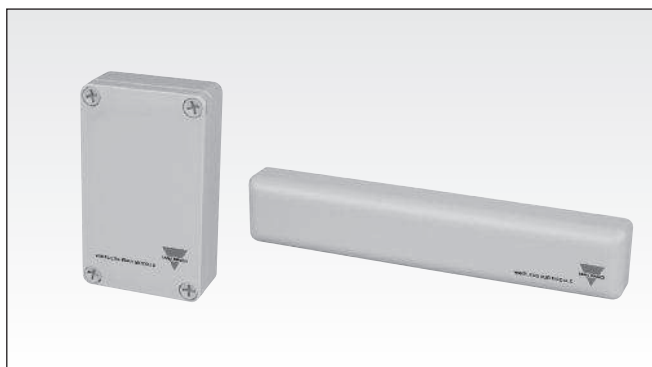


# Wireless Entrapment Protection Device For Industrial Doors ESPE Type WSM / WSS ...

CARLO GAVAZZI



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



## Product Description

Wireless Entrapment Protection Device 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 module has input for either, N.C. ESPE, N.O. 8.2 koHm ESPE or our own low consumption photoelectric ESPE N.C. contact. The system is designed

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

The sub module is put to live by a test signal from the main module and sat awake for the time set at then sub module up to 80 seconds.

## Ordering Key

**WSM 2 B A 2 D24**

Function \_\_\_\_\_  
Main/Sub Module \_\_\_\_\_  
No of channels \_\_\_\_\_  
Mute function \_\_\_\_\_  
Adjustment \_\_\_\_\_  
Output \_\_\_\_\_  
Power supply \_\_\_\_\_

## Type Selection

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

## Specifications Main module

<b>Rated operational volt. (U<sub>B</sub>)</b>	12 to 24 VAC/DC (-10 +15%)	<b>Response time</b>	
<b>Ripple (U<sub>rip</sub>)</b>	≤ 10%	OFF-ON (t <sub>ON</sub> )	50 mS
<b>Supply current</b>	< 50 mA	ON-OFF (t <sub>OFF</sub> )	50 mS
<b>Communication Frequency</b>	2.4 GHz Duplex	<b>Power ON delay (t<sub>v</sub>)</b>	
<b>Number of channels</b>	16 selectable on DIP switch	Main module	< 300 mS
<b>Sub module live time</b>	10 – 80 Sec. Selectable on DIP-switches	<b>Protection</b>	Reverse polarity, transients
<b>Relay</b>		<b>Indications Main Module</b>	
ESPE NC	SPST	Power supply	Green LED
ESPE NO 8.2 koHm	SPST	ESPE 1 or 2 active	2 x yellow LEDs
Low Battery	SPST	Low Battery	Red LED
DC11	???	Channels not synchronized	Toggle red & green
AC11	???	<b>Test input</b>	
Operations Minimum:	600'000 @ 0.5 A, 50 VAC/30 VDC	(active high or active low)	Selectable in DIP switch
Operations Minimum:	100'000 @ 0.5 A, 125 VAC/ 1A, 30 VDC	Active high	"Description"
		Active low	"Description"

## Specifications Main module (cont.)

<b>Test impulse time</b>	
Minimum pulse width	> 50 mS
Maximum pulse width	< 2 sec
<b>Operating frequency</b>	500 Hz
<b>Response time</b>	
OFF-ON ( $t_{ON}$ )	$\leq 1.0$ ms
ON-OFF ( $t_{OFF}$ )	$\leq 1.0$ ms
<b>Environmental</b>	
Installation category	III
Pollution degree	3
Degree of protection	IP66
<b>Rated insulation voltage</b>	50 VDC
<b>Temperature</b>	
Operating Temperature	-25° to +60°C (-13° to +140°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

### Approvals

#### UL508

FCC port 15(C) 15.247  
FCC ID: Y55WMM0001  
IC RSS210

### CE-marking

EN12445, EN12453,  
EN12978  
Radio Equipment and  
Telecommunications  
Terminal Equipment  
(R&TTE) Directive 1999/5/EC  
Low Voltage Directive  
73/23/EEC  
Electromagnetic Compatibility  
Directive 89/336/EEC  
Machinery Directive  
98/37/EC, amended by  
Directive 98/79/EC For  
industrial doors only  
See EN13241-1

