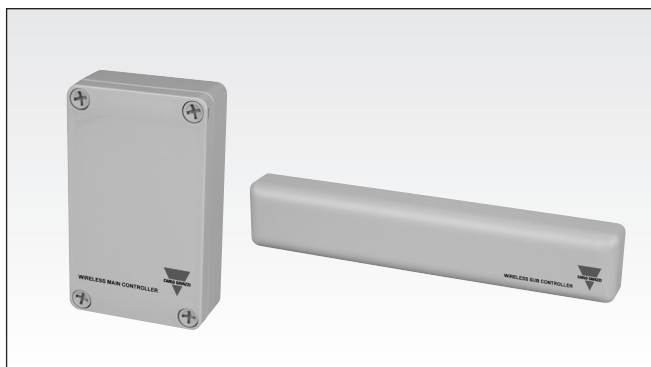


# Wireless Entrapment Protection Device For Industrial Doors ESPE Type WSM / WSS ...

CARLO GAVAZZI



- Wireless Entrapment Protection Device for Industrial Doors
- Input for two ESPE (electro-sensitive protective equipment)
- Replaces cable between Door controller and ESPE
- Input for door-in-door sensor
- Output ESPE: 1 x SPST NC, 1 x SPST NO (8,2kΩ)
- Output low battery: 1 x SPST NC contact
- 2,4 GHz duplex communication
- Built-in antenna
- IP66 ratings



## Product Description

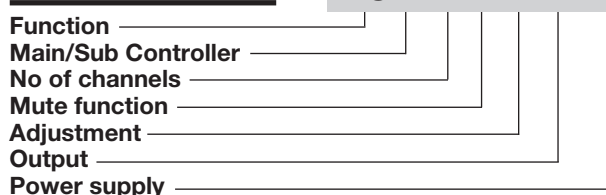
Wireless Entrapment Protection Device (EPD) for Industrial Doors. The system is designed to replace the connection cable between the ESPE (electro-sensitive protective equipment) and the door controller. The sub controller has input for either N.C. ESPE, N.O. 8.2 kΩ ESPE or the Carlo Gavazzi low consumption photoelectric ESPE N.C. contact. The system is designed for high reliability

using 2.4 GHz duplex communication between the main controller and sub controller. The main controller can handle up to 4 sub modules i.e. one system can handle 8 ESPEs.

The sub controller is activated by a test signal from the main controller and stays active during the period of time set at the main controller up to 80 seconds.

## Ordering Key

**WSM 2 B A 2 D24**



## Type Selection

Housing W x H x D	Range Wireless	Type	Ordering no.	
75 x 125 x 35 mm	10 m	Main Controller	<b>WSM 2 B A 2 D24</b>	
45 x 214 x 22 mm	10 m	Sub Controller	<b>WSS 2 B A 2 BAT</b>	
Housing W x H x D	Range S <sub>n</sub>	Cable length	Type	Ordering no.
Ø11 x 24.5 mm	15 m	2 m	Emitter	<b>PB 11 CNT 15 WE</b>
Ø11 x 24.5 mm	15 m	12 m	Receiver	<b>PB 11 CNT 15 WR</b>

## Specifications Main Controller (WSM)

<b>Rated operational volt. (U<sub>B</sub>)</b>	12 to 24 VAC/DC (-10 +15%)	<b>Indications Main Controller</b>	Green LED
<b>Ripple (U<sub>rpp</sub>)</b>	≤ 10%	Power supply	2 x yellow LEDs
<b>Supply current</b>	< 50 mA	ESPE 1 or 2 active	Red LED
<b>Communication Frequency</b>	2.4 GHz Duplex	Low Battery	Toggle red & green LED
<b>Number of channels</b>	16 selectable via DIP switch	Channels not synchronized	
<b>Sub Controller live time</b>	10 – 80 sec. Selectable via DIP-switches	<b>Test input</b> (active high or active low)	Selectable via DIP switch
<b>Relay</b>	SPST	Active high	12-24 V
ESPE NC	SPST	Active low	0 V
ESPE NO 8.2 kΩ	SPST	<b>Test impulse time</b>	
Low Battery	1 A / 30 VDC	Minimum pulse width	> 100 mS
	0,5 A / 30 VAC	Maximum pulse width	< 2 sec
	>100.000 AC11 or DC11	<b>Operating frequency</b>	25 Hz per sub controller
<b>Protection</b>	Reverse polarity, transients	<b>Response time</b>	
		OFF-ON (t <sub>ON</sub> )	≤ 120 ms
		ON-OFF (t <sub>OFF</sub> )	≤ 120 ms



