

Anzeige für niedrige Batteriespannung

Hauptcontroller

Wenn einer der verbundenen Nebencontroller eine niedrige Batteriespannung aufweist, wird die LED „Low Batt“ aktiviert und das Relais „Low Batt“ ausgeschaltet.

Nebencontroller

Wenn der Nebencontroller eine niedrige Batteriespannung aufweist, blinkt die LED „EPD1“ am Nebencontroller jede Sekunde einmal kurz.

Specifications Main Controller (WSM6GAXxD24)

Nennbetriebsspannung (U_b)	12 bis 24 VAC/DC (-10 +15%)
Restleistung (U_{op})	≤ 10%
Stromaufnahme	< 50 mA
Kommunikationsfrequenz	2,4 GHz Duplex
Kanalnummer	16 per DIP-Switch wählbare Kanäle
Aktivierungsdauer	15–105 s, feste Dauer oder manuell festgelegt

Relais

2 x ESPE NC	SPST
2 x ESPE NO 8,2 kΩ	SPST
Batterieladestand niedrig	1 A / 30 VDC 0,5 A / 30 VAC >100,000 AC11 oder DC11

Schutz

Anzeigen am Hauptcontroller	Verpolung, Überspannung
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Stromversorgung	grüne LED
ESPE 1 oder 2 aktiv	2 x gelbe LED

Batterieladestand niedrig	rote LED
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Testeingang	Per DIP-Schalter wählbar
HIGH Pegel	12-24 V

LOW Pegel	0 V
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Testimpulsdauer	> 100 ms
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maximale Pulsdauer	< 2 sec
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Relaisverzögerung bei Start/Ende der Aktivierungsdauer	> 250 ms
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Start Aktivierungsdauer	1 s
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Reaktionszeit	< 15 ms
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t_{off} Modus „Schnell“	< 40 ms
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t_{off} Modus „Normal“ (1 sub)	< 42 ms
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t_{off} Modus „Normal“ (2 sub)	< 56 ms
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t_{off} Modus „Normal“ (3 sub)	< 70 ms
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t_{off} Modus „Normal“ (4 sub)	< 85 ms
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t_{off} Modus „Normal“ (5 sub)	< 100 ms
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t_{off} Modus „Normal“ (6 sub)	< 5000 ms
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Umgebung	
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Installationskategorie	III (IEC 60664/60664A; 60947-1)
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Verschmutzungsgrad	3 (IEC 60664/60664A; 60947-1)
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Schutzzart	IP66
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Temperatur	-25° bis +55°C
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Lagertemperatur	-40° bis +70°C
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Abmessungen	75 x 35 x 125 mm
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Material	Gehäuse
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Oberteil	ABS, hellgrau
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Gewicht	230 g
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Zulassungen	cULus, UL325, CE
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FCC	FCC port 15 B.C
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IC	FCC-ID: Y55WSM0001
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	RSS210, RSS GEN, RSS-102
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	IC-ID: 718BC-WSM0001
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Specifications Sub Controller (WSS2GA2BAT)	
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Nennbetriebsspannung (U_b)	1 bis 4 Lithiumbatterien, 3,6 VDC, Größe AA
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Stromaufnahme	< 2700 mAh
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Kommunikationsfrequenz	2,4 GHz Duplex
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Kanalnummer	16 per DIP-Switch wählbare Kanäle
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ESPE-Eingänge	Standard-NC-ESPE
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ESPE NO 8,2 kΩ	Standard-NO, 8,2 kΩ
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ESPE Einweglichtschranken	ESPE Einweglichtschranken mit niedrigem Stromverbrauch von Carlo Gavazzi für Funkanwendungen
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Moduswahlschalter („Normal“, „Schnell“)	NC Endschalter
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Schutz	Verpolung
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Anzeigen am Nebencontroller	gelbe LED
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Instructions for Placement of Main and Sub Controller GB

The main and sub controller have an on-board antenna. If one of the modules is incorrectly installed, it might reduce the operating distance between main and sub controller. Consider the guidelines below for best wireless distance:

1. Main and sub controller should be in line of sight.
2. Main and sub controller should be vertically aligned if possible. Height >1 m.
3. Main and sub controller should be pointing front to front if possible.
4. Minimum 1 m between main controllers (if more than one is used).

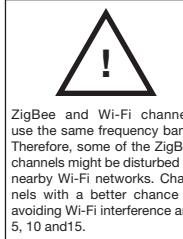
In general, wireless transmission issues concern terms which can disturb transmission, such as reflection, absorption, multiple paths, interference (Wi-Fi) etc. In order to find the best location for main and sub modules, perform initial operational tests before final attachment. The main controller should not be placed close to a Wi-Fi access point, since Wi-Fi uses the same frequency band as the system.