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

## Specifications Sub module

<b>Rated operational volt. (<math>U_B</math>)</b>	1 to 4 Lithium 3.6VDC size AA batteries 2 battery supplied with the sub-module
<b>Supply current</b>	< ?? mA
<b>Communication Frequency</b>	2.4 GHz Duplex
<b>Number of channels</b>	16 selectable on DIP switches
<b>Sub module live time</b>	10 – 80 Sec. Selectable on DIP switches in the main module
<b>ESPE inputs</b>	
ESPE NC	Standard NC ESPE
ESPE NO 8.2 kOhm	Standard NO, 8.2 kOhm
Photoelectric ESPE	Carlo Gavazzi Low current ESPE PES for wireless applications
Door in door input	NC input from Limit switch
<b>Response time</b>	
OFF-ON ( $t_{ON}$ )	50 mS
ON-OFF ( $t_{OFF}$ )	50 mS
<b>Power ON delay (<math>t_v</math>)</b>	
Sub module after sleep	<100 mS
<b>Protection</b>	Reverse polarity
<b>Indications Sub Module</b>	
ESPE 1	Yellow LED
ESPE 2	Yellow LED
	lights in 20 sec. after a short activation on the pushbutton
<b>Test input</b>	The submodule wake up after the test input of the main module

### Antenna

Built in

### Environmental

Installation category  
Pollution degree  
Degree of protection

III  
3  
IP66

### Rated insulation voltage

50 VDC

### Temperature

Operating Temperature  
Storage Temperature

-25° to +55°C (-13° to +131°F)  
-40° to +70°C (-40° to +158°F)

