according to consumption
- Display indication in case of incorrect wiring
- Will not reset if power is turned off. The device will hold its memory.

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\*Please check availability with the Hager sales office at time of order



EC051



EC150

### Single phase

Description	Characteristics	Width	Cat ref.
- Direct reading 32A	Voltage: 230V AC 50/60Hz Starting current: 20mA Base current: 10A Maximum current: 32A	1 mod	<b>EC050</b>
- Direct reading 32A - Pulsed output	Voltage: 230V AC 50/60Hz Starting current: 20mA Base current: 10A Maximum current: 32A	1 mod	<b>EC051</b>
- Direct reading 63A - Pulsed output - Total/partial counter	Voltage: 230V AC 50/60Hz Starting current: 40mA Base current: 10A Maximum current: 63A	3 mod	<b>EC150</b>



EC350



EC360

### Three phase

Description	Characteristics	Width	Cat ref.
- Direct reading 63A - Pulsed output - Total/partial counter	Voltage: 230/400V AC 50/60Hz Starting current: 40mA Base current: 10A Maximum current: 63A	4 mod	<b>EC350</b>
- Direct reading 100A - Pulsed output - Total/partial counter	Voltage: 230/400V AC 50/60Hz Starting current: 80mA Base current: 20A Maximum current: 100A	7 mod	<b>EC360</b>
- To be connected with current transformer with 5A on the secondary - Pulsed output - Total / partial counter - Requires NT310C for reference voltage supply	Voltage: 230/400V AC 50/60Hz Starting current: 10mA Base current: 20A Maximum current on CT secondary: 5A CT: 50-6000A	4 mod	<b>EC370</b>



EC700

### Pulse concentrator

Description	Width	Cat ref.
- Up to 7 separate pulse inputs - Total / partial energy (daily, weekly, monthly, yearly) - Direct reading on display - RS485 Jbus/modbus communication	4 mod	<b>EC700</b>



### Analogue ammeters

For domestic and commercial installations - AC only

- Single phase: direct connection
- Three phase: use of a voltmeter selector switch SK602

Frequency 50/60Hz

### Connection capacity

- 10mm<sup>2</sup> rigid
- 6mm<sup>2</sup> flexible

Direct reading up to 30A

### Indirect reading via current transformers

50, 100, 150, 250, 400, 600A

### Digital voltmeter

SM501

For domestic and commercial installations - AC only

- Three phase: use of a voltmeter selector switch SK602

### Digital ammeters

From SM020 to SM601

- SM020: direct reading
- SM151 to SM601: reading via a current transformer (see below)

Technical information: [Page 298](#)

\*Please check availability with the Hager sales office at time of order

### Analogue Voltmeter

Description	Width	Cat ref.
Accuracy: 2% Consumption: 2.5VA, 0 - 500V	4 mod	<b>SM500</b>



SM500

### Analogue Ammeters

Description	Characteristics	Width	Cat ref.
Direct	0 - 5A	4 mod	<b>SM005*</b>
	0 - 15A	4 mod	<b>SM015</b>
	0 - 30A	4 mod	<b>SM030</b>
Current transformer operated	Accuracy: 1.5% (full scale)		
- Reading via CT SRA00505	Scale: 0 - 50A	4 mod	<b>SM050*</b>
- Reading via CT SRA01005	Scale: 0 - 100A	4 mod	<b>SM100*</b>
- Reading via CT SRA01505	Scale: 0 - 150A	4 mod	<b>SM150</b>
- Reading via CT SRA02505	Scale: 0 - 250A	4 mod	<b>SM250</b>
- Reading via CT SRA04005	Scale: 0 - 400A	4 mod	<b>SM400</b>
- Reading via CT SRA06005	Scale: 0 - 600A	4 mod	<b>SM600</b>



SM030\*

### Digital voltmeter

Description	Width	Cat ref.
Voltage: 220/230V, 50/60Hz Accuracy: ±1% Consumption: 4VA Scale: 0-500V	4 mod	<b>SM501</b>



SM501

### Digital ammeters

Description	Width	Cat ref.
Voltage: 220/230V, 50/60Hz Accuracy: ±1% Consumption: 4VA		
- Direct	Scale: 0-20A	4 mod <b>SM020*</b>
- Reading via CT SRA01505	Scale: 0-150A	4 mod <b>SM151*</b>
- Reading via CT SRA04005	Scale: 0-400A	4 mod <b>SM401</b>
- Reading via CT SRA06005	Scale: 0-600A	4 mod <b>SM601</b>



SM020



### SM101C multimeter

For monitoring the electrical network: single, two or three phases (with or without neutral). Current transformers are not provided and are sold separately. This DIN mount device enables the display of electrical values as instantaneous, average or maximum (voltage and intensity per phase in RMS value). When monitoring of a power generator, it measures the frequency and working time. The SM101C digital multimeter displays the following instantaneous and max. values: I, U, V, F, P, PF, H, THD, E. It has a pulsed output and an RS485 Jbus/Modbus communications capability.

### SM10xE multimeters

SM102E & SM103E are panel mount digital multifunction energy meters suitable for electrical measurement in low voltage networks.

#### SM102E

provides instantaneous true RMS measurement

- Current (Instantaneous & maximum) via CT
- Power EP, EQ, ES and per phase
- Frequency
- Harmonics (THD up to 31)

Add on module

- RS485 Jbus/modbus RTU

### SM103E

provides instantaneous true RMS measurement

- Current (Instantaneous & maximum) via CT
- Power EP, EQ, ES and per phase
- Frequency
- Harmonics (THD up to 51)
- Embedded webserver on TCP/IP add on module

#### Add on module

- RS485 Jbus/modbus RTU
- Memory card
- Ethernet

**Technical information:** [Page 301](#)



SM101C

### SM101C multimeter

Description	Width	Cat ref.
Voltage supply: 230/400V 50/60hz	4 mod	<b>SM101C</b>
Display voltage: 35-480V		
Accuracy $\pm 0.5\%$		
Consumption: $<0.5VA$		
Display current: Via CT		
Primary 5-8000A		
Secondary 0.1-6A		
Accuracy: $\pm 0.5\%$		
Consumption: $<0.5VA$		
Display frequency		
Range 40-80hz		
Accuracy: $\pm 2hz$		
Display hour counter:		
7 digits 999999.9		



SM102E

### SM102E multimeter and add on module

Description	Characteristics	Cat ref.
Multifunction meter	Panel mount	<b>SM102E</b>
Add on modules	RS485 JBus/Modbus	<b>SM210</b>



SM103E + SM211

### SM103E multimeter and add on modules

Description	Characteristics	Cat ref.
Multifunction meter	Panel mount	<b>SM103E</b>
Add on modules	Memory module	<b>SM204</b>
	RS485 JBus/Modbus	<b>SM211</b>
	Ethernet	<b>SM213</b>
	Ethernet + RS485 Jbus/Modbus	<b>SM214</b>

### Description

Current transformers are used to feed analogue and digital ammeters, as well as kWh meters. Their current on secondary circuit (0-5A) is proportional to the current on primary circuit class: 1

- Can be mounted on copper busbar or on cable
- Can be mounted on DIN rail with adaptors
- Frequency: 50/60Hz

Technical information: [Page 303](#)

### Current transformers (CT)

Ratio	Cat ref.	Cat ref.
50/5	× SR051	→ SRA00505
100/5	× SR101	→ SRA01005
150/5	× SR150	→ SRA01505
200/5		★ SRA02005
250/5	× SR250	→ SRA02505
300/5		★ SRI03005
400/5	× SR400	→ SRC04005
600/5	× SR600	→ SRC06005
DIN rail mount for CTs		★ SRZH01



SRA00505



SRI03005

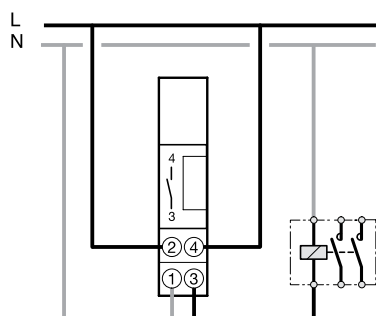


SRC06005

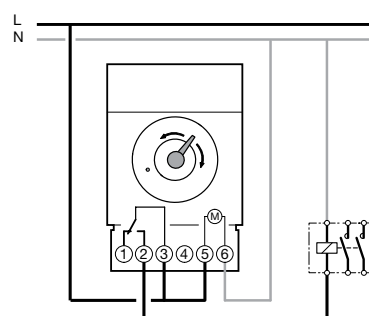
Technical specifications	EH010	EH011	EH110	EH111	EH171	EH710	EH711	EH771
<b>Version</b>	Daily	Daily	Daily	Daily	Weekly	Daily	Daily	Weekly
<b>Voltage supply</b>	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz
<b>Consumption</b>	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA	0.5VA
<b>Output</b>	1 NO Contact Volt Free	1 NO Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free	1 C/O Contact Volt Free
<b>Switching capacity</b>								
<b>AC 1</b>	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V	16A / 250V
<b>Incandescent lamp</b>	900W	900W	900W	900W	900W	1000W	1000W	1000W
<b>Compact fluorescent tube</b>	100W	100W	200W	200W	200W	-	-	-
<b>Characteristics</b>								
<b>Technology</b>	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz	Quartz
<b>Dial</b>	24hrs	24hrs	24hrs	24hrs	7 days	24hrs	24hrs	7 days
<b>Minimum switching</b>	15min	15min	15min	5min	2hrs	10min	10min	60min
<b>Programming capacity</b>	96 steps	96 steps	96 steps	96 steps	84 steps	72 steps	72 steps	84 steps
<b>Working accuracy</b>	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day	1sec per day
<b>Supply failure reserve</b>	No	200hrs	No	200hrs	200hrs	No	200hrs	200hrs
<b>Reached in</b>	120h	120h	120h	120h	120h	-	-	-
<b>Manual switch type</b>	Auto On	Auto On	Auto On Off	Auto On Off	Auto On Off	On Off	On Off	On Off
<b>Protection degree</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Environment</b>								
<b>Working temp</b>	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
<b>Storage temp</b>	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-10°C to +60°C	-10°C to +60°C	-10°C to +60°C
<b>Connection</b>								
<b>Flexible</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Rigid</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Dimensions</b>								
<b>Height</b>	80mm	80mm	90mm	90mm	90mm	72mm	72mm	72mm
<b>Width</b>	18mm	18mm	54mm	54mm	54mm	72mm	72mm	72mm
<b>Depth</b>	60mm	60mm	60mm	60mm	60mm	48.5mm	48.5mm	48.5mm

### Wiring diagrams

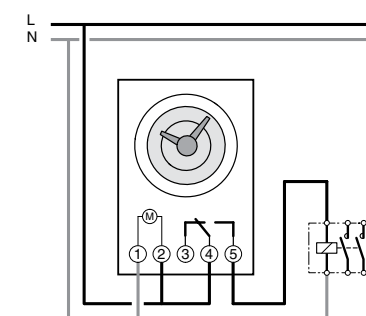
**EH010 / EH011**  
230 V~ ± 10% 50/60Hz



**EH110 / EH111 / EH171**  
230 V~ ± 10% 50/60Hz



**EH710 / EH711 / EH771**  
230 V~ ± 10% 50/60Hz



Technical specifications	EG010	EG071	EG103E	EG203E	EG403E	EG293B	EG493E
<b>Version</b>	Daily	Weekly	Weekly	Weekly	Weekly	Annual	Annual
<b>Modules</b>	1mod	1mod	2mod	2mod	4mod	4mod	4mod
<b>Channels</b>	1ch	1ch	1ch	2ch	4ch	2ch	4ch
<b>Voltage Supply</b>	230V 50Hz	230V 50Hz	230V 50Hz	230V 50Hz	230V 50/60Hz	230V 50/60Hz	230V 50Hz
<b>Consumption</b>	1VA	1VA	6VA	6VA	2VA	2VA	2VA
<b>Output</b>	1 Volt Free Changeover Contact	1 Volt Free Changeover Contact	1 Volt Free Changeover Contact	2 Volt Free Changeover Contacts	2 Volt Free Changeover and 2 NO Contacts	2 Volt Free Changeover and 2 NO Contacts	2 Volt Free Changeover and 2 NO Contacts
<b>Switching Capacity</b>							
<b>AC 1</b>	16A / 250V	16A / 250V	16A / 250V	16A / 250V	10A / 250V	10A / 250V	10A / 250V
<b>Incandescent lamp</b>	1000W	1000W	2300W	2300W	1500W	1500W	1500W
<b>Characteristics</b>							
<b>Technology</b>	Digital	Digital	Digital	Digital	Digital	Digital	Digital
<b>Minimum switching</b>	1min	1min	1min	1min	1min	1min	1min
<b>Programming capacity</b>	6 steps	20 steps	56 steps	56 steps	300 steps	300 steps	300 steps
<b>Working accuracy</b>	1sec per day	1sec per day	±1.5sec / 24h	±1.5sec / 24h	±0.2sec / 24h	±0.2sec / 24h	±0.2sec / 24h
<b>Supply failure reserve</b>	3 years	3 years	5 years lithium battery	5 years lithium battery	5 years lithium battery	5 years lithium battery	5 years lithium battery
<b>Protection degree</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Environment</b>							
<b>Working temp</b>	-10°C to +50°C	-10°C to +50°C	-5°C to +45°C	-5°C to +45°C	-10°C to +50°C	-10°C to +50°C	-10°C to +45°C
<b>Storage temp</b>	-10°C to +60°C	-10°C to +60°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C
<b>Connection</b>							
<b>Flexible</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>
<b>Rigid</b>	1 to 4mm <sup>2</sup>	1 to 4mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>	0.75 to 2.5mm <sup>2</sup>
<b>Dimensions</b>							
<b>Height</b>	92mm	92mm	85mm	85mm	90mm	90mm	90mm
<b>Width</b>	18mm	18mm	35mm	35mm	71mm	70mm	70mm
<b>Depth</b>	64mm	64mm	64mm	64mm	69mm	69mm	65mm

### EG010

#### Electrical characteristics

Supply voltage	230V $\pm 10\%$ 50/60Hz
Consumption	1VA
Output	1 changeover contact 16A - 250V AC 1 3A - 250V cos $\phi$ = 0.6 1000W incandescent lighting

#### Functional characteristics

Number of programs	5 adjustable pre-recorded programs
Accuracy	$\pm 6$ min per year
Supply failure reserve	Total of 3 years

#### Environment

Working temperature	-10°C to +50°C
Storage temperature	-10°C to +60°C
Cable capacity	1 to 4mm <sup>2</sup>

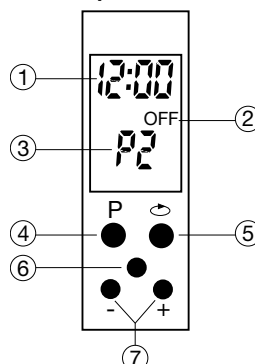
#### Main characteristics

Easy to program: 5 programs are pre-recorded. The user just has to select the program which corresponds to its use and modify time switches if necessary.