## Specifications Main Controller (WSM) (cont.)

<b>Environmental</b>		<b>IC</b> RSS210, RSS GEN, RSS-102 IC-ID: 7188C-WSM0001
Installation category	III (IEC 60664/60664A; 60947-1)	<b>CE-marking</b> EN12445, EN12453, EN12978 Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC Low Voltage Directive 2006/95/EC Electromagnetic Compatibility Directive 2004/108/EC Machinery Directive 2006/42/EC, amended by Directive 98/79/EC For industrial doors only See EN13241-1
Pollution degree	3 (IEC 60664/60664A; 60947-1)	
Degree of protection	IP66	
<b>Rated insulation voltage</b>	50 VDC	
<b>Temperature</b>		
Operating Temperature	-25° to +55°C (-13° to +131°F)	
Storage Temperature	-40° to +70°C (-40° to +158°F)	
<b>Size</b>	75 x 35 x 125 mm	
<b>Material</b>		
Housing	Light Grey ABS	
Top	Light Grey ABS	
<b>Weight</b>	230 g	
<b>Approvals</b>	cULus UL508 FCC port 15 B,C FCC-ID: Y55WSM0001	

**NOTE:** Changes/modifications not approved by Carlo Gavazzi could void the user's authority to operate the equipment.

## Specifications Sub Controller (WSS)

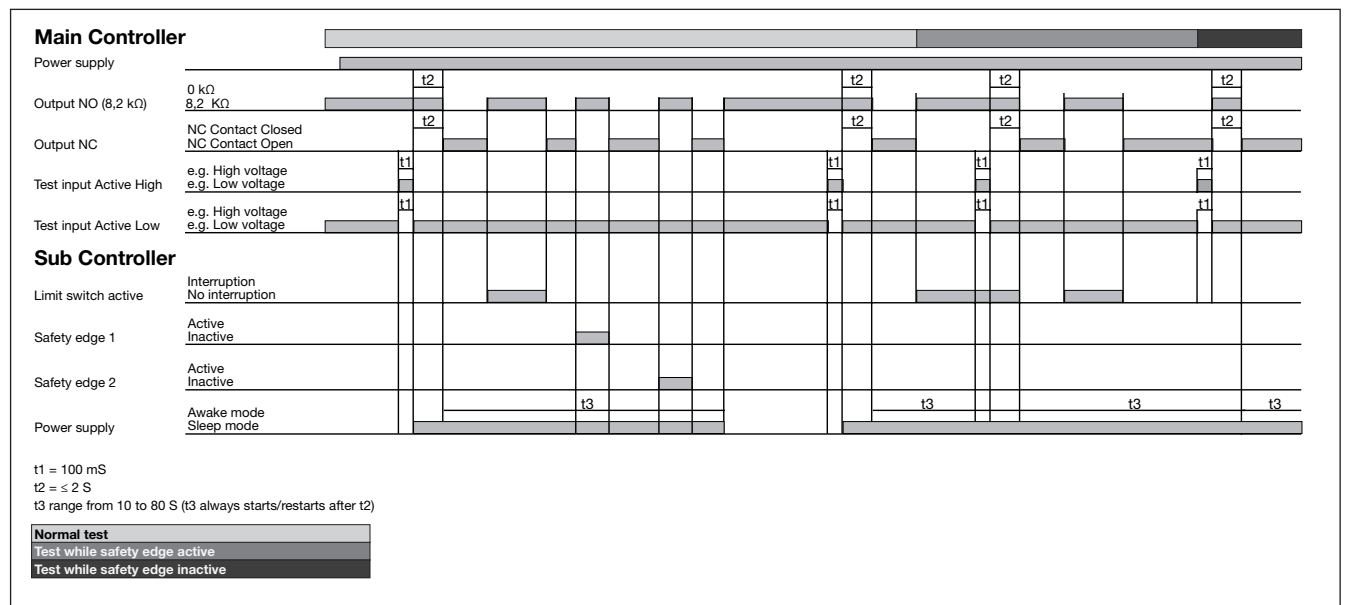
<b>Rated operational volt. (U<sub>B</sub>)</b>	1 to 4 ER14505 3.6 VDC size AA Lithium batteries ≥ 2700 mAh	<b>Environmental</b>	
<b>Supply current</b>	< 40 mA	Installation category	III (IEC 60664/60664A; 60947-1)
<b>Communication Frequency</b>	2.4 GHz Duplex	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Number of channels</b>	16 selectable on DIP switch	Degree of protection	IP66
<b>Sub Controller live time</b>	10 – 80 Sec. Selectable on DIP-switches at the main controller	<b>Rated insulation voltage</b>	50 VDC
<b>ESPE inputs</b>		<b>Temperature</b>	
ESPE NC	Standard NC ESPE	Operating Temperature	-25° to +55°C (-13° to +131°F)
ESPE NO 8.2 kΩ	Standard NO, 8.2 kΩ	Storage Temperature	-40° to +70°C (-40° to +158°F)
Photoelectric ESPE	Carlo Gavazzi Low current ESPE PES for wireless applications	<b>Size</b>	22 x 45 x 214 mm
Door in door input	NC input from Limit Switch	<b>Material</b>	
<b>Response time</b>		Housing	Light Grey PC
OFF-ON (t <sub>ON</sub> )	≤ 120 mS	Bottom	Black PC
ON-OFF (t <sub>OFF</sub> )	≤ 120 mS	<b>Weight</b>	220 g
<b>Wake time after sleep mode</b>	≤ 400 mS	<b>Approvals</b>	cULus UL508 FCC port 15 B,C FCC-ID: Y55WSM0001 IC RSS210, RSS GEN, RSS-102 IC-ID: 7188C-WSM0001
<b>Protection</b>	Reverse polarity	<b>CE-marking</b>	EN12445, EN12453, EN12978 Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC Low Voltage Directive 2006/95/EC Electromagnetic Compatibility Directive 2004/108/EC Machinery Directive 2006/42/EC, amended by Directive 98/79/EC For industrial doors only See EN13241-1
<b>Indications Sub Controller</b>			
ESPE 1	Yellow LED		
ESPE 2	Yellow LED shines in 20 sec. after a short activation on the pushbutton		
<b>Test input</b>	The submodule wakes up after the test input of the main controller		
<b>Antenna</b>	Built in		