### Size

22 x 45 x 214 mm

### Material

Housing  
Top

Light Grey PC  
Black PC

### Weight

220 g

### Approvals

#### UL508

FCC port 15(C) 15.247  
FCC ID: Y55WSM0001  
IC RSS210

### CE-marking

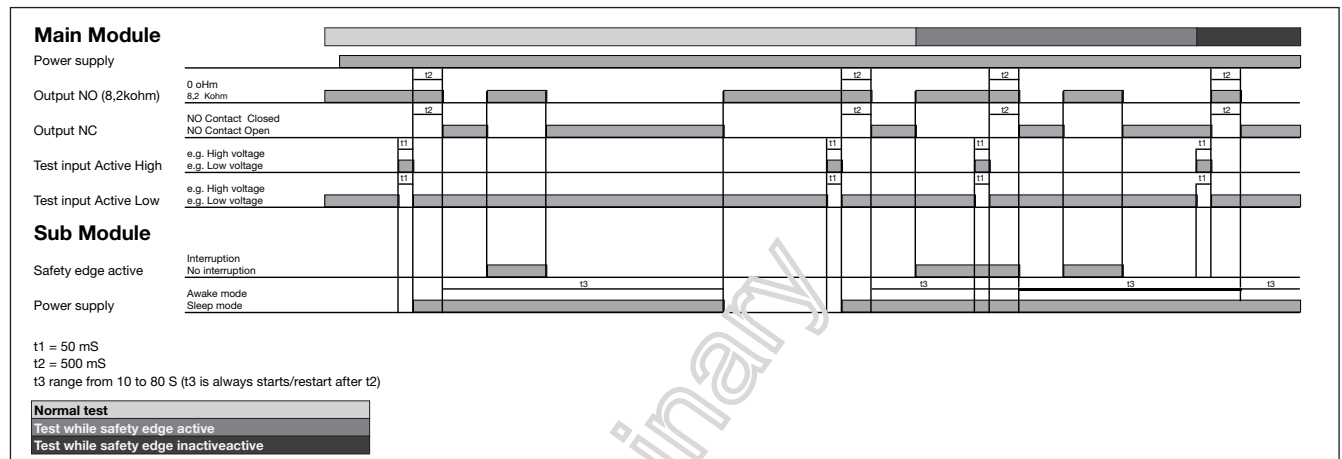
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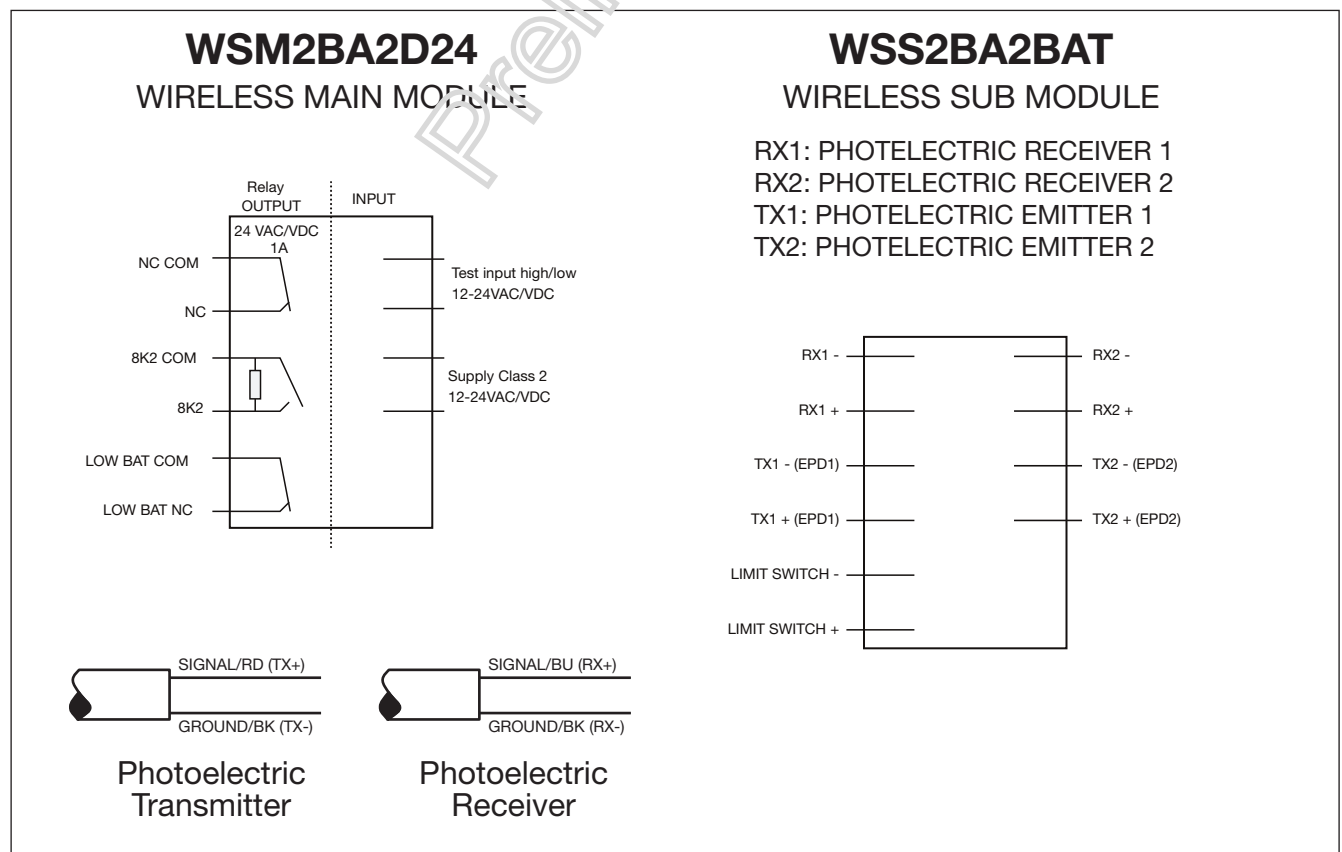
## Specifications Photoelectric Sensors ESPE

<b>Rated operational volt. (<math>U_B</math>)</b>	From Sub module	<b>Degree of protection</b>	IP67
<b>Rated operational dist. (<math>U_B</math>)</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