The 5 pre-recorded programs are as follows:

P	Prog
P0	OFF
P1	ON
P2	6.00 23.00
P3	6.00 8.00 17.00 23.00
P4	6.00 8.00 11.00 13.00 17.00 23.00

#### Product presentation



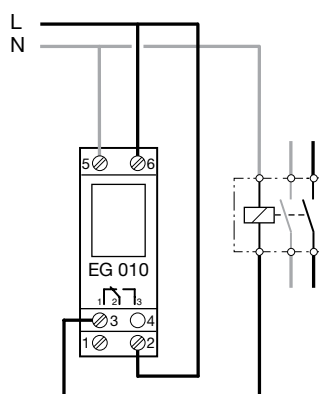
#### Display

1. Time
2. Circuit status
3. Program selection

#### Buttons

4. P to select the program to apply
5. Reset
6. to scroll the programming steps
7. + and - to input the time

#### Wiring diagram



### EG071

#### Electrical characteristics

Supply voltage	230V $\pm 10\%$ 50/60Hz
Consumption	1VA
Output	1 changeover contact 16A - 250V AC 1 3A - 250V cos $\phi$ = 0.6 1000W incandescent lighting

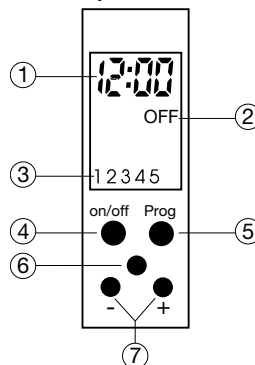
#### Functional characteristics

Number of programs	20 program steps (each program step can be applied to one of several days)
Accuracy	$\pm 6$ min per year
Supply failure reserve	Total of 3 years

#### Environment

Working temperature	-10°C to +50°C
Storage temperature	-10°C to +60°C
Cable capacity	1 to 4mm <sup>2</sup>

#### Product presentation



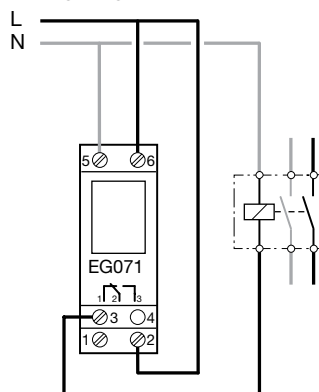
#### Display

1. Time
2. Circuit status
3. Program selection

#### Buttons

4. ON/OFF: to select the circuit status
5. Reset
6. Prog: to program the device and scroll the program steps
7. + and - to input the time and day

#### Wiring diagram



### Electrical characteristics

<b>Supply voltage</b>	230V ±15% 50/60Hz
<b>Consumption</b>	6VA
<b>Output</b>	1 changeover contact 16A - 250V AC 1 10A - 250V cosφ = 0.6

### Lighting

Incandescent lighting	2300W
Halogen lighting 230V	2300W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	500W

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	= 4kV
<b>Rated impulse voltage</b>	4kV

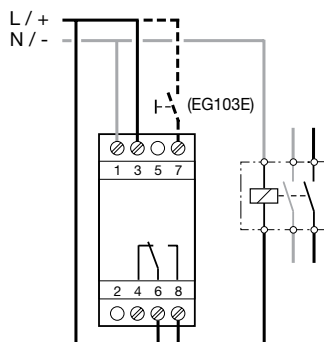
### Functional characteristics

<b>Number of programs</b>	56 program steps
<b>Minimum time between 2 steps</b>	1min
<b>Accuracy</b>	±1.5sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20

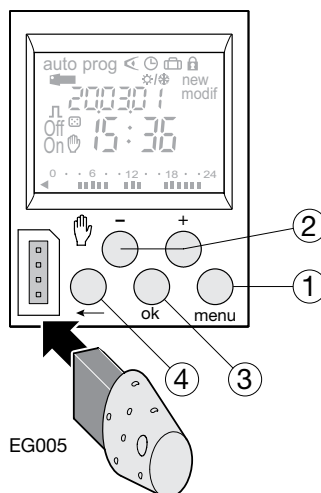
### Environment

<b>Working temperature</b>	-5°C to +45°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	<b>Flexible</b> 1 to 6mm² <b>Rigid</b> 1.5 to 10mm²

### Wiring diagram



### Product presentation



### Keys

1. menu Selection of operating mode  
Auto Mode of running according to the program selected  
Prog new - for new program  
Prog modif - to modify an existing program  
◀ Check the program  
⌚ Modification of time, date and selection of the winter/ summer time change mode  
🏠 Holiday mode
2. +/- Navigation or setting values  
👉 In auto mode, selection of overrides, waivers or random operation
3. OK To validate flashing information on display
4. ⬅ To return to the previous step

You may return to auto mode at any moment by pushing the menu button.  
If no action is taken for 1 min, the switch returns to auto mode.

### Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time ⌚
- Programming key 🗑
  - For permanent waivers
  - For program copy or save
- Programming for day or group of days
- 56 program steps On, Off
- Impulses ⚡ (1 sec to 30 min)
- Permanent overrides On or Off (👉 permanent light on)
- Temporary overrides On or Off (👉 flashing)
- Holiday mode 🏠: overrides On or Off between two dates
- Simulation of presence 🏠
- Display bar graph of daily profile
- Keyboard locking possible 🔒
- Programmable with power off
- Back lit display

### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	6VA
<b>Output</b>	2 changeover volt free contacts 16A - 230V AC 1 10A - 230V cosφ = 0.6

### Lighting

Incandescent lighting	2300W
Halogen lighting 230V	2300W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	500W

<b>Minimum current</b>	100mA 230V~
<b>Galvanic insulation between power supply and output</b>	< 4kV
<b>Rated impulse voltage</b>	4kV

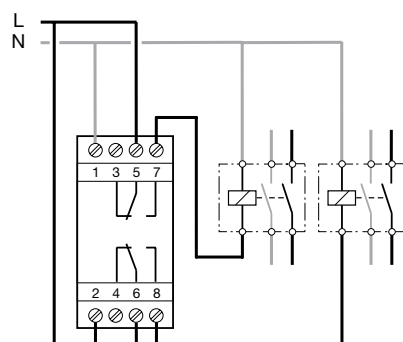
### Functional characteristics

<b>Number of programs</b>	56 program steps
<b>Minimu time between 2 steps</b>	1min
<b>Accuracy</b>	±1.5sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20

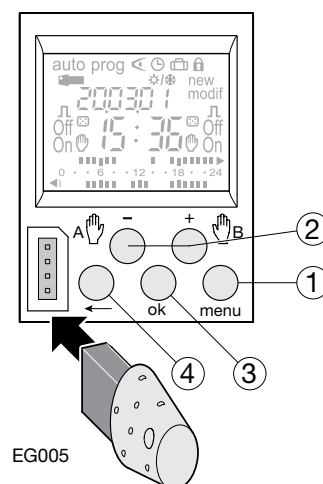
### Environment

<b>Working temperature</b>	-5°C to +45°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	<b>Flexible</b> 1 to 6mm <sup>2</sup> <b>Rigid</b> 1.5 to 10mm <sup>2</sup>

### Wiring diagram



### Product presentation



### Keys

1. menu Selection of operating mode  
Auto Mode of running according to the program selected  
Prog new - for new program  
Prog modif - to modify an existing program  
← Check the program  
⌚ Modification of time, date and selection of the winter/ summer time change mode  
🏠 Holiday mode
2. +/- Navigation or setting values  
A/B In auto mode, selection of overrides, waivers or random operation
3. OK To validate flashing information on display
4. ← To return to the previous step

You may return to auto mode at any moment by pushing the menu button.  
If no action is taken for 1 min, the switch returns to auto mode.

### Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time ⌚
- Programming key 🏠
  - For permanent waivers
  - For program copy or save
- Programming for day or group of days
- 56 program steps On, Off
- Impulses ⌚ (1 sec to 30 min)
- Permanent overrides On or Off (🏠 permanent light on)
- Temporary overrides On or Off (🏠 flashing)
- Holiday mode 🏠: overrides On or Off between two dates
- Simulation of presence 🏠
- Display bar graph of daily profile
- Keyboard locking possible 🔒
- Programmable with power off
- Back lit display



### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	2 changeover + 2 NO contacts 10A - 250V AC 1 8A - 250V cos = 0.6

### Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

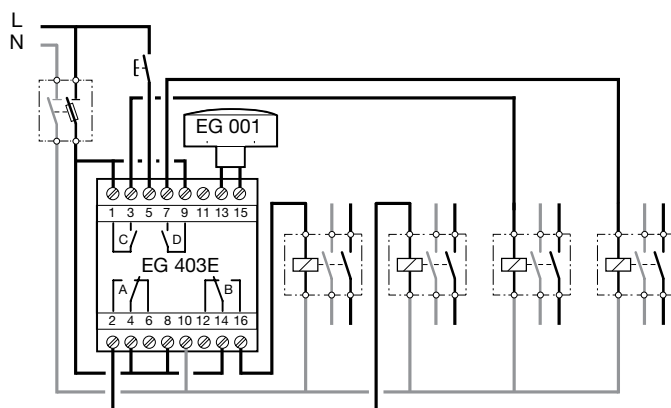
### Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimu time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 10 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

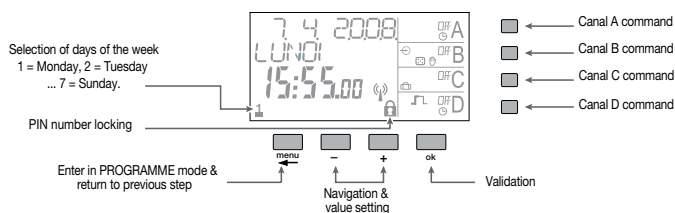
### Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm²

### Wiring diagram



### Product presentation



### Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
  - For permanent overrides
  - For program copy or save
- Programming for day or group of days
- 300 program steps; On, Off, pulses  $\square$  or  $\square\square$
- Permanent overrides On or Off (  $\square$  permanent light on)
- Temporary overrides On or Off (  $\square$  flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Holiday mode  $\square$ : overrides On or Off between two dates
- Simulation of presence  $\square$
- Keyboard locking possible  $\square$
- Counter of operating time on every output
- Programmable with power off
- Back lit display

### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	2 changeover contacts 10A - 250V AC 1

### Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

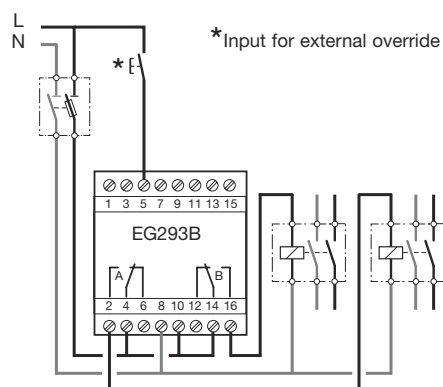
### Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimu time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

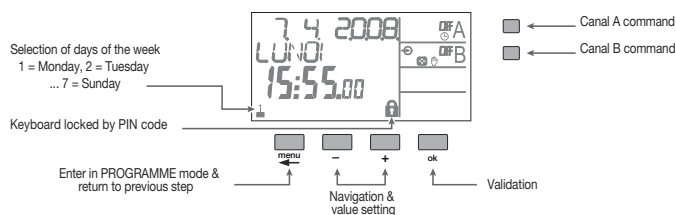
### Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm²

### Wiring diagram



### Product presentation



### Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
  - For permanent overrides
  - For program copy or save
- Programming for day or group of days
- 300 program steps; On, Off, pulses  $\square$  or  $\square\square$
- Permanent overrides On or Off (  $\square$  permanent light on)
- Temporary overrides On or Off (  $\square$  flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Simulation of presence  $\square$
- Keyboard locking possible  $\square$
- Counter of operating time on every output
- Programmable with power off
- Back lit display

### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	< 2VA
<b>Output</b>	2 changeover + 2 NO contacts 10A - 250V AC 1

### Lighting

Incandescent lighting	1500W
Halogen lighting 230V	1500W
Compensated fluoro tubes	400W
Non-compensated fluoro tubes in series	1000W
Compact fluoro lamps	400W

<b>Minimum current</b>	100mA 250V~
<b>Galvanic insulation between power supply and output</b>	< 4kV

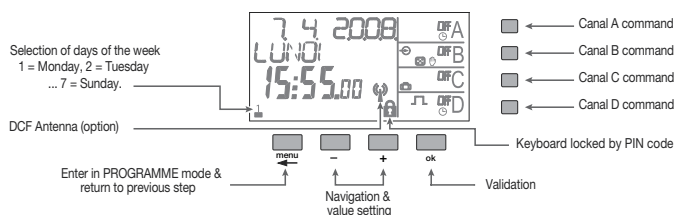
### Functional characteristics

<b>Number of programs</b>	300 program steps
<b>Minimum time between 2 steps</b>	1min
<b>Accuracy</b>	±0.2sec per day
<b>Supply failure reserve</b>	Total of 5 years - lithium battery
<b>Protection degree</b>	IP20 / IK04

### Environment

<b>Working temperature</b>	-10°C to +50°C
<b>Storage temperature</b>	-20°C to +70°C
<b>Cable capacity</b>	0.75 to 2.5mm²

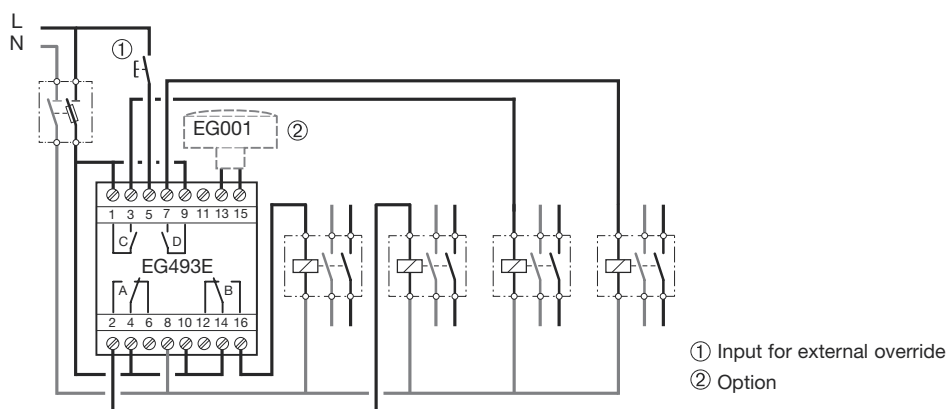
### Product presentation



### Major characteristics

- Product delivered with current time and date set
- Automatic change of winter / summer time
- Programming key
  - For permanent overrides
  - For program copy or save
- 300 program steps; On, Off, pulses  $\square$  or  $\square\square$
- Permanent overrides On or Off (flashing)
- Temporary overrides On or Off (flashing)
- Overrides (temporary, permanent or time delayed) remote activation possible
- Simulation of presence
- Keyboard locking possible
- Counter of operating time on every output
- Programmable with power off
- Back lit display

### Wiring diagram



### Delay timers

Delay timer devices are used to control a variety of processes where the requirement is for switching circuits on, off or delaying the on or off switching for a pre-set period of time. Typical device types are:

- Delay ON: Intended to delay the starting or switching of a circuit for a set period of time following the command signal e.g. to delay the starting of motor loads where a large number of motors are to be started by the same switch to reduce the effects of the starting currents.
- Delay OFF: Intended to delay the stopping or switching off of a circuit for a set period of time following the removal of the command signal e.g. to overrun an extractor following the switching off of a process that creates fumes.
- Adjustable time ON: Intended to switch on for a set period, the command must remain on throughout the set period e.g. to switch on two sets of heaters with one set (the boost) switching off after the set period.
- Impulse timer: Intended to switch on for a set period, the command signal length is not important e.g. to boost a time clock controlled circuit such as water storage heater.
- Symmetrical timer: Intended to toggle a circuit on and off in regular time patterns e.g. to run an extractor intermittently.

### Multifunction timer - 8 individual functions

A = timer.

B = delay off (output relay opens either at end of command or after set time period - whichever is shorter).

C = delay off.

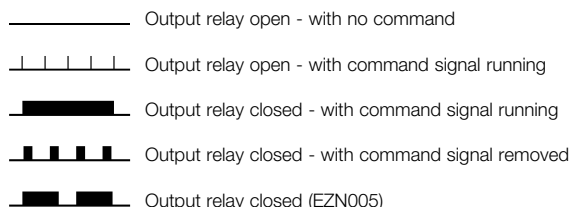
D = delay on.

E = delay on (output relay closes either at end of command or after set time period - whichever is shorter).

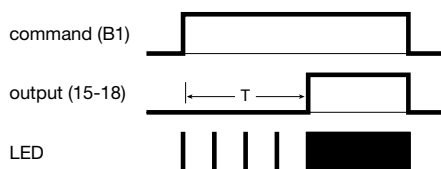
F = symmetrical timer.

On selection - contact permanently closed.

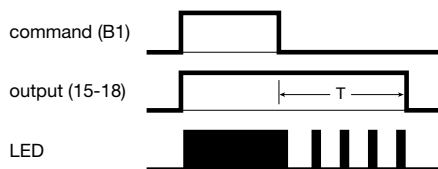
Off selection - contact permanently open.



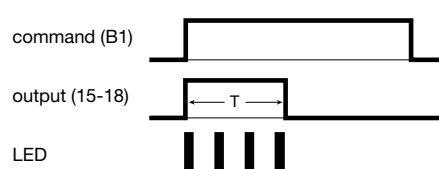
### Delay On EZN001 & EZN006 Function D



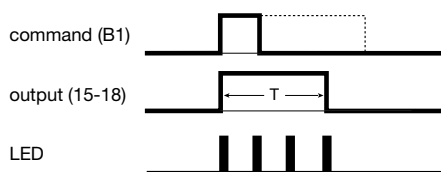
### Delay Off EZN002 & EZN006 Function C



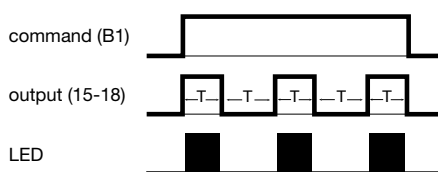
### Adjustable Time On EZN003 & EZN006 Function E



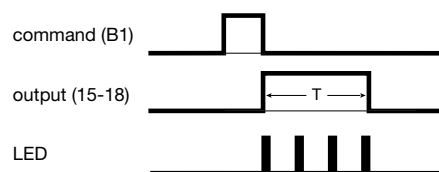
### Impulse Timer EZN004 & EZN006 Function A



### Symmetrical Timer EZN005 & EZN006 Function F



### Multifunction Timer EZN006 Function B

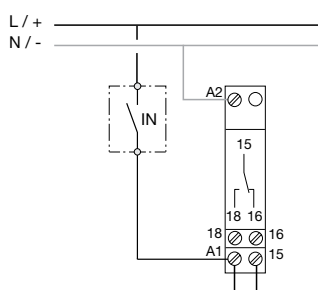


### EZN001 - EZN002 - EZN003 - EZN004 - EZN005 - EZN006 Electrical characteristics

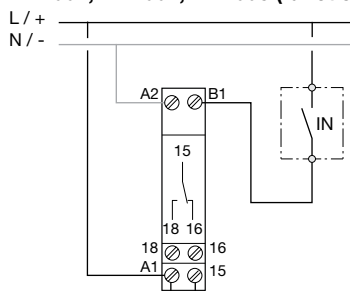
Supply voltage AC	12 - 230 V AC ( $\pm 10\%$ ), 50/60Hz
Supply voltage DC	12 - 48 V DC ( $\pm 10\%$ )
Output	1 volt free C/O contact
Max load AC1	8A / 230V~ 50,000 cycles
Incandescent	450W~ 50,000 cycles
Fluorescent non comp.	600W~ 50,000 cycles
Inductive load 0.6pf	5A~ 100,000 cycles
Min power AC	100mA at 230 V
Min power DC	100mA at 12 V
Galvanic isolation	2kV
Standard / norm	EN60669-2-1
Timer range	0.1 seconds to 10 hours
Min. command period AC	50ms
Min. command period DC	30ms
Working temperature	-10°C to +50°C
Storage temperature	-40°C to +50°C
Connection capacity - flexible	1 - 6mm <sup>2</sup>
Connection capacity - rigid	1.5 - 100mm <sup>2</sup>

### Wiring diagrams

#### EZN001, EZN003, EZN005, EZN006 (functions D,E,F)



#### EZN002, EZN004, EZN006 (functions A,B,C)



### Time lag switches

A common area where time delay devices are used is stairways and corridors in multi occupancy buildings where they provide a level of energy efficiency. The EMN001 device provides basic time lag control.

#### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50/60Hz
<b>Consumption</b>	1VA
<b>Size</b>	1 module
<b>Output</b>	16A - 230V AC1
<b>Lighting</b>	
Incandescent lighting	2300W
Halogen lighting 230V	2300W
Ferro-magnetic transformer	1600W
Parallel compensated	Capacitor 112F
Fluoro lamps	1000W
Series compensated	3600W
Electronic transformer	2300W
Compact fluoro lamps with electronic ballast	60 x 7W or 40 x 11w or 32 x 15W or 20 x 23W
with conventional ballast	2300W

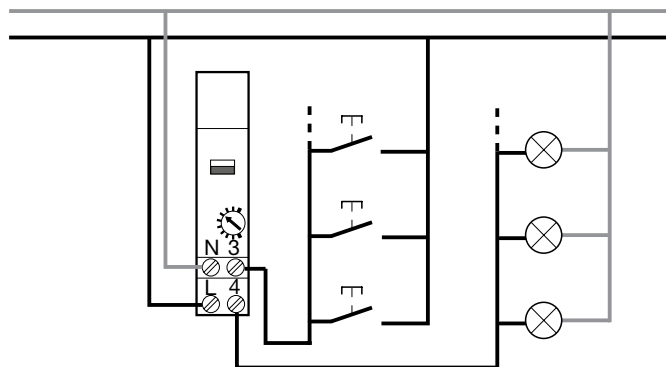
#### Functional characteristics

<b>Time delay</b>	30s to 10min
<b>Retrigger</b>	Yes
<b>Maximum current in rest position</b>	100mA
<b>Automatic 3/4 recognition</b>	Yes
<b>Local command</b>	Automatic / override On

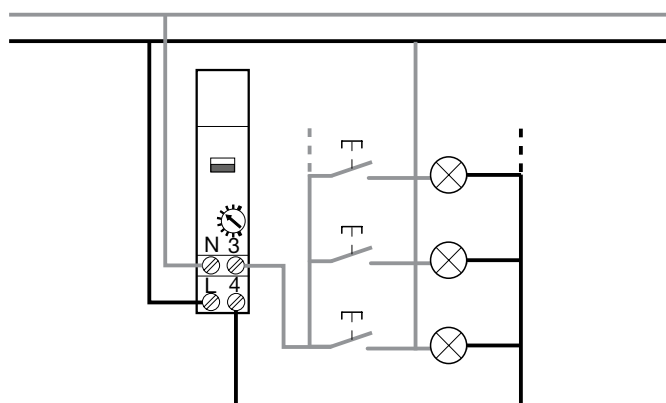
#### Environment

<b>Working temperature</b>	-10°C to +55°C
<b>Storage temperature</b>	-20°C to +60°C
<b>Cable capacity</b>	
Flexible	1 to 6mm <sup>2</sup>
Rigid	1.5 to 10mm <sup>2</sup>

### Wiring diagrams 4 wire

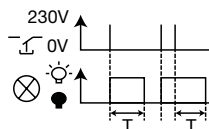


### 3 wire



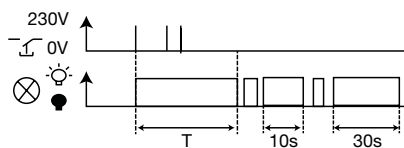
#### A: Basic mode

Press push button to switch ON the light. After a set time (Adjustable "T", the light will switch OFF automatically.



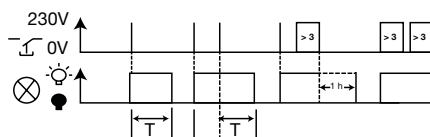
#### B: Prewarning mode

A signal (blink) will appear before the end of the lighting period.



#### C: Double delay mode

Press push button to switch light ON. After a set time (Adjustable "T", the light will switch OFF automatically. If you press the button for more than 3 seconds, a time lag of one hour begins.



Supply voltage	230V AC 50Hz
Consumption	3W
Dissipation	15W

<b>Incandescent lighting</b>	1000W
<b>Halogen lighting 230V</b>	1000W
<b>Lamps with ELV Halogen via ferro-magnetic transformer</b>	1000VA

Lamps with ELV halogen via electronic transformer	1000VA
--	--------

<b>Input 1/10V</b>	1.5mA
<b>1/10V control</b>	1 input
<b>1/10V control status</b>	slave
<b>Max. PB - dimmers distance for 1-10V control</b>	50m
<b>Dim PB and ON/OFF module</b>	Yes
<b>Min. and max. dim lighting setting</b>	Yes
<b>IP Rating</b>	IP20
<b>Potentiometer</b>	100k $\Omega$ , 200mW logarithm

<b>Working temperature</b>		-10°C to +45°C
<b>Storage temperature</b>		-20°C to +60°C
<b>Cable capacity</b>	<b>Flexible</b>	1 to 6mm <sup>2</sup>
	<b>Rigid</b>	1.5 to 10mm <sup>2</sup>

Diagram illustrating the wiring and components of the EV100 dimmer switch:

- 1** Lighting level switch on/off/adjustment
- 2** Overheating
- 3** Presence of voltage (230 V)  
Load failure
- 4** Dimming range adjustment potentiometers
- 5**  $< 5 \text{ mA}$
- 6** Mode switch (local/slave)

Terminal connections: 1, 3, 5 (top); 2, 4, 6 (bottom). Input: L, N. Output: 1/10 V.

#### Light sensitive switches

Using light sensitive switches can prevent the unnecessary use of lighting circuits where sufficient daylight exists. The benefit of modular devices is the facility to set the ambient lighting level at which the device will operate, and as the device is fitted at the distribution point prevent unauthorised tampering. The remote photocell unit can be mounted up to a distance of 50 metres from the device. Two devices are available the standard EEN100 light sensitive switch and an enhanced programmable version the EE110 that also allows time clock control.

#### Principle of operation

Both devices control lighting systems according to natural illumination;

- The user sets the working level
- The photo cell measures the external light level

The output of the EEN100 is:

- ON, when the measured level is lower than the pre-set light level
- OFF, when the measured level is higher than the pre-set light level

The output of the EE110 during the programmed ON time period is:

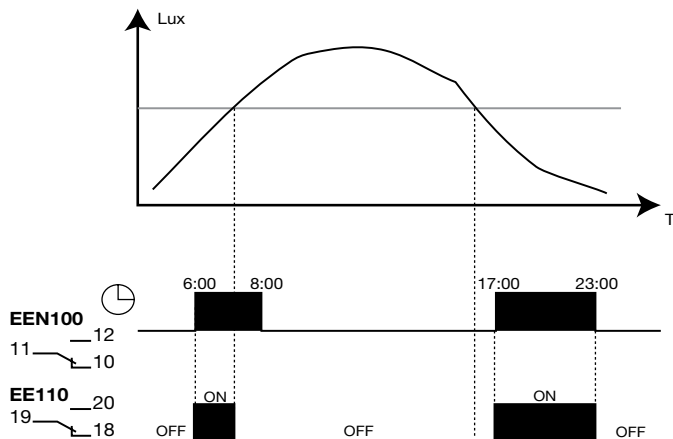
- ON, when the measured level is lower than the pre-set light level
- OFF, when the measured level is higher than the pre-set light level

The output of the EE110 during the programmed off time period is:

- OFF, regardless of the lighting level

#### Built in time delay

The light sensitive switches include a built in time delay which avoids unnecessary switching due to temporary factors such as car headlight beams etc...



#### Adjustment of the Working Level

The test position of the override selector 1 makes setting the preset level easier by removing the ON and OFF delay.

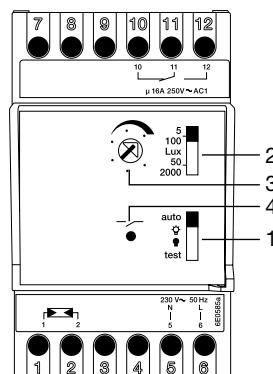
Select the sensitivity range which suits your application (selector 1)

5 to 100 lux (low light level) application examples;  
public lighting, shop windows, signals...

50 to 2000 lux (high light level) application examples;  
controls of shades

At the appropriate moment of the day, put the selector 1 in test position; turn the potentiometer 2 up to the switching point (the indicator 4 lights); put the selector back to position 'auto' the normal operating mode of the device.

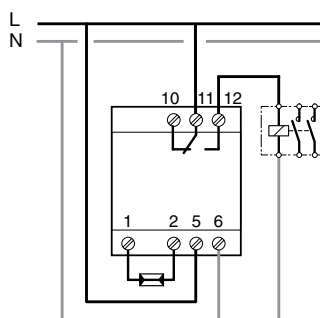
#### Description - EEN100



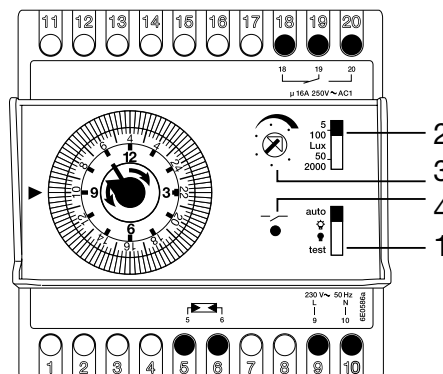
The programmable light sensitive switch EEN100 has one main function:

- Light sensitive switch comprising:
  - 1 Override selector switch to allow permanent ON or OFF, auto or test mode
  - 2 Lighting range selector
  - 3 Potentiometer to set light level
  - 4 Indicator to show output switching status

#### Wiring diagram - EEN100



#### Description - EE110

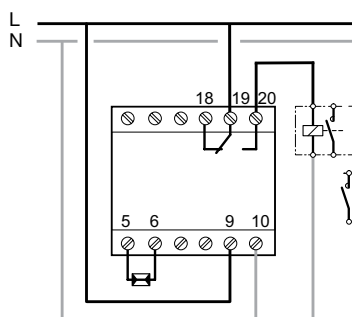


The programmable light sensitive switch EE110 has two main functions:

- Light sensitive switch comprising
  - 1 Override selector switch to allow permanent ON or OFF, auto or test mode
  - 2 Lighting range selector
  - 3 Potentiometer to set light level
  - 4 Indicator to show output switching status

- A switching dial programmer to establish the automatic operating cycle

#### Wiring diagram - EE110



### Mounting the cell

To ensure correct operation of the light sensitive switch, the cell must not be influenced by artificial light or direct solar radiation and should be sheltered from dust and humidity. In case of disconnection of the link between the cell and the light sensitive switch, the output of the device will be switched on. Make sure the light sensitive switch is unplugged before connecting the cell.

### Electrical characteristics

<b>Supply voltage</b>	230V~ +10%/-15% 50Hz
<b>Consumption</b>	1.5VA max.
<b>Output</b>	1 voltage free changeover contact
<b>Breaking capacity</b>	16A 250V AC1

### Lighting

<b>Incandescent lighting</b>	2000W
<b>Halogen lighting 230V</b>	1000W
<b>Uncompensated fluoro lamp</b>	1000W
<b>Compensated fluoro lamp in series (10µF)</b>	1000W
<b>Parallel fluoro lamps (15µF)</b>	200W
<b>Compensated duo fluoro lamps in series</b>	1000W

### Functional characteristics

<b>2 sensitivity ranges</b>	5 to 100 lux and 50 to 2000 lux
<b>Cycle</b>	Daily*
<b>Program setting</b>	15min increments*
<b>Accuracy</b>	±6min per year*
<b>Operating reserve</b>	200h after being connected for 120h*
<b>ON and OFF delay</b>	15 to 60s
<b>Protection class (cell)</b>	IP54
<b>Insulation class (cell)</b>	II

### Environment

<b>Working temperature</b>	<b>Cell</b>	-30°C to +60°C
	<b>Modular device</b>	-10°C to +50°C
<b>Storage temperature</b>		-20°C to +60°C
<b>Cable capacity</b>	<b>Cell</b>	0.75 to 2.5mm <sup>2</sup>
	<b>Modular device</b>	0.5 to 4mm <sup>2</sup>
<b>Max. length between cell and modular device</b>		50m
<b>Mounting of the cell with 2 screws</b>		2.5mm Ø

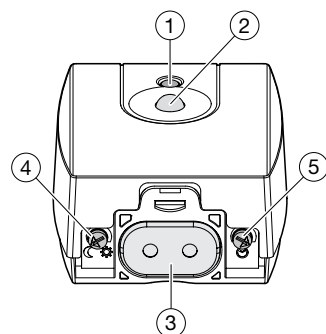
\*EE110 only



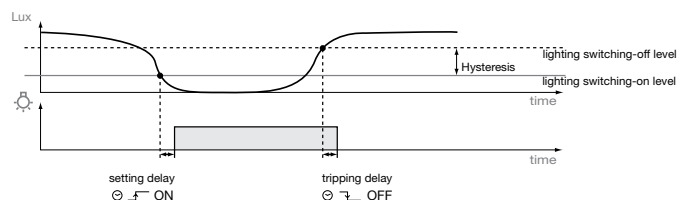
#### Compact light sensitive switch

The compact light-sensitive switch EE702 measures the natural light level and switches the lighting system according to the light-switching level and the programmed setting and tripping delay. Intended for applications such as street lighting, illumination signs, outside building access, windows... Mounting arrangements include fixing on wall, on round box or on pole using provided accessory and standard clamp.

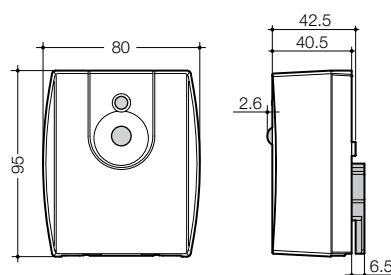
#### Product description



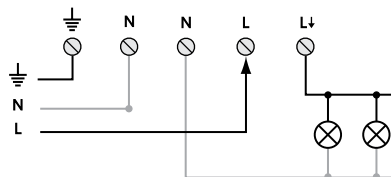
1. Indicator light
2. Brightness level sensor
3. Cable input & output
4. Potentiometer for adjustment of lighting level (2 to 1000lux)
5. Potentiometer for adjustment of setting and tripping delay (1 to 120sec)



#### Dimensions



#### Wiring diagram



#### Electrical characteristics

Supply voltage	230V~ +10%/-15% 50Hz
Cut phase output	Relay 16A AC1 2300W incandescent

#### Lighting

Incandescent lighting	2300W
Halogen ELV via ferromagnetic or electronic transformer	1500W
Uncompensated fluoro lamp	2 x 20W
Compact fluorescents	2000W
Electronic ballast	16 x 58W

#### Functional characteristics

Lighting switching-on level	Setting by potentiometer from 2 to 1 000 lux hysteresis 10%
Setting and tripping delay	Setting by potentiometer from 1 to 120 seconds
Class of isolation	II
IK	IK03
Protection index	IP55
Mounting	Surface, on round box or pole

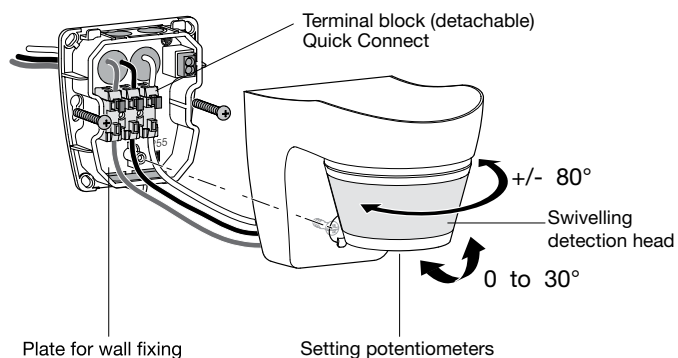
#### Environment

Working temperature	-25°C to +45°C
Storage temperature	-30°C to +60°C
Cable capacity	1 to 4mm <sup>2</sup>