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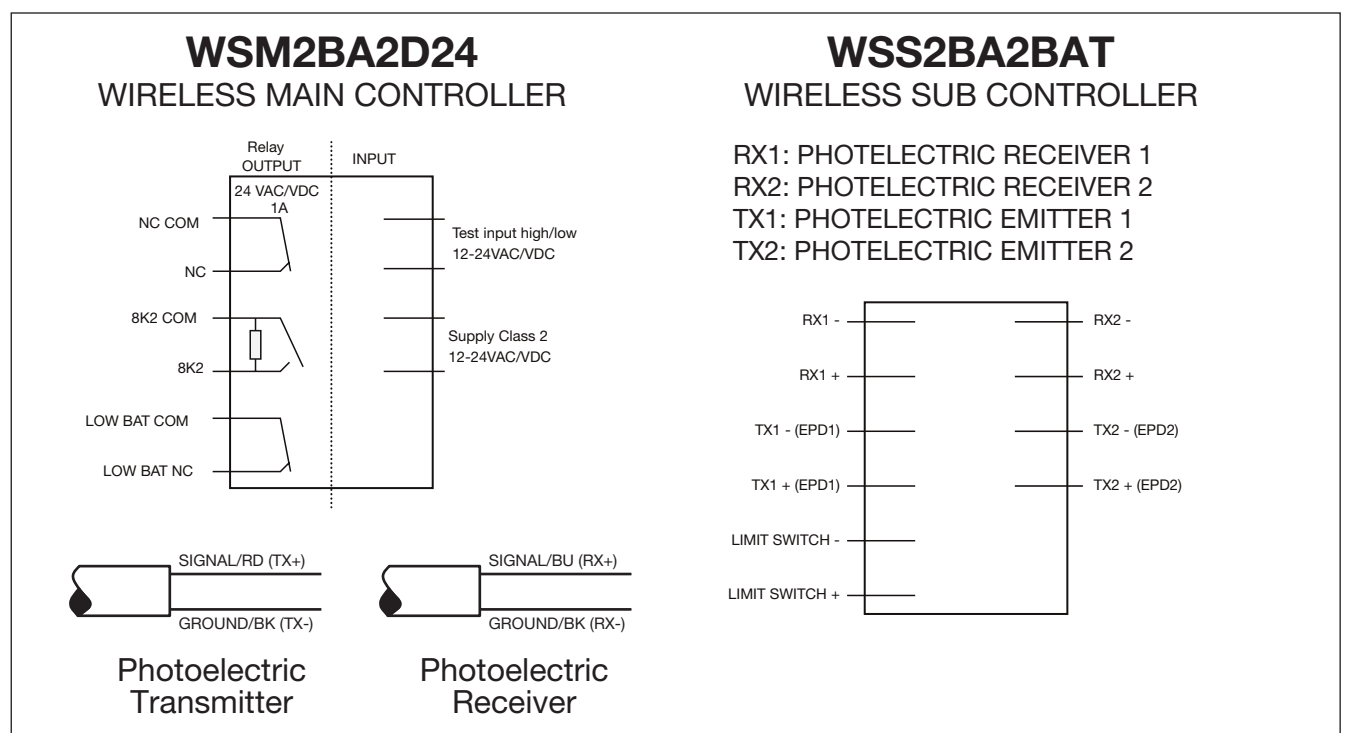
## Specifications Photoelectric Sensors ESPE (PB11)