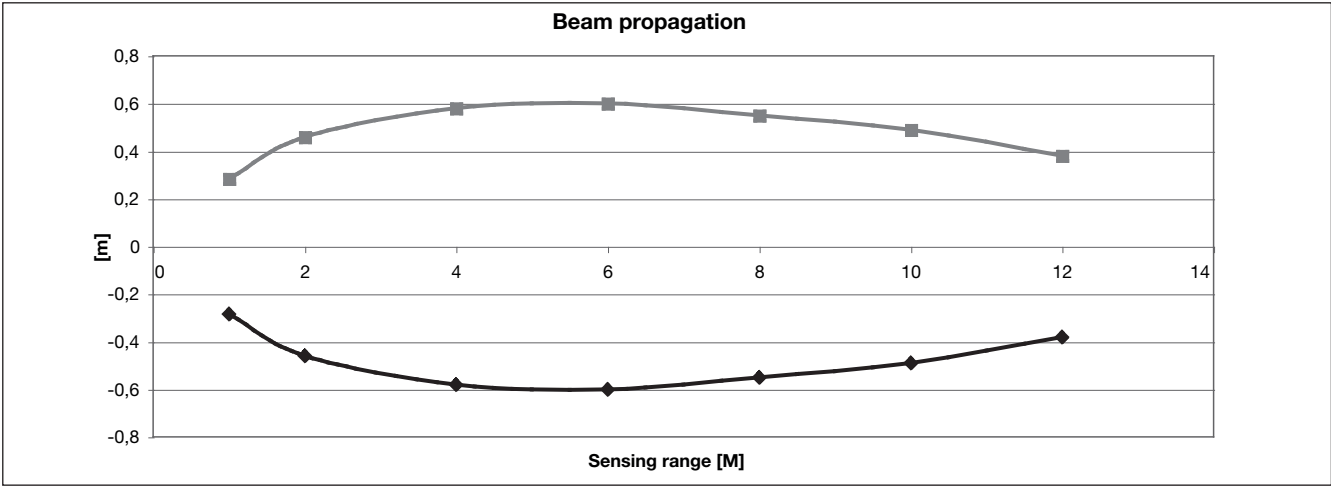


## Wiring Diagrams

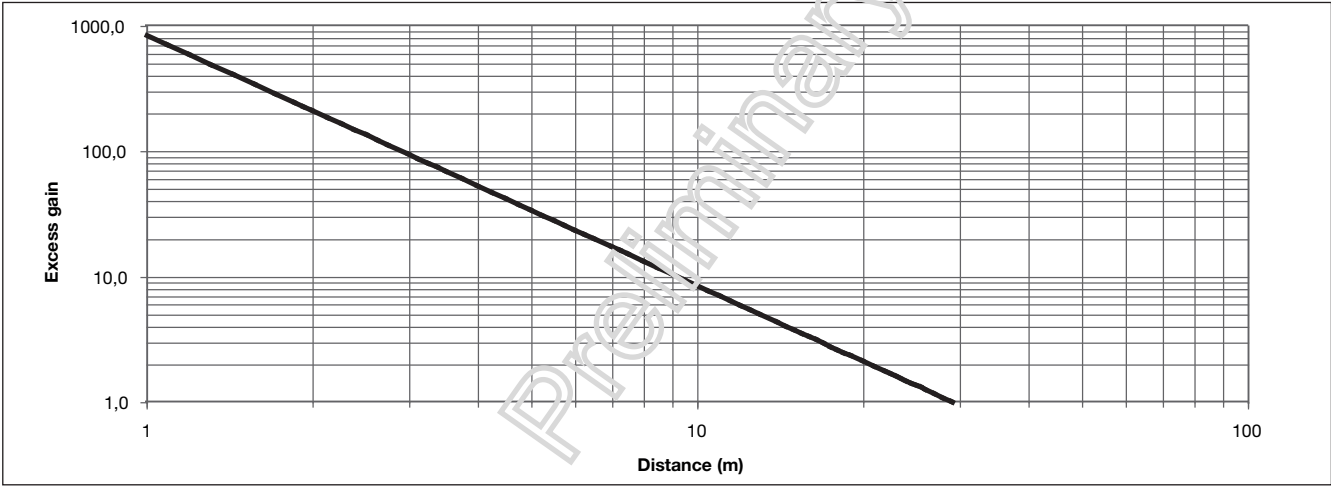




Detection Diagram



Excess Gain



## Dimensions