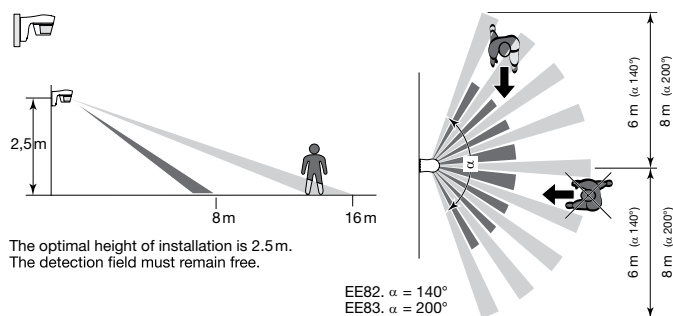
Electrical characteristics	Basic motion detector 140° White	Basic motion detector 360° White	Enhanced motion detector 220° White and Charcoal Grey	Enhanced motion detector 220/360° White and Charcoal Grey
	EE820	EE840	EE860/EE861	EE870/EE871
Supply voltage	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz	230V~ 50Hz
Detection (Length)	16m	12m	16m	16m
Detection (Width)	12m	12m	16m	16m
Detection angle	140°	360°	220°	220/360°
Standby consumption	1.2W	1.2W	1.2W	1.2W
Duration of lighting output operation (S1)	5sec to 15min	5sec to 15min	5sec to 30min	5sec to 30min
Luminosity threshold	5 to 1000lux	5 to 1000lux	5 to 1000lux	5 to 1000lux
Recommended installation height	2.5m (2m-4m)	2.5m (2m-4m)	2.5m (2m-4m)	2.5m (2m-4m)
Ceiling mounting	EE827	EE827	White = EE827 Charcoal Grey = EE828	White = EE827 Charcoal Grey = EE828
Wall mounting	Direct	Direct	Direct	Direct
Corner mounting (inside/outside corner)	EE825	EE825	White = EE825 Charcoal Grey = EE826	White = EE825 Charcoal Grey = EE826
Operating temperature	20°C to +55°C	20°C to +55°C	20°C to +55°C	20°C to +55°C
Storage temperature	20°C to +60°C	20°C to +60°C	20°C to +60°C	20°C to +60°C
Insulation class	II	II	II	II
Protection rating	IP55	IP55	IP55	IP55
Standards	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1	EN 60669-1 EN 60669-2-1
Pollution degree	2	2	2	2
Connection flexible	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>
Connection rigid	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>	Max 1.5mm <sup>2</sup>
Switching channel	1	1	1	1
Lighting loads 230V~ AC1	10A	10A	10A	10A
Switching capacity (incandescent)	1500W	2300W	2300W	2300W
Halogen ELV (12 or 24V) via ferromagnetic or electronic transformer	1500VA	1500VA	1500VA	1500VA
Compact fluorescent	10 x 20W	20 x 20W	20 x 20W	20 x 20W
LED		20 x 20W	20 x 20W	20 x 20W
Parallel compensated Fluorescent tubes	290W/C=32µf	400W/C=45µf	400W/C=45µf	400W/C=45µf
Electronic ballast	580W	580W	580W	580W
Remote programming	N/A	N/A	EE806	EE806
Adjustable shutters	Yes	No	Yes	Yes
Dimensions (L x W x H)	127 x 83 x 97mm	127 x 83 x 97mm	127 x 83 x 97mm	127 x 83 x 97mm

### EE820

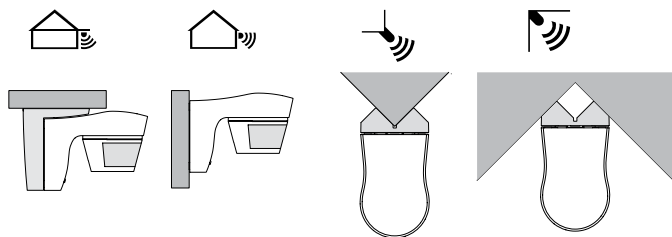
#### Description



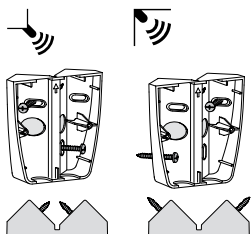
#### Detection area



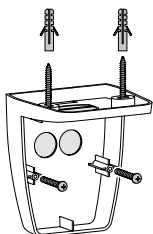
#### Installation



#### Corner mount

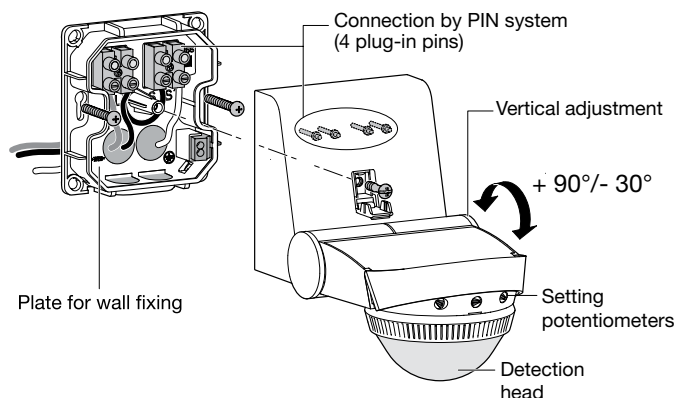


#### Ceiling

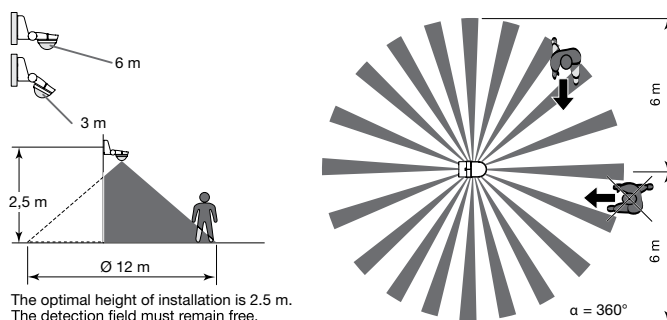


### EE840

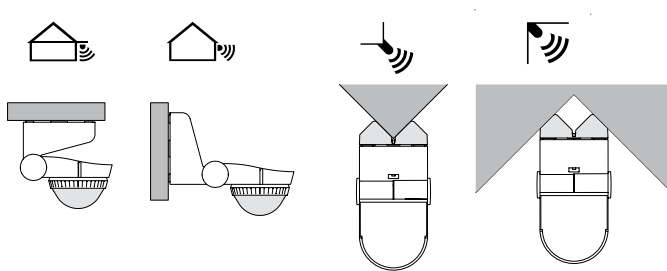
#### Description



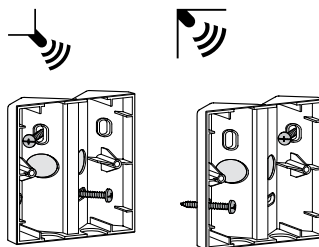
#### Detection area



#### Installation

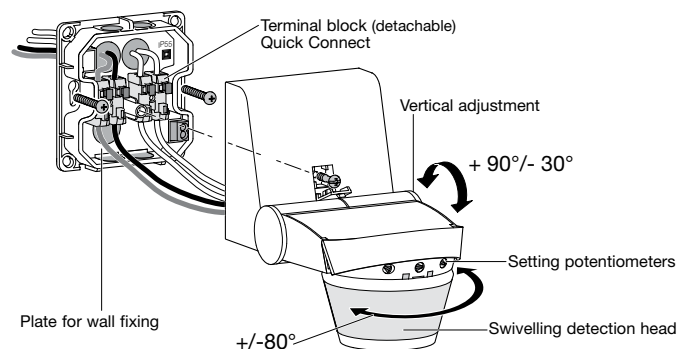


#### Corner mount

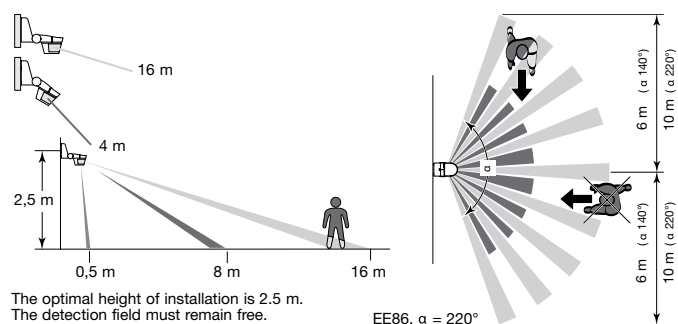


### EE860/EE861

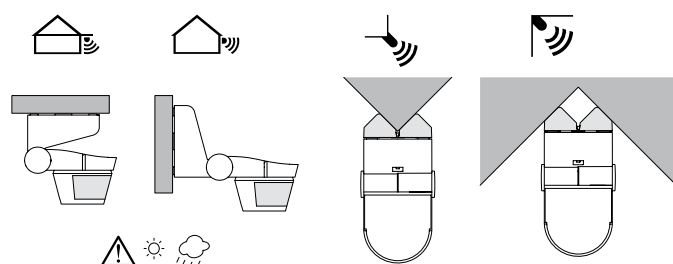
#### Description



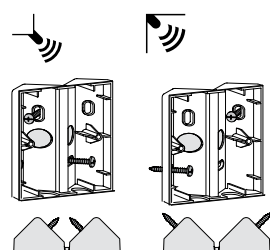
#### Detection area



#### Installation

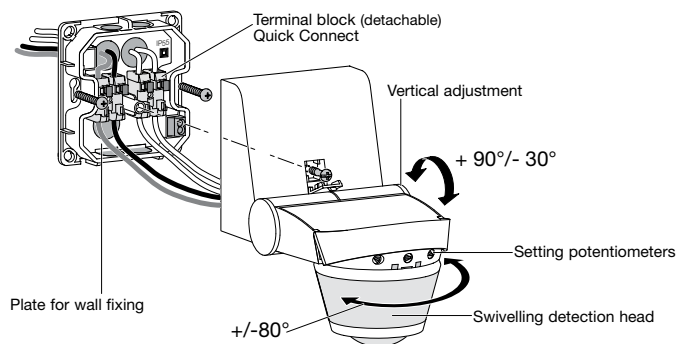


#### Corner mount

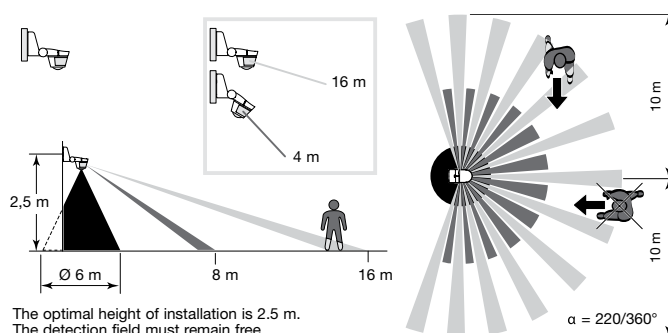


### EE870/EE871

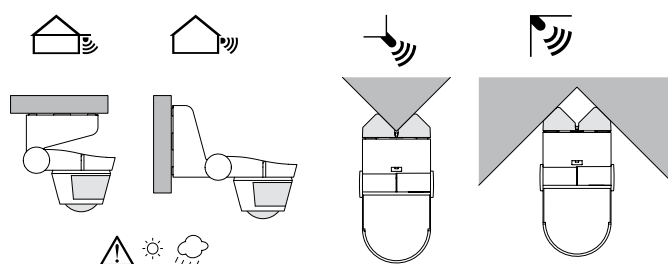
#### Description



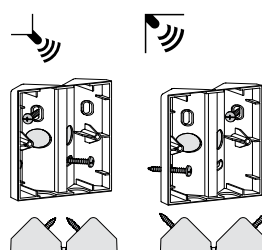
#### Detection area



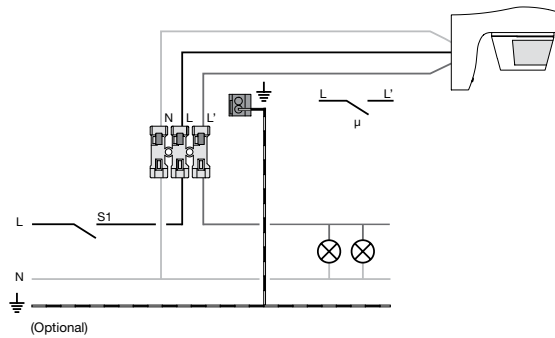
#### Installation





#### Corner mount

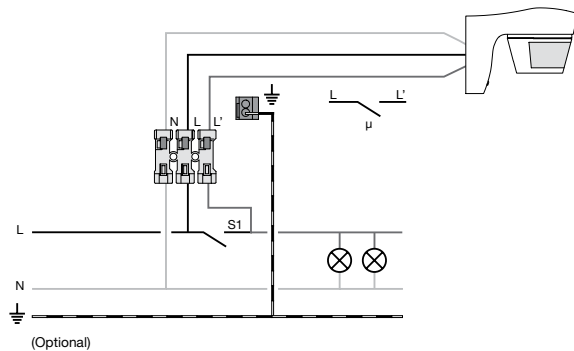



### Auto/Off connection




S1  = Off  
 = Automatic Mode

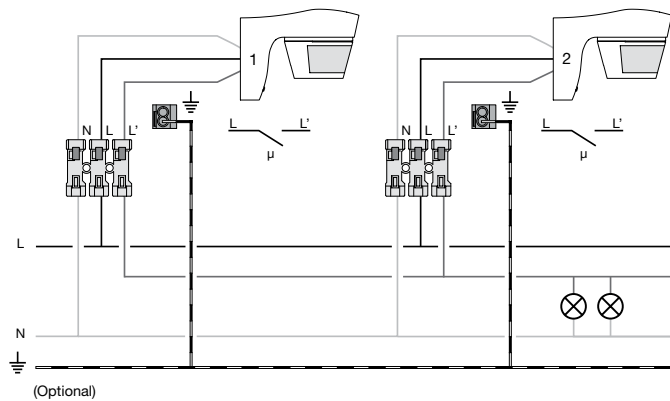
### Auto/On connection



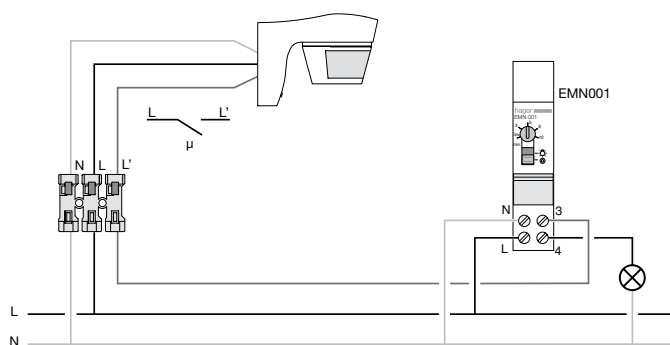
S1  = Automatic Mode

 = permanent On

### Parallel connection

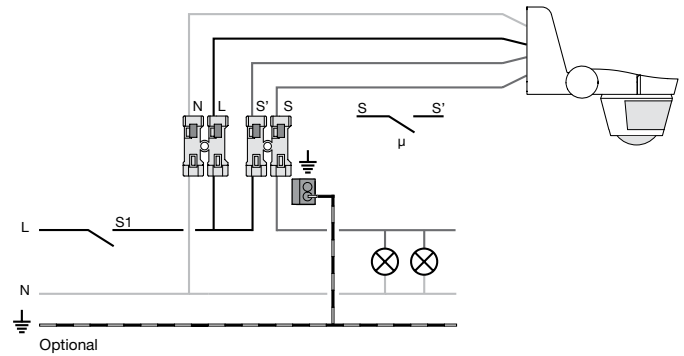



### Connection with Timer



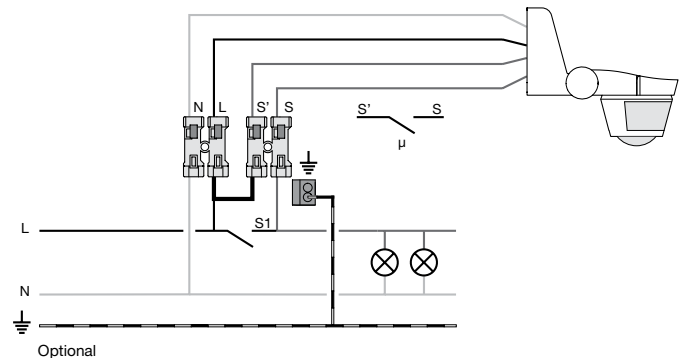
EE840/EE860/EE861/EE870/EE871




### Auto/Off connection



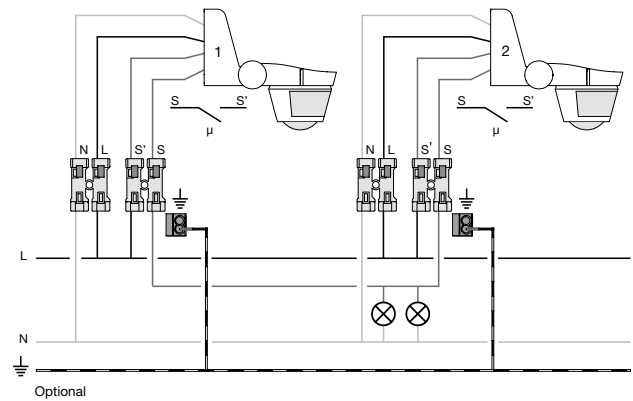
S1  = On  
 = Automatic Mode

### Auto/On connection

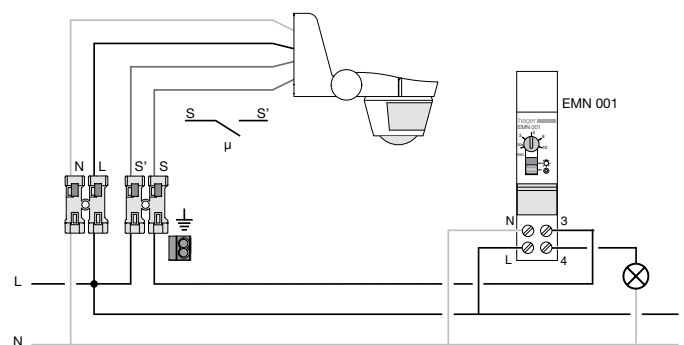


S1  = Automatic Mode  
 = Permanent On  
 : Strap Ref. AWG16 (1.5mm<sup>2</sup>, 50mm min.)