<b>Rated operational volt. (U<sub>B</sub>)</b>	From Sub Controller	<b>Degree of protection</b>	IP67
<b>Rated operational dist. (S<sub>n</sub>)</b>	15 m	<b>Housing size</b>	Ø11 x 24.5 mm
<b>Light source</b>	LED 880 nm	<b>Housing Material</b>	PA6 Glass reinforced
<b>Light Type</b>	Infrared Modulated	<b>UL-Approvals</b>	UL508
<b>Ambient light</b>	>20,000 lux	<b>CE-marking</b>	EN12978

## Operation Diagram

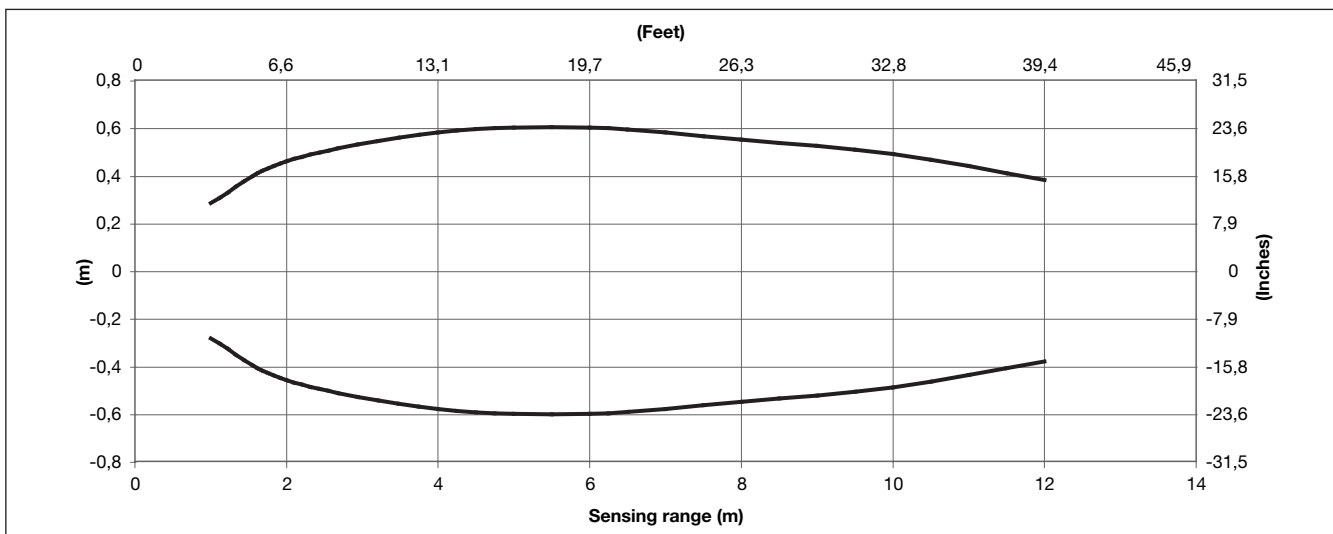


## Wiring Diagrams

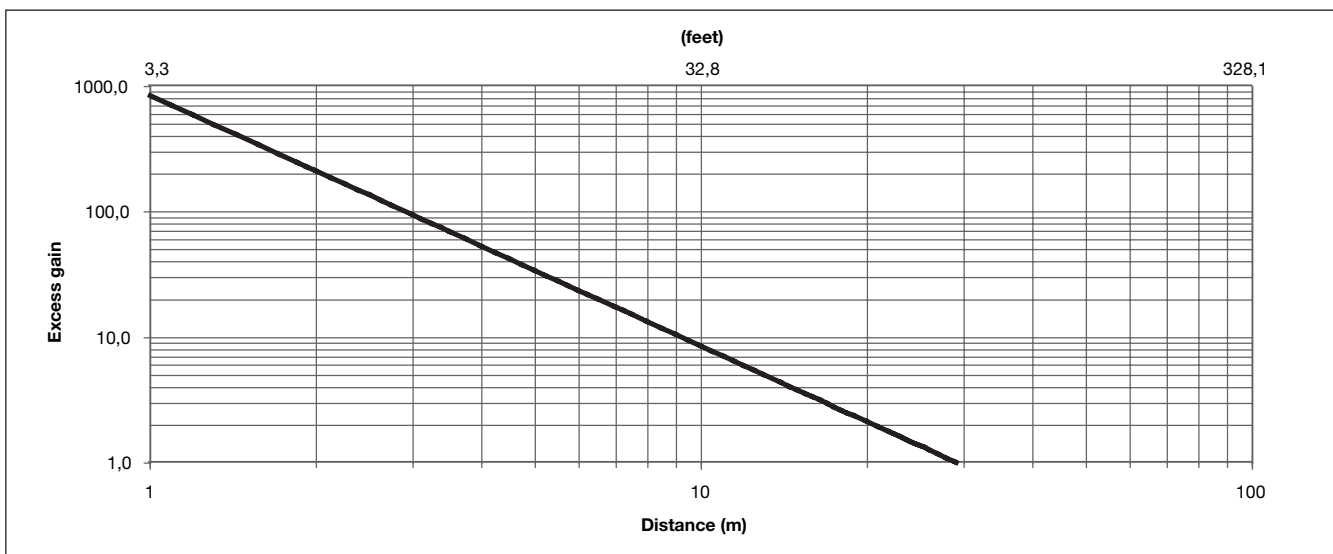




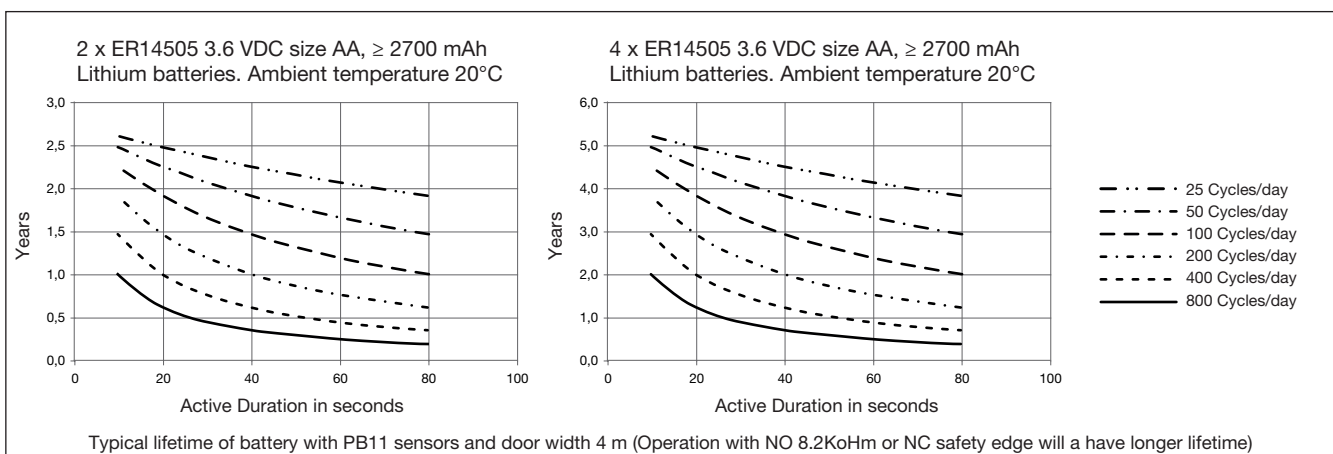
## Detection Diagram



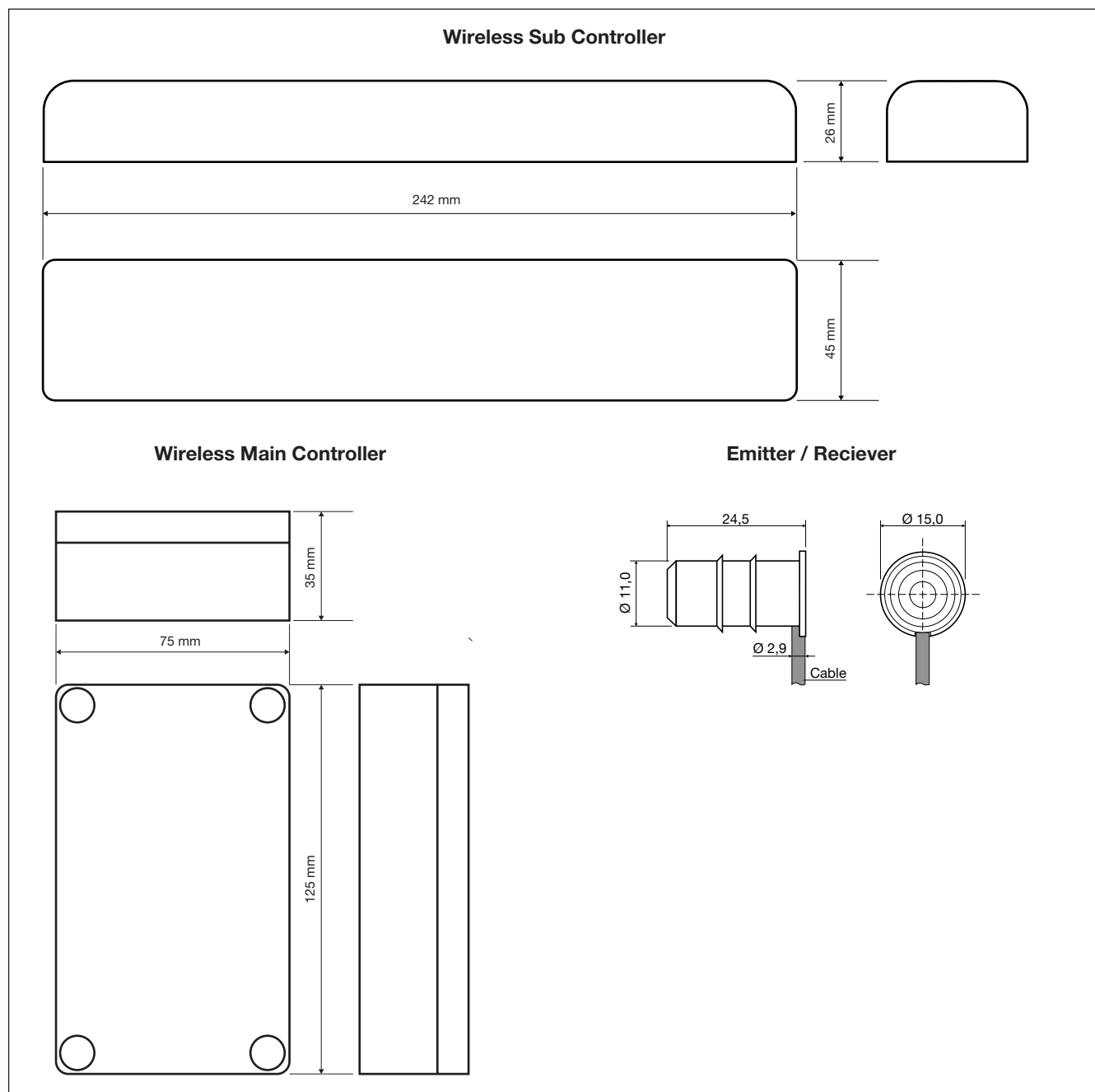
## Excess Gain



## Battery Lifetime



## Dimensions



### Delivery Contents Main Controller

- Wireless Main Controller: WSM2BA2D24
- Manual
- 4 x SCREW M4.5X45 MM BOSSARD BN615
- 4 x RAWLPLUG SX8 NYLON
- **Packaging:** Cardboard box

### Delivery Contents Receiver

- Receiver: PB11CNT15WR
- **Packaging:** Plastic bag

### Delivery Contents Sub Controller

- Wireless Sub Controller: WSS2BA2BAT
- Manual
- 2 x ER14505 3.6 VDC size AA  $\geq$  2700 mAh  
Lithium batteries
- 4 x SCREW M4X10 MM BOSSARD BN1023
- **Packaging:** Cardboard box

### Delivery Contents Emitter

- Emitter: PB11CNT15WE
- **Packaging:** Plastic bag