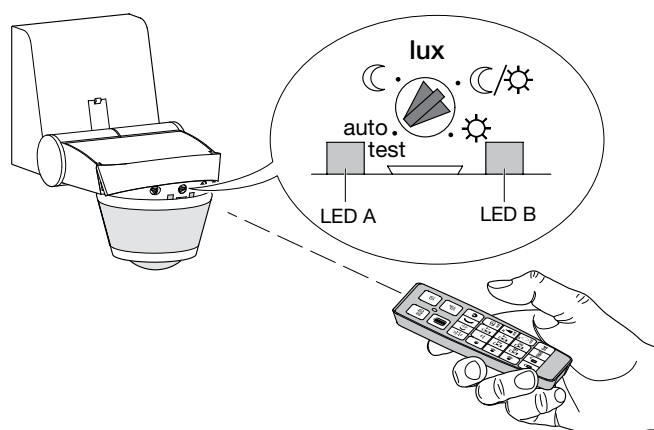
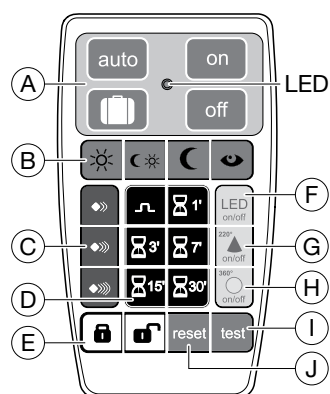
### Parallel connection



### Connection with Timer



### Description EE806



### Use

The remote control allows you to set or modify settings on the comfort movement detectors, ref. EE860, EE861, EE870, EE871. Every button corresponds to a command. The LED flashes every time a button is pressed. The 4 buttons at the top can be accessed even when the remote control is locked. To lock/unlock the remote control and the settings, just press **I** and **J** for 1 sec.

### Key

- A** User commands: mode Auto, holidays (simulation of presence) presetting ON, presetting OFF
- B** Setting Lux (day, twilight, night, ambient lighting learning)
- C** Sensitivity settings
- D** Fixed time settings
- E** To lock/unlock the settings of the detector
- F** ON/OFF of the LED A (detection) of the detector
- G** ON/OFF of the 220° detection of the EE87x detectors
- H** ON/OFF of the 360° detection of the EE87x detectors
- I** Test
- J** Reset, return to manufacturer's settings

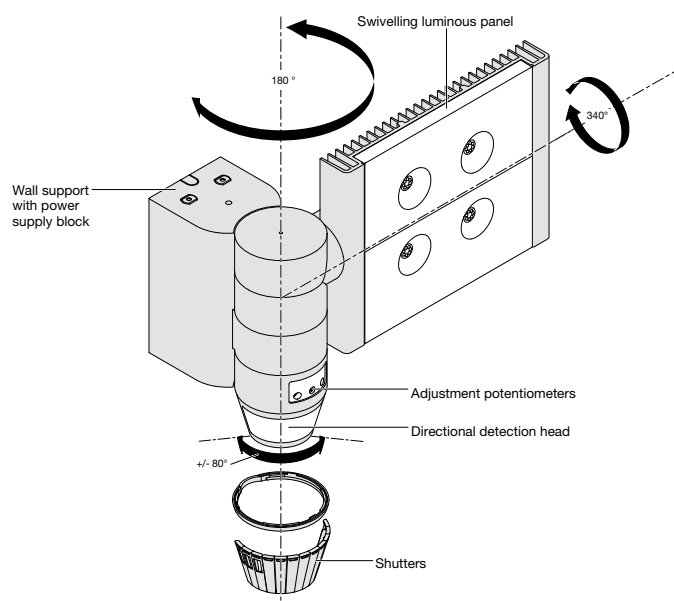
### Technical specifications

- Power supply : 1x 3V CR2032
- Shelf life of battery : 5 years
- Protection index : IP 30

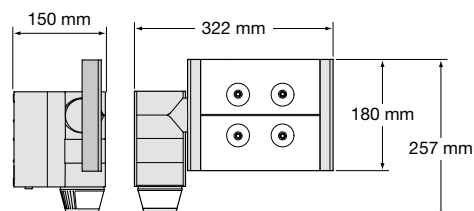
Electrical characteristics	EE600	EE610
Type	LED floodlight	LED lamp
Power	Around 60W (300W luminous energy)	Around 15W (75W luminous energy)
Colour of light	5700 Kelvin	4000 Kelvin
Luminous flux	3400 lumen	1100 lumen
Power supply	230V~ +10/-15% 50/60Hz 240V~ +/-6% 50/60Hz	230V AC 50/60Hz
Compulsory protection	10A gG/gI fuse or 16A C curve circuit breaker	10A gG/gI fuse or 16A C curve circuit breaker
Insulation class	II	II
Recommended cable	U1000R02V3G1.5	U1000R02V3G1.5
Connection using screw free terminals	1 to 1.5mm <sup>2</sup>	1.5 to 2.5mm <sup>2</sup>
Protection class	IP55	IP55
Working temperature	-20°C to +45°C	-25°C to +50°C
Storage temperature	-20°C to +60°C	-30°C to +70°C
Detection angle	220/360°	140°
Forward detection distance	12m	6m (by default) 12m maximum (with remote control)
Twilight threshold setting	5 to 1000lux	5 to 1000lux
Operating duration setting	5sec to 15min	5sec to 15min
Accessories	Adjustable shutters supplied	Mounting screws and wall plugs

### EE600

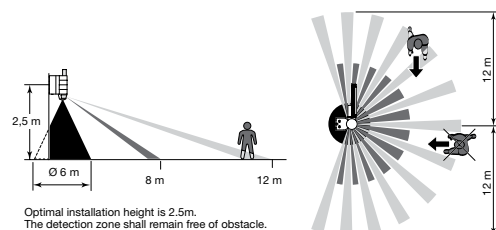
#### Description



#### Dimensions

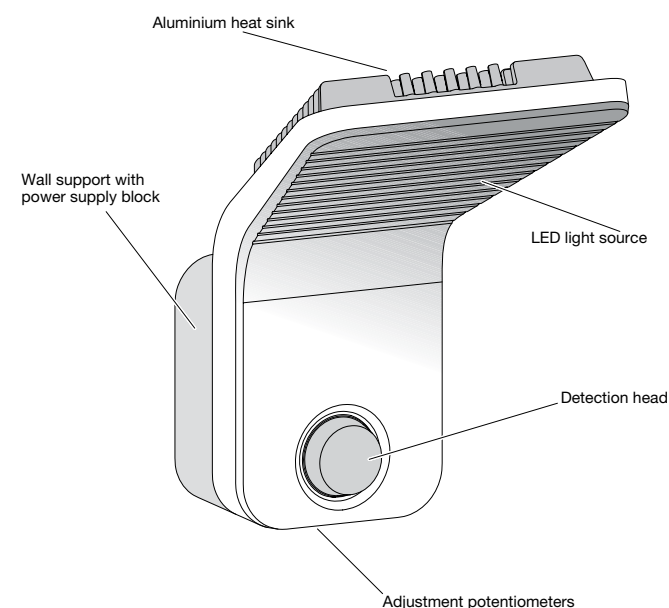


#### Detection area

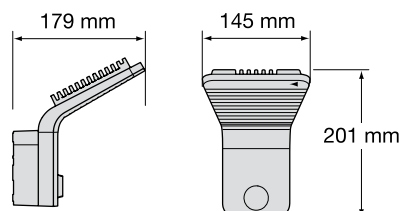


### EE610

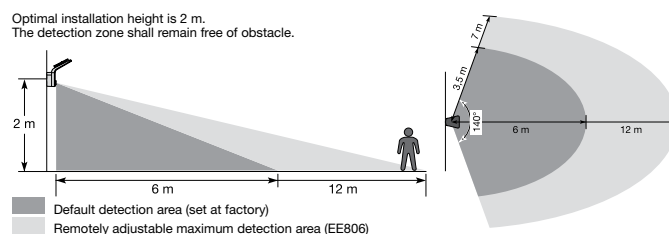
#### Description



#### Dimensions



#### Detection area



### Product description and working principle

Detectors EE804 and EE805 are 360° movement detectors with a built-in light-sensitive switch function. They are particularly intended for use in interior traffic areas such as corridors, entrance halls etc. These devices detect infrared radiation associated with heat emitted by moving bodies. Detection is by a pyro-electric sensor located under lens **3**.

### Lighting output control

On power-on, the detector switches its circuit on for 30 seconds. The lighting output is switched on when the brightness level set by potentiometer **2** is considered too low and a movement is detected. After detection, the light remains on for the time set by potentiometer **1**. The delay is reset after each movement detection occurrence.



### Potentiometers

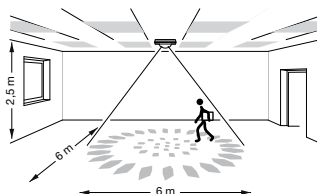
- 1** Operating time setting
- 2** Brightness level setting

### Settings

It is possible to set potentiometers **1** and **2**, the operating time and the brightness level. In order to facilitate set-up by the user, detectors are pre-set with a default setting suitable for standard installation: traffic area, corridor etc.

- Operating time: from 5 seconds to 15 minutes. Potentiometer **1** is pre-set to a default value of approximately 3 min.
- Brightness level: from 5 to 1000 Lux. Potentiometer **2** is pre-set to a default value of approximately 200 Lux.

**NOTE:** These values can be changed using a screwdriver.



### Installation

For optimum detection, it is desirable to follow these recommendations:

- Recommended height of installation: from 2.5 to 3.5m.
- Prevent disturbances from the environment (source of heat, ventilation, houseplant...).
- Provide a minimum distance of about 1m between the detector & its controlled lighting.

### Electrical characteristics

<b>Supply voltage</b>	230V~ 50Hz
<b>Consumption with no load</b>	1.2W

<b>Lighting</b>	<b>8A AC1 230V~</b>
<b>Incandescent lighting</b>	1000W
<b>Halogen ELV via ferromagnetic or electronic transformer</b>	500 VA
<b>Uncompensated fluoro lamp</b>	10 x 20W
<b>Compact fluorescents</b>	1000W
<b>Electronic ballast</b>	8 x 58W

**NOTE:** When using with unspecified loads, it is imperative to relay.

### Functional characteristics

<b>Lighting output operating time</b>	5sec to 15min
<b>Brightness level</b>	5 to 1000lux
<b>Recommended installation height</b>	2.5 to 3.5m
<b>Detection range</b>	3m approximately (installed product height 2.5m)
<b>Fixing accessories</b>	Screws (Ø4mm), pegs, protecting cover / connector block
<b>Products in parallel</b>	Yes

### Environment

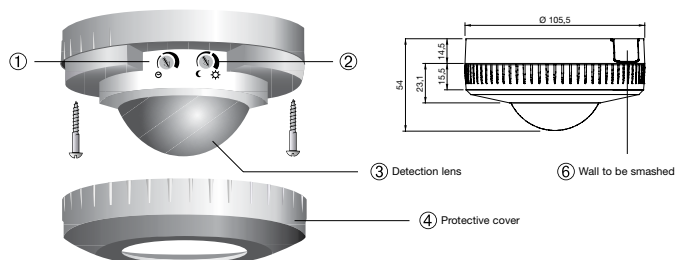
<b>Working temperature</b>	-0°C to +45°C
<b>Storage temperature</b>	-20°C to +60°C
<b>Class of isolation</b>	II
<b>IK</b>	IK03
<b>Protection index</b>	IP55
<b>Fire resistance</b>	750°C
<b>Standards</b>	IEC60669-1, IEC60669-2-1
<b>Cable capacity</b>	1 to 2.5mm <sup>2</sup>

### Troubleshooting

- Unwanted switch-on of lighting point: Check that the detector is not close to a heat source, or under a direct light, above a ventilation grill...
- The range of the detector is too short: Check that detector's installation height and location are optimal.

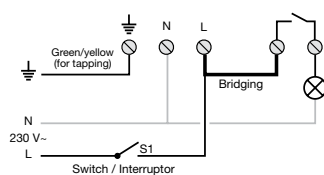
### EE804

#### Description



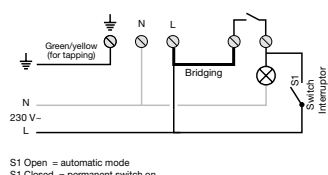
#### Connections

##### Auto/Off



S1 Open = stop  
S1 Closed = automatic mode

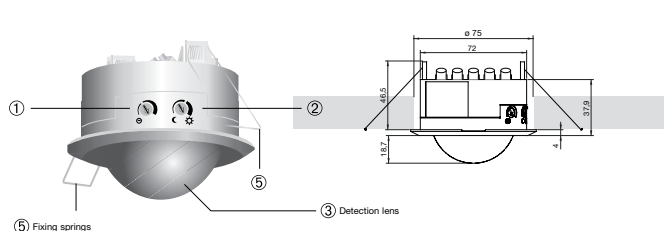
##### Auto/On



S1 Open = automatic mode  
S1 Closed = permanent switch on

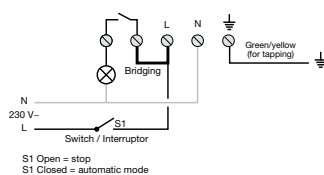
### EE805

#### Description



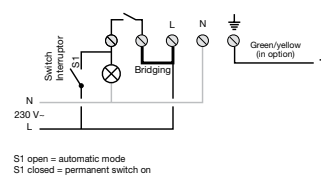
#### Connections

##### Auto/Off



S1 Open = stop  
S1 Closed = automatic mode

##### Auto/On



S1 open = automatic mode  
S1 closed = permanent switch on



#### Electrical characteristics

Power supply		230V~ 50/60Hz
Detection Area	EE880	20m x 4m
	EE883	360°
Standby consumption		1W
Operating duration setting		5sec to 15min
Luminosity threshold setting		2 to 2000lux
Recommended installation height	EE880	3m
	EE883	2.5m
Fixing accessories		2 screws Ø4.5mm and length 50mm
Products in parallel		Yes
Working temperature		-20°C to +50°C
Storage temperature		-35°C to +70°C
Insulation class		II
Protection class		IP54
Standards		EN 60669-2-1
Upstream protection		10A ( $T \leq +35^\circ\text{C}$ ) 6A ( $+35^\circ\text{C} < T < +50^\circ\text{C}$ )
Maximum installation altitude		2000m
Pollution degree		2
Connection		Max 1.5mm <sup>2</sup>

Lighting	$T \leq +35^\circ\text{C}$ 10A AC1 230V~	$+35^\circ\text{C} < T \leq +50^\circ\text{C}$ 6A AC1 230V~
Incandescent lighting	2300W	1300W
Halogen ELV via ferromagnetic or electronic transformer	2300W	1300W
Uncompensated fluoro lamp	1200W	1200W
Fluoro lamps in parallel	1000W / 110µF	1000W / 110µF
Compact fluorescents	20 x 20W	20 x 20W
LED	20 x 20W	20 x 20W
Halogen lamps VLV with Ferromagnetic or electronic ballasts	1500VA	1300VA
Fluoro tubes with ferromagnetic or electronic ballasts	580W	580W

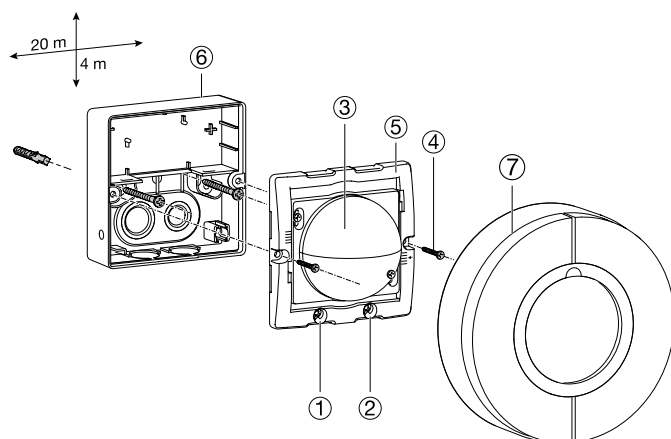
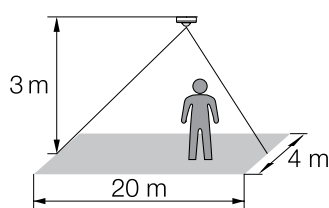
**NOTE:** When using with unspecified loads, it is imperative to relay.

#### EE880

##### Description

The EE880 motion detector is sensitive to infrared radiation emitted as heat from a moving body. The detector switches on the load connected to it when a heat-emitting body moves within its detection area. The load remains lit for the period of time to which the detector has been set and until it no longer detects movement in its surveillance area. This detector has been specially designed to meet the needs of corridors.

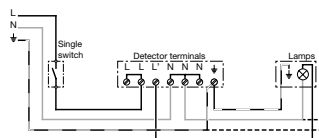
##### Detection area



#### Connections

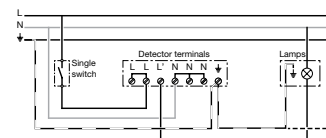
##### Lamp connection without neutral conductor

Auto operation by detection or Forced switch off



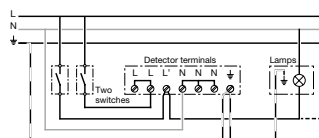
##### Lamp connection with neutral conductor

Auto operation by detection or Forced switch off



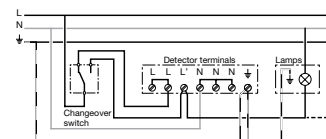
##### Connection using two switches for manual or automatic control (possibility of simultaneous switch off of the lamp AND the detector)

Auto operation by detection or Forced switch-off or Forced switch-on of the lamp



##### Connection using a change over switch to operate either the lamp or the detector

Auto operation by detection or Forced switch-on of the lamp

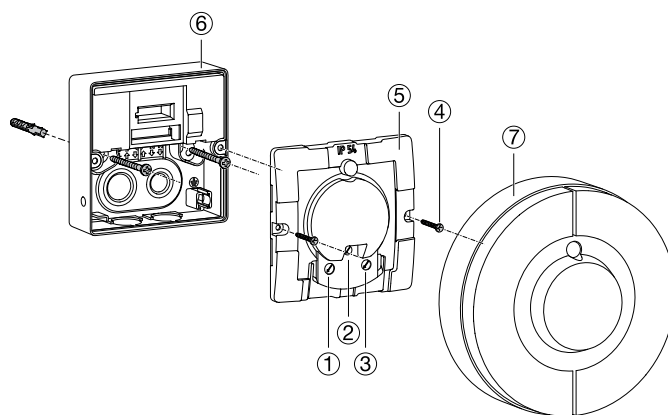
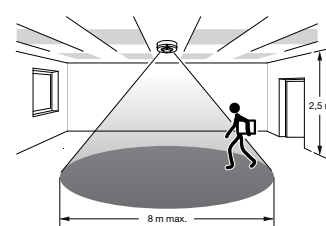


#### EE883

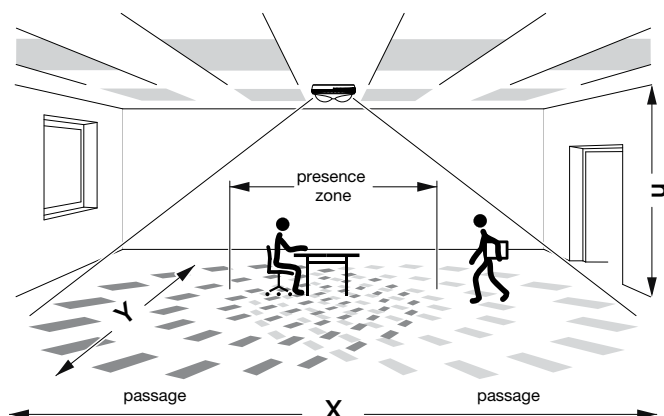
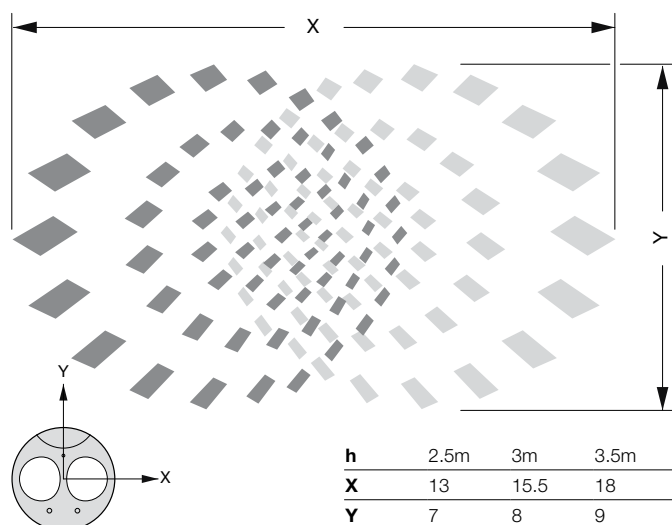
##### Description

The EE883 is a ceiling-mounted motion detector, active over 360°. The detector employs Hyper Frequency technology and reacts to movements regardless of the temperature. It can detect movements through doors, windows and even non-metallic low-thickness partitions.

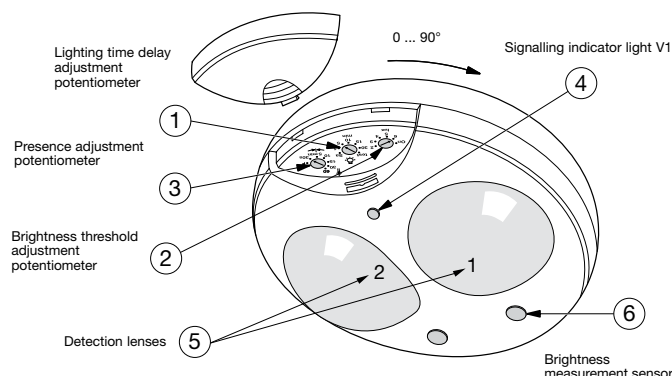
##### Detection area



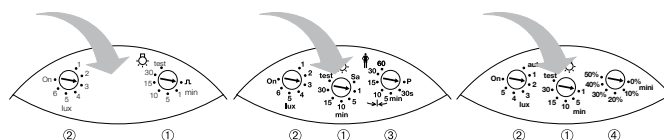
### EE810/EE811/EE812 Detection zones



### Description



### Potentiometer adjustments



- ① off delay
- ② brightness adjustment
- ③ basic light level
- ④ on delay (output 2)

**Mode 1:** Potentiometer greater than 10' = ON delay **15 minutes**  
(Application: set-point adjustment, heating, etc.).  
**Mode 2:** Potentiometer smaller or equal to 10' = ON delay **15 seconds**  
(Application: setting ventilation, lighting indication).

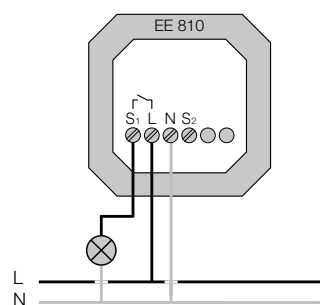
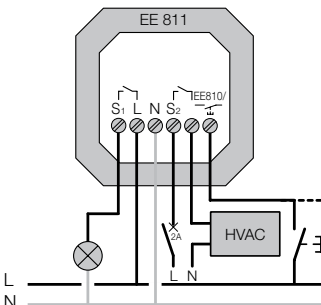
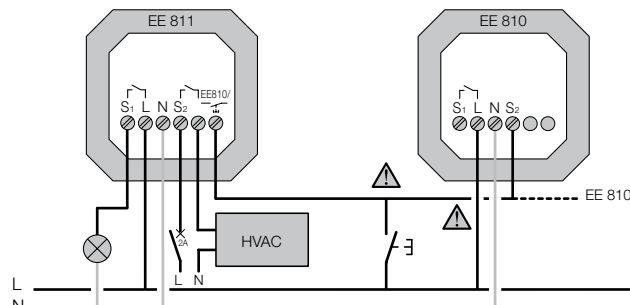
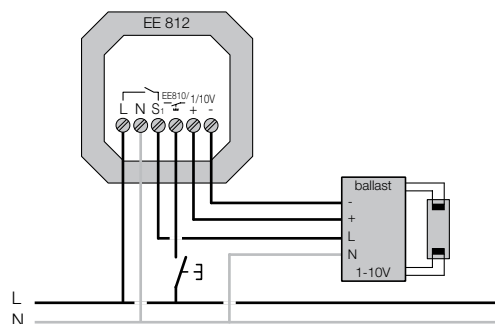
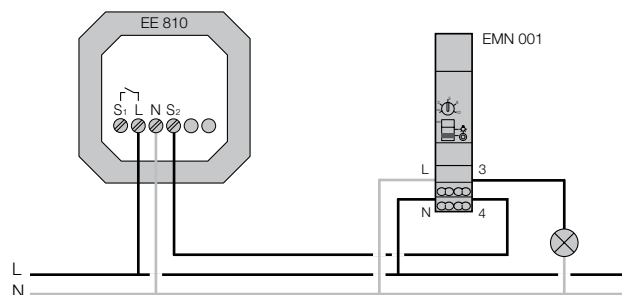
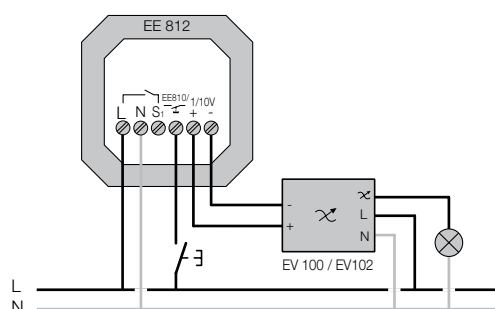
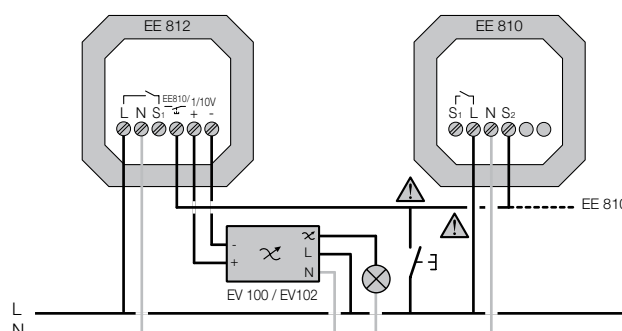
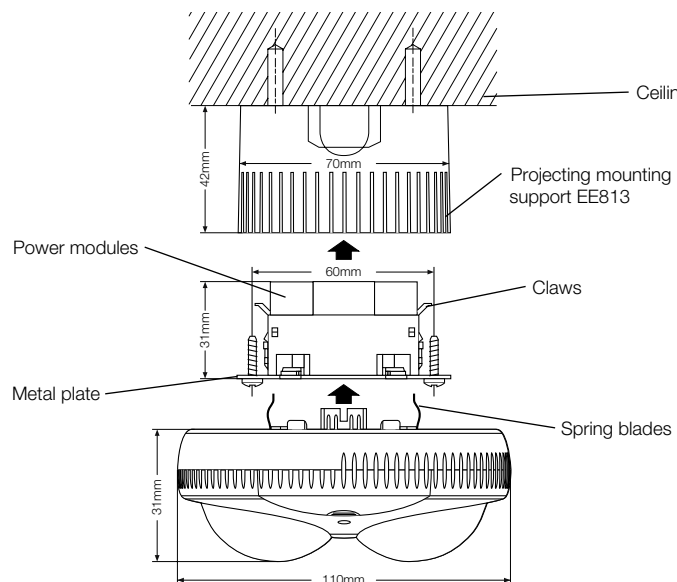
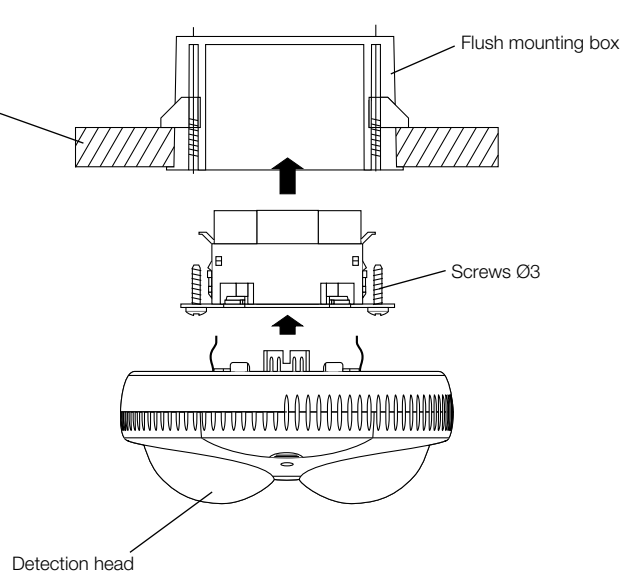
### Technical data

Ref. No.	EE810		EE811		EE812	
Type	1 channel		2 channel		1/10V	
Electrical specifications						
Supply voltage	230V ~ 50Hz		230V ~ 50Hz		230V ~ 50Hz	
Power consumption	1.2W		1.2W		1.2W	
Master/Slave & override input:	-		230V ~ 50Hz		230V ~ 50Hz	
1/10V output	-		-		EE810 / 50mA max.	
Maximum cable length	-		50m		50m	
Electrical connection	1mm² to 4mm²		1mm² to 4mm²		1mm² to 4mm²	
Entering instructions						
Lighting output time delay	1 to 30min		1 to 30min		1 to 30min	
Presence output time delay	-		30s to 60min		-	
Brightness threshold	5 - 1200 lux		5 - 1200 lux		5 - 1200 lux	
Minimum adjustment range	-		-		0% to 50%	
Presence level adjustment	-		-		mini to 100%	
Recomm. height from ground	2.5m to 3.5m		2.5m to 3.5m		2.5m to 3.5m	
Lighting loads	S1 AC1	S2 AC1	S1 AC1	S2 AC1	S1 AC1	1/10V
	16A 230V~	10A 230V~	16A 230V~	2A 230V~	10A 230V~	
Incandescent halogen 230V	2300W	-	2300W	-	-	-
Halogen ELV (12 or 24V) via ferromagnetic or electronic transformer	1500W	-	1500W	-	-	-
Parallel compensated fluorescent tubes	290W/ C = 32µf	-	290W/ C = 32µf	-	-	-
Electronic ballast	580W	-	1000W	-	580W	50mA max.

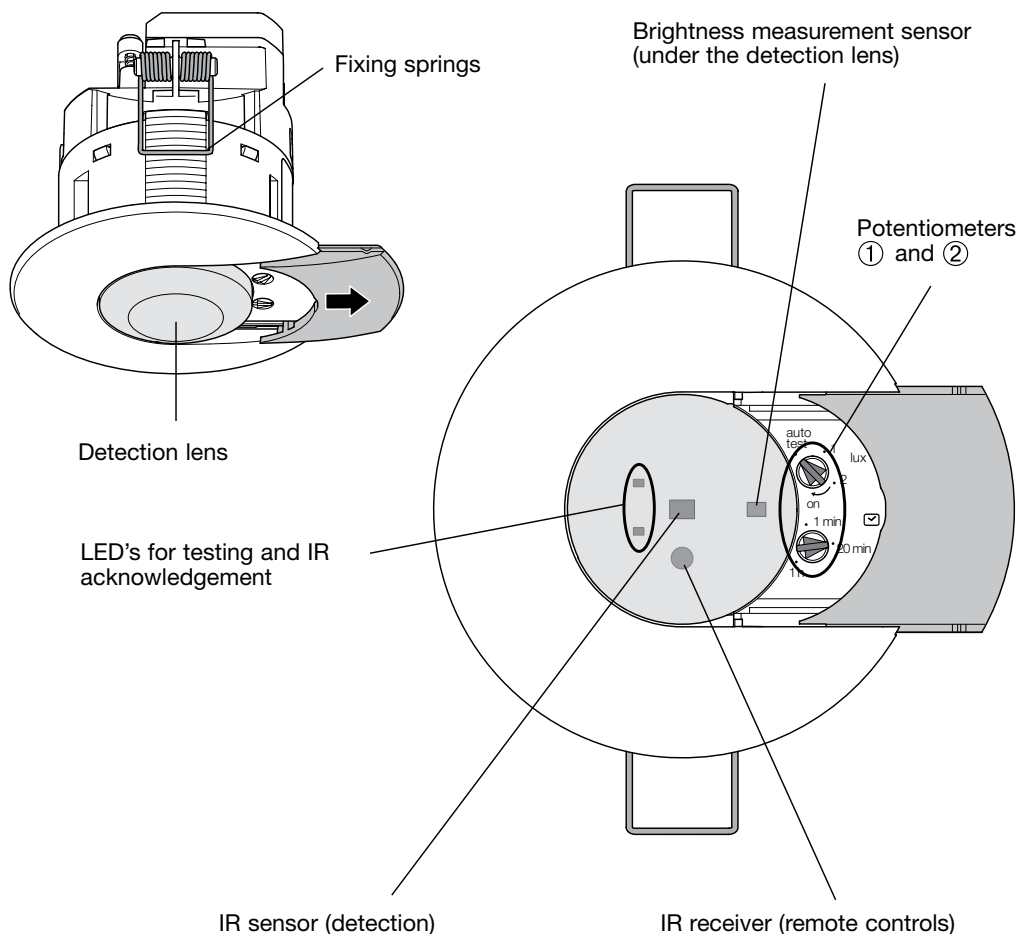
### Test mode:

This mode makes it possible to validate the detection area. To select this mode, set the potentiometer ① to the position "test". Indicator V1 ④ will indicate any detection by lighting for one second if the level of illumination is lower than the preset threshold. The lighting outputs S1 and S2 are not controlled in this mode, the time settings will remain ignored.

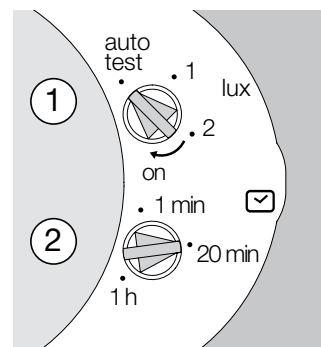
Position of potentiometer	Lux value	Application
Auto	400	Default
1	5	—
2	100	Corridor
3	200	Corridor, WC
4	300	VDU work
5	500	Offices
6	800	Lab, classroom
On	Measurement of brightness inhibited	

**EE810**

**EE811**

**EE811 Master + EE810 Slave**

**EE812 + Ballast**

**EE810 + EMN001**

**EE812 + EV100/EV102**

**EE812 Master + EE810 Slave**

**Projecting mounting**

**Semi-recessed mounting**


## Description EE815/EE816



## Settings



## Instances of lighting levels

Position of potentiometer	Approximate Lux value
Auto test	preset
1	200
1 to 2	200 to 400
2	400
2 to On	400 to 1000
On	1000

\* The light measurement accuracy (Lux) is affected by the environment (furniture, ground...). If necessary, the level has to be adjusted by potentiometer or remote control.

## Remote control for settings

The installer remote control EE807 can be used to set the following features if the potentiometer is set on "auto test" :

- Lux levels (☀️) ( - + )
- Time (⌚)
- Absence/presence detection (🏠)
- Power up behaviour (⚡️)
- Active/passive cell (🔋)



## Override remote control

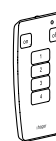
The user remote control EE808 allows operators to:

**EE815 & EE816:**

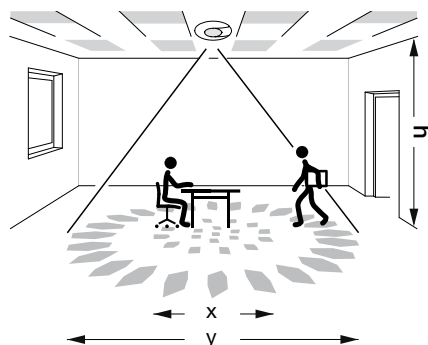
- Switch on/off the light (short press), (ON OFF)

**EE816 only:**

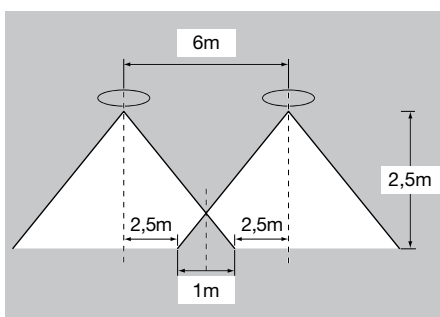
- Dim up/down the light (long press 0.5s.)
- To control scenes **1, 2, 3, 4**  
A short push recalls a luminosity level and a long push (0.5s.) memorizes a new level.



## Detection areas



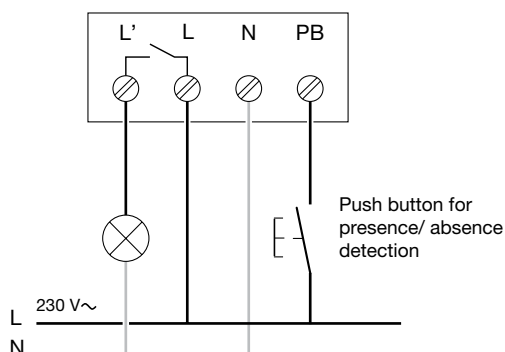
## Overlap



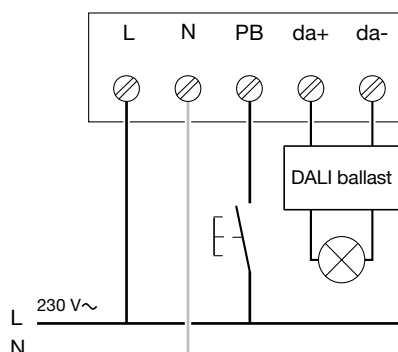
h	2,5m	3m	3,5m
x	5m	5m	5m
y	7m	8m	9m

⚠️ The "y" values are given for lateral range. The range may be reduced if walking towards the sensor.

## Connection EE815

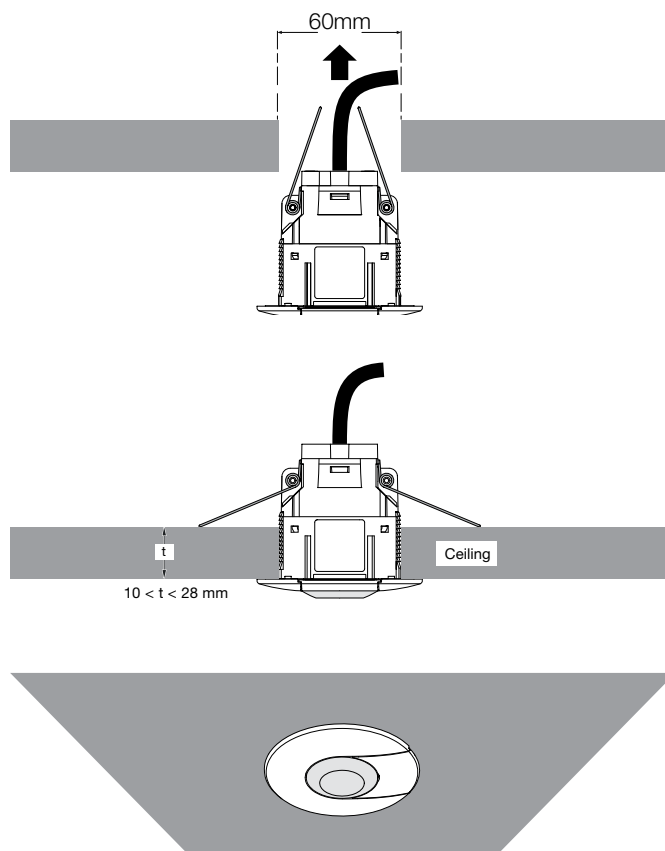
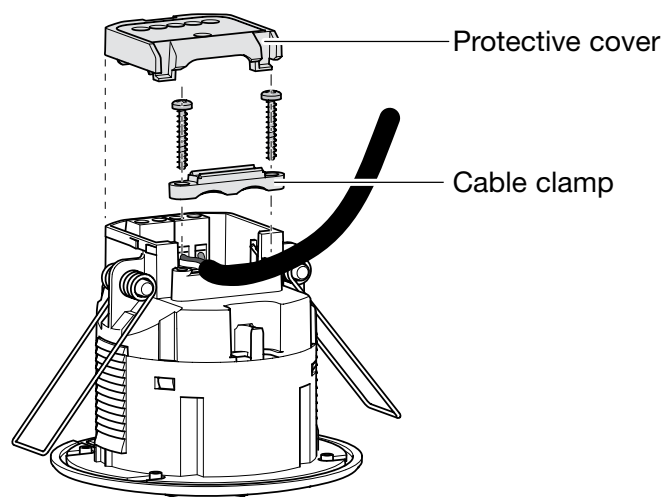


## Connection EE816

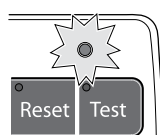
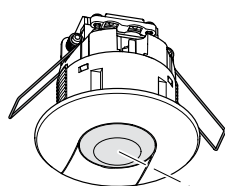
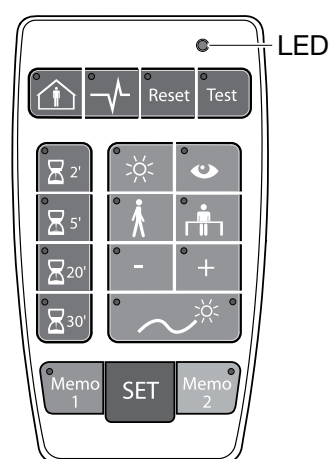


### Technical data

Ref. No.	EE815	EE816
<b>Detection range (Product installed at 2.5m height)</b>	Movement area- Diameter 7m Presence area- Diameter 5m	Movement area- Diameter 7m Presence area- Diameter 5m
<b>Supply voltage</b>	230V AC +10% - 15%	230V AC +10% - 15%
<b>Frequency</b>	50/60Hz	50/60Hz
<b>Local Lux threshold setting</b>	5 - 1000 lux	3 modes available
<b>Local time setting</b>	1min. to 1hr	1min. to 1hr
<b>Commissioning via installer remote control</b>	EE807 for power up, absence/presence mode, timer, active/passive cell.	EE807 for power up, absence/presence mode, timer, active/passive cell.
<b>Control with IR user remote control</b>	EE808 for ON/OFF override	EE808 for ON/OFF override & dimming up/down
<b>Output</b>	16A AC1 relay output	14V / 50mA (for a DALI bus with 24 ballasts)
<b>2300W Incandescent or 230V halogen</b>	> 26000 cycles	No isolation between the mains & the DALI bus!!
<b>1500W VLV halogen lamps with ferromagnetic or electronic transformer</b>	> 35000 cycles	
<b>1000W fluorescent via electronic ballast</b>	> 39000 cycles	
<b>23 x 23W fluoro-compact with electronic ballast</b>	> 20000 cycles	
<b>Push button input</b>	Phase input for absence/presence detection (semi-automatic/automatic mode)	To dim up/down & absence/presence detection (semi-automatic/automatic mode) Same phase as power supply.
<b>Terminals</b>	For 1.5mm <sup>2</sup> rigid/flexible wires	For 1.5mm <sup>2</sup> rigid/flexible wires
<b>Power dissipation</b>	300 mW	60mW
<b>Isolation class</b>	II	II
<b>Protection</b>	IP41/IK03	IP41/IK03
<b>Operating temperature</b>	-10°C to +45°C	-10°C to +45°C
<b>Storage temperature</b>	-20°C to +60°C	-20°C to +60°C
<b>Standards</b>	IEC 60669-1, IEC 60669-2-1, CE C tick	IEC 60669-1, IEC 60669-2-1, CE C tick



### Description EE807



The acknowledgment LED blinks during the sending of the IR message.

### Technical specifications

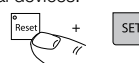
Power supply: 1x 3V CR2032  
Shelf life of battery: 2.5 yrs  
Protection index: IP30

### Use

The remote control allows the user to set or modify settings on the presence detectors EE815, EE816 when the potentiometer is on "auto test". It allows single and multiple settings. The SET key is used to send the IR messages to the occupancy sensors. Multiple settings can be stored in Memo 1 and Memo 2 and recalled to set several devices.

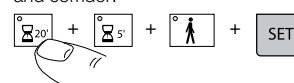
#### Single setting

Example: do a reset.



#### Multiple settings

Define the parameters to be changed and press SET to send. Example: for 25min. & corridor use, press 20', 5' and corridor.

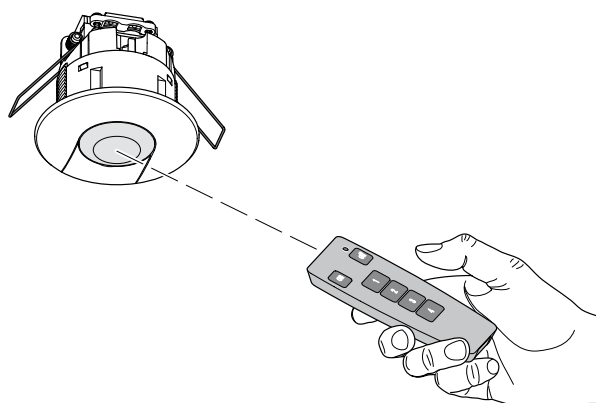
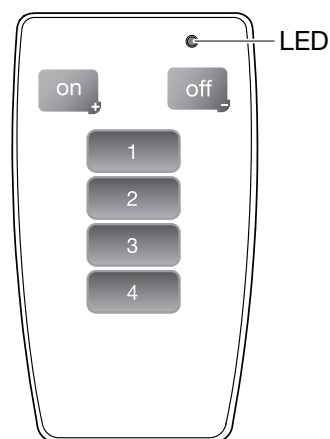


In the case of 2 opposite states the green LED denotes ON and the red LED denotes OFF (except presence/ absence). When no function is selected all LED's are OFF.

### Settings available

Key	Meaning	Indication	Function
	Presence	Green LED on	Presence on (auto mode)
	Absence	Red LED on	Absence on (semi-auto mode)
	Power up	Green LED on	The light is automatically switched ON for 30s after power up.
		Red LED on	During warm up phase, the light output is off
Reset	Reset	LED on	To return to factory settings (Lux = 400, time = 20min., presence on, power up off & cell active)
Test	Test	LED on	To validate the detection area
	Time	LED on	To set the time. It is possible to add times e.g. press 2' & 5', time value is 7'
	Day level 1000 Lux	LED on	To set the value on 1000 Lux
	Learn	LED on	To learn the current Lux level
	Corridor 200 Lux	LED on	To set the value on 200 Lux
	Office 400 Lux	LED on	To set the value on 400 Lux
-	Lux +	LED on	To increase the Lux level (+100)
+	Lux -	LED on	To decrease the Lux level (-100)
	Active cell	Green LED on	The light is continuously measured
	Passive cell	Red LED on	The product doesn't switch the light off even if the ambient luminosity is sufficient
Memo & set keys	Meaning	Indication	Function
Memo 1	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s., then blinks until release press. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
Memo 2	Press	LED is on until a setting is changed	To load/unload Memo 1
	Long press	LED is on for 5s., then blinks until release press. After release, the LED goes off in case of setting change	To save the current setting as Memo 1
SET	Short press	LED flashes	To send an IR message of the current setting

#### Description EE808

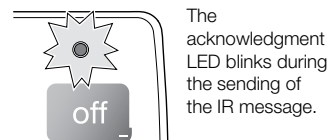


#### Use

The remote control allows the user to set or modify settings on the presence detectors EE815, EE816. Each button corresponds to a command.

#### Technical specifications

Power supply: 1x 3V CR2032  
Shelf life of battery: 3.5 yrs  
Protection index: IP30



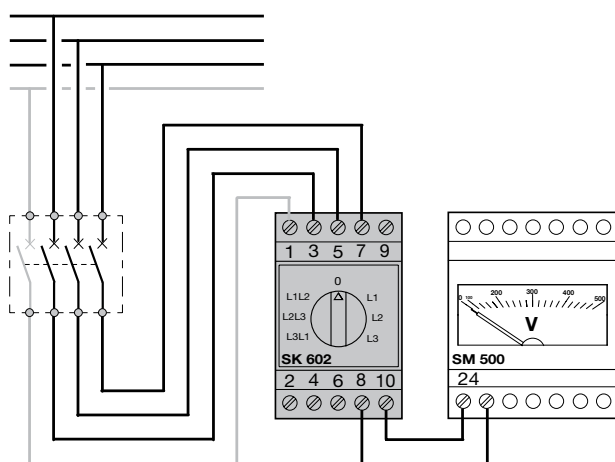
#### Settings available

Key	Action	Function	Product type
	Short press (<0.5s)	On	EE815 ON/OFF presence detectors and EE816 DALI/DSI presence detectors
	Long press (>0.5s)	Dim up	
	Short press	Off	EE816 DALI/DSI presence detectors
	Long press (>0.5s)	Dim down	
	Short press	To start scene 1	Only for EE816 DALI/DSI presence detectors
	Long press (>0.5s)	To learn scene 1	
	Short press	To start scene 2	
	Long press (>0.5s)	To learn scene 2	
	Short press	To start scene 3	
	Long press (>0.5s)	To learn scene 3	
	Short press	To start scene 4	
	Long press (>0.5s)	To learn scene 4	

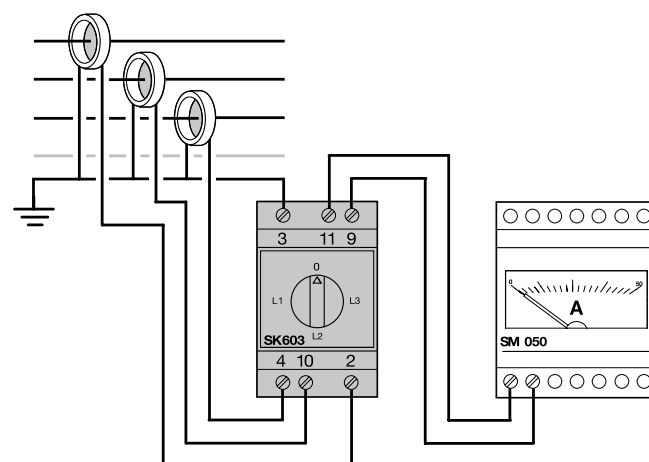
### Electrical characteristics

	SM500	SM050	SM015	SM030	SM050	SM100	SM150	SM250	SM400	SM600
<b>Product</b>	Voltmeter	Ammeter	Ammeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT	Ammeter with CT
<b>Range</b>	500V	0-5A	0-15A	0-30A	0-50A	0-100A	0-150A	0-250A	0-400A	0-600A
<b>Consumption</b>	≤3 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA	≤1.1 VA
<b>Accuracy %</b>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
<b>Ref temp °C</b>	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C	23 ±2°C
<b>Accuracy variation °C</b>	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C
<b>Maximum continuous</b>	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un	1.2Un
<b>Momentary maximum</b>	2Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec	10Un / 5sec
<b>Frequency Hz</b>	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
<b>Isolating voltage</b>	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min
<b>Operating temperature</b>	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C	-25°C to +50°C
<b>Storage temperature</b>	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
<b>IP rating</b>	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
<b>Connection flexible</b>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Connection rigid</b>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>

### Electrical connection (voltmeter)



### Electrical connection (ammeter)

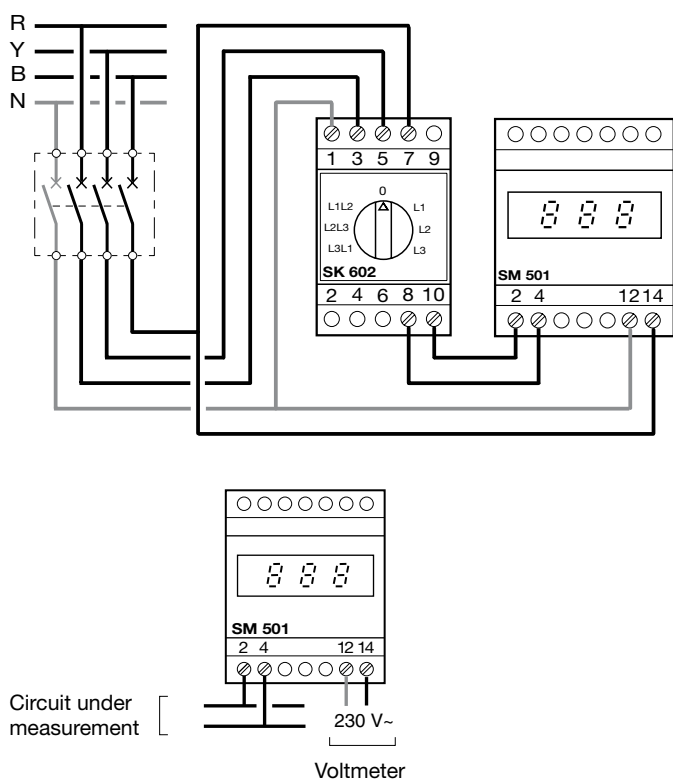




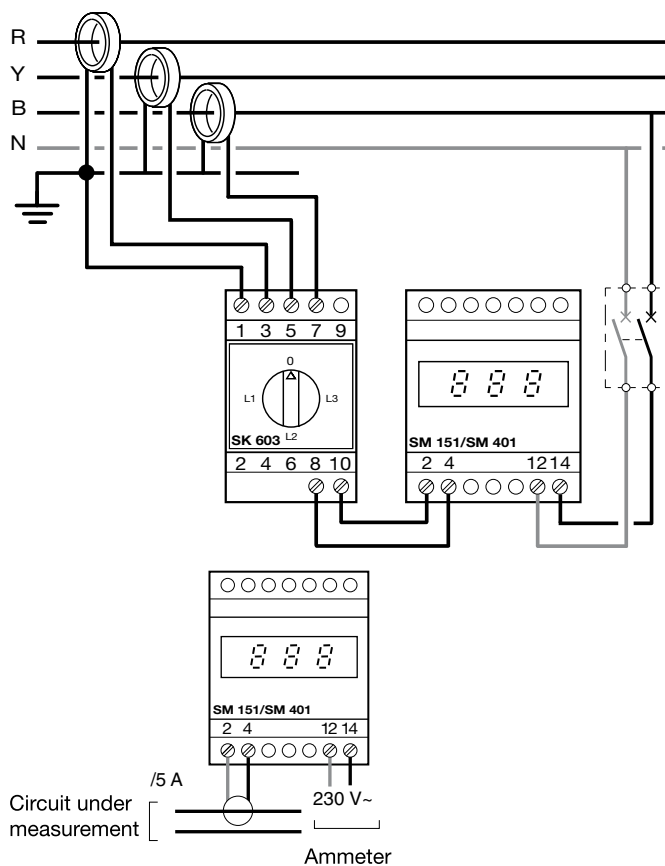
### Electrical characteristics

	SM501	SM020	SM151	SM401	SM601
<b>Product</b>	Voltmeter	Ammeter	Ammeter with CT	Ammeter with CT	Ammeter with CT
<b>Range</b>	500V	0-20A	0-150A	0-400A	0-600A
<b>Consumption</b>	≤4.5 VA	≤1 VA	≤1 VA	≤1 VA	≤1 VA
<b>Working voltage</b>	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz	230V~ 50/60Hz
<b>Update of the display</b>	3sec	3sec	3sec	3sec	3sec
<b>Input impedance</b>	>1MV	-	-	-	-
<b>Isolating resistance</b>	10MV	10MV	10MV	10MV	10MV
<b>Maximum voltage</b>	660V	660V	660V	660V	660V
<b>Accuracy %</b>	±1	±1	±1	±1	±1
<b>Ref temp °C</b>	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C	23 ±1°C
<b>Accuracy variation °C</b>	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C	±0.03% / °C
<b>Maximum continuous</b>	1.2Un	2In	2In	2In	2In
<b>Momentary maximum</b>	2Un / 5sec	10In / 5sec	10In / 5sec	10In / 5sec	10In / 5sec
<b>Frequency Hz</b>	45 - 65	45 - 65	45 - 65	45 - 65	45 - 65
<b>Isolating voltage</b>	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min	2kV / 50Hz - 1min
<b>Operating temperature</b>	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
<b>Storage temperature</b>	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
<b>IP rating</b>	IP20	IP20	IP20	IP20	IP20
<b>Connection flexible</b>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>	1 to 6mm <sup>2</sup>
<b>Connection rigid</b>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>	1.5 to 10mm <sup>2</sup>

### Electrical connection (voltmeter)



### Electrical connection (ammeter)



Electrical characteristics	EC05x	EC15x	EC35x	EC36x	EC37x
	1Ph - 32A	1Ph - 63A	3Ph - 63A	3Ph - 100A	3Ph - 6000A Via CT
Supply voltage	230V AC +/-20%	230V AC +/-15%	230V AC +/- 15% 400V AC +/-15%	230V AC +/- 15% 400V AC +/-15%	230V AC +/- 15% 400V AC +/-15%
Frequency	50Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Starting current	20mA	40mA	40mA	80mA	10mA on CT secondary
Base current	10A	10A	10A	20A	5A
Max current	32A	63A	63A	100A	6A on CT secondary
Consumption on voltage circuit	<6.7VA and 0.3W	<10VA and 1W	<10VA and 1W per phase	<10VA and 1W per phase	<10VA and 1W per phase
Consumption on current circuit	0.5VA	<0.5VA per phase	<0.5VA per phase	<0.5VA per phase	<0.5VA per phase
Accuracy	Class 1 (1%) - in accordance with IEC61036	Class 1 (1%) - in accordance with IEC61036	Class 1 (1%) - in accordance with IEC61036	Class 1 (1%) - in accordance with IEC61036	Class 1 (1%) - in accordance with IEC61036
Connection	Direct	Direct	Direct	Direct	Via CT
Display	Digital 5+1 digits	Digital 6+1 digits	Digital 7 digits	Digital 7 digits	Digital 7 digits
Metrological LED	Blinking = 6Wh/impulse (EC051 only)	Blinking = 1Wh/impulse	Blinking = 1Wh/impulse	Blinking = 2Wh/impulse	Blinking = 10Wh/impulse
Pulsed output (except EC050)	At 100Wh load 1 pulse = 100ms Recommended installation with external power supply = 24V - 30V DC	At 100Wh load 1 pulse = 100ms Recommended installation with external power supply = 24V - 30V DC	At 100Wh load 1 pulse = 100ms Recommended installation with external power supply = 24V - 30V DC	At 100Wh load 1 pulse = 100ms Recommended installation with external power supply = 24V - 30V DC	At 100Wh load 1 pulse = 100ms Recommended installation with external power supply = 24V - 30V DC
Width	1 module	3 modules	4 modules	7 modules	4 modules
Connection capacity	rigid	1.5 to 10mm <sup>2</sup>	1.5 to 16mm <sup>2</sup>	1.5 to 16mm <sup>2</sup>	1.5 to 35mm <sup>2</sup>
	flexible	1 to 6mm <sup>2</sup>	1 to 16mm <sup>2</sup>	1 to 16mm <sup>2</sup>	1 to 35mm <sup>2</sup>
Protection degree	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03	IP20 / IK03
Operating temperature	-10°C to +45°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
Storage temperature	-25°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C

### Description - SM102E

- 1 Key-pad with 4 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Energy metering indication



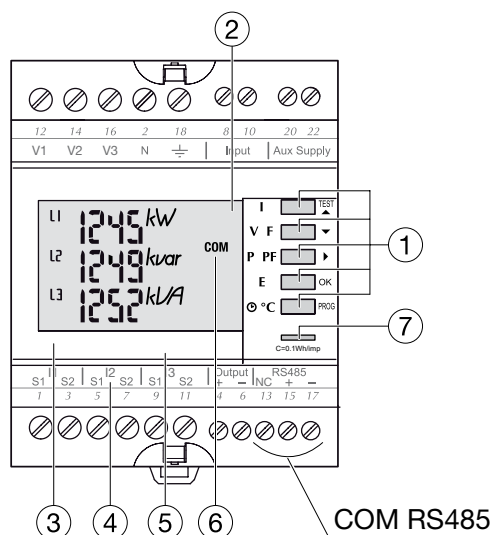
### Description - SM103E

- 1 Key-pad with 6 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Energy metering indication
- 7 Hour meter and energy display
- 8 Alarm relay 1
- 9 Alarm relay 2



### Description - SM101C

- 1 Key-pad with 4 dual-function keys (display or programming)
- 2 Backlighted LCD display
- 3 Phase
- 4 Values
- 5 Unit
- 6 Activity indicator on the communication bus
- 7 Energy metering indication



## Electrical characteristics

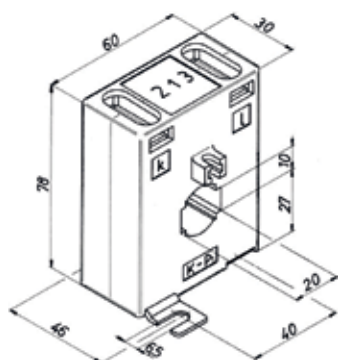
Current (TRMS)	SM102E	SM103E	SM101C
I (1st CT)	up to 9,999A	up to 9,995A	5A to 9,999A
I (2nd CT)	5A	1 or 5A	5A
I <sub>n</sub>	0.5% (from 10 to 110% to I <sub>n</sub> )	0.2% (from 10 to 110% to I <sub>n</sub> )	Calculated
Minimum measuring current (2nd CT)	5mA	10mA	5mA
Input consumption	<0.6 VA	<0.3 VA	<0.6VA per phase
Permanent overload (2nd CT)	6A	10A	6A
Accuracy	±0.2%	±0.2%	±0.2%
THD	±1%	±1%	±1%
Update period	1sec	1sec	1sec
Voltage (TRMS)			
U	50V AC to 500V AC (Ph-Ph) 28V AC to 289V AC (Ph-N)	17V AC to 700V AC (Ph-Ph) 11V AC to 404V AC (Ph-N)	50V AC to 520V AC (Ph-Ph) 28V AC to 300V AC (Ph-N)
Input consumption	-	-	<0.1VA per phase
Permanent overload (2nd CT)	800V AC	760V AC	760V AC
Accuracy	±0.2%	±0.2%	±0.2%
THD	±1%	±1%	±1%
Update period	1sec	1sec	1sec
Power			
Accuracy (P,Q)	±0.5 to ±2% (from -90° to +90°)	±0.5 to ±2% (from -90° to +90°)	±0.5%
Accuracy (S)	±1%	±1%	±1%
Accuracy (PF)	±0.5% (for 0.5<PF<1)	±0.5% (for 0.6<PF<1)	±0.02%
Update period	1sec	1sec	1sec
Energy			
Accuracy (Ea)	Class 0.5s	Class 0.5s	Class 0.5s
Accuracy (Er)	Class 2	Class 1	Class 2
Update period	1sec	1sec	1sec
Frequency			
F	45Hz to 65Hz	45Hz to 65Hz	45Hz to 65Hz
Accuracy	±0.1%	±0.02%	±0.1%
Update period	1sec	1sec	1sec
Supply			
Voltage	110V AC to 400V AC ±10%	110V AC to 400V AC ±10%	200V AC to 277V AC ±15%
Frequency	50/60Hz	50/60Hz	50/60Hz
Consumption	<10VA	<10VA	<5VA
Environment			
Protection degree	IP52 (front panel) IP30 (case)	IP52 (front panel) IP30 (case)	IP51 (front panel) IP20 (case)
Operating temperature	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C
Storage temperature	-20°C to +85°C	-20°C to +85°C	-20°C to +70°C
Insulation category	III (480Vac Ph-Ph)	III (480Vac Ph-Ph)	III (300Vac Ph-Ph)
Degree of pollution	PD2	PD2	PD2
Communication			
Metrological LED	-	-	0.1Wh/pulse
Pulse output	-	-	30Vdc/27mA Max
Communication	Three phase (3 or 4 wires), two phase (2 wire) and single phase networks	Three phase (3 or 4 wires), two phase (2 wire) and single phase networks	RS485 2/3 wires half duplex Jbus/Modbus 2,400bds to 38,400bds Parity (no,odd,even) 1 or 2 Stop bytes
Shape			
Weight	400g	400g	215g
Size	96mm x 96mm x 60mm or 96mm x 96mm x 80mm with all optional modules	96mm x 96mm x 60mm or 96mm x 96mm x 80mm with all optional modules	4 mod, 73mm x 90mm x 67mm

## Electrical characteristics

<b>Primary rated current</b>	50A - 2,000A
<b>Rated secondary current</b>	5A
<b>Rated frequency</b>	50 - 60Hz
<b>Highest voltage for equipment Um</b>	720V
<b>Rated power-frequency withstand voltage (r.m.s.)</b>	3kV
<b>Instrument security factor</b>	FS 5
<b>Rated continuous thermal current</b>	1.2 x In
<b>Current rating</b>	120%
<b>Rated short time thermal current</b>	$I_{th} = 60 \times I_n$ (max 50kA)
<b>Rated dynamic current</b>	$I_{dyn} = 2.5 \times I_{th}$ (max 120kA)
<b>Permissible ambient temperature</b>	-40°C to +40°C
<b>Class of insulation in accordance with IEC 60085</b>	E
<b>Protection rating</b>	IP20
<b>Tightening torque</b>	1.5 - 2Nm

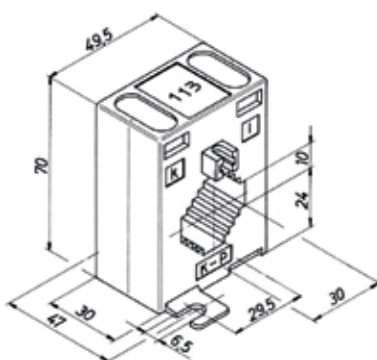
	Prim. (A)	Sec. (A)	Power (VA)	Accuracy class	Dims (mm)	Max. busbar and cable size (mm)
<b>SRA01005</b>	100	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRA01505</b>	150	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRA02005</b>	200	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRA02505</b>	250	5	2.5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRC04005</b>	400	5	5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRC06005</b>	600	5	5	1	70 x 49.5 x 30	30 x 10 25 x 15 20 x 20
<b>SRA00505</b>	50	5	1.5	1	78 x 60 x 30	20 x 10 15 x 15 Ø 20
<b>SRI03005</b>	300	5	5	1	78 x 60 x 30	40 x 12 Ø 28

**SRA00505: 50/5A**



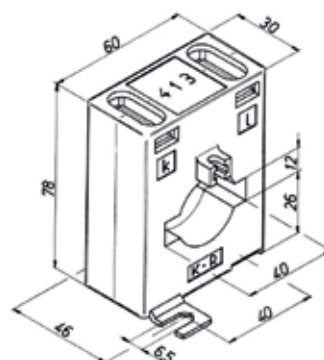
Busbar entry = 20mm x 10mm  
or 15mm x 15mm  
Diameter = 20mm Ø

**SRA01005:** 100/5A    **SRA02505:** 250/5A  
**SRA01505:** 150/5A    **SRC04005:** 150/5A  
**SRA02005:** 200/5A    **SRC06005:** 250/5A



Busbar entry = 30mm x 10mm  
or 25mm x 15mm  
or 20mm x 20mm

**SRI03005: 300/5A**



Busbar entry = 40mm x 12mm  
Diameter = 20mm Ø



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