Sub Controller Battery Recommendation

If the sub controller operates in temperatures below 0°C or if Fast Response option is used, apply 4 batteries.

Channel Setup (Main and Sub Controller)

In order to set the radio channel on main and sub controller, use DIP sw 1, 2, 3 and 4. There are 16 different channels from 1 to 16. **NOTE:** It is not recommended to use Channel 16.



ZigBee and Wi-Fi channels use the same frequency band. Therefore, some of the Zigbee channels will interfere by nearby Wi-Fi network. Choose channels with a better chance of avoiding Wi-Fi interferences are: 5, 10 and 15.

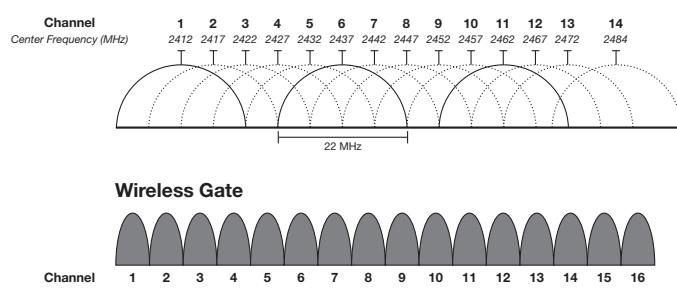
NOTE: It is not recommended to use Channel 16.

Best free channel
The device communicates in the 2.4 GHz ISM band which is shared with, among others, the Wi-Fi network. For optimum stability, it is very important to select a channel where interference from Wi-Fi networks, USB wireless mice, DECT mobile phones etc. is at a minimum.

When the main controller is in *Not Associated* mode (red and green LEDs toggle), press the push button briefly (1/2 s) to show best free channel for 10 seconds. Green LED corresponds to DIP sw.1 etc. LED ON=DIP switch ON.

NOTE: Best Free channel is a brief energy scan and can only serve as a guideline. A good starting point is a Wi-Fi channel overview. Use for instance a free mobile phone application, such as "Wi-Fi Analyzer" (or similar), which graphically depicts the location of present Wi-Fi networks. Choose a free channel or, alternatively, a channel with a minimum of signal activity.

Wifi

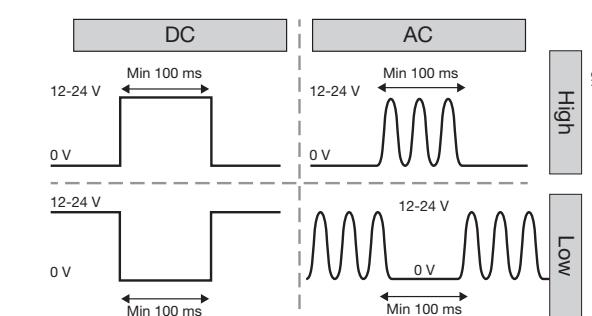


Active vs. Idle mode (Main and Sub controller)

In general, the system can work in two modes: *Active* and *Idle* mode.
Active mode is the "safe" mode. Safe mode is necessary when the gate is opened or closed and needs protection. The system monitors the protection edge and reflects safety status on safety edge relays.
Idle mode is a "comfort" function where Edge1-2 status is reflected on safety relays. Response time is slow.

Test Input High/Low (Main Controller)

The test input on the main controller is used to start *Active Time* of the wireless system. The test input can be activated by a high or low signal level, dependent on the DIP switch 5 setting.



Active Time (Main Controller)

Dependent on DIP switch 6, 7, 8 settings, *Active time* can be *Fixed* or *Manual*.

Fixed Active time (15-105 s):
Active time will run according to a fixed time which is set via DIP switch. To start Active time, the test input must be activated and then deactivated. When the test input is deactivated, Active time starts and safety relays will reflect status of the safety edges. When the Active time ends, the safety relays will go briefly into Safe position to indicate end of Active time.

Manual Active time:
Active time will run as long as the test input is activated. When Active time starts and ends, the safety relays will go briefly into Safe position to indicate start and end of Active time.

	A	B	C	Active time
OFF	OFF	OFF		15 Sec.
ON	OFF	OFF		30 Sec.
OFF	ON	OFF		45 Sec.
ON	ON	OFF		60 Sec.
OFF	OFF	ON		75 Sec.
ON	OFF	ON		90 Sec.
ON	ON	ON		105 Sec.
ON	ON	ON	ON	Manual Active time

Protection Edge (Sub Controller)

The sub controller can be configured for either N.C. ESPE*, N.O. 8.2 kΩ ESPE or the low consumption photoelectric ESPE N.C. sensors. **Note:** Unused edges MUST be set to "Inactive".

*ESPE (electro-sensitive protective equipment)

	Dip 5	Dip 6	Dip 7	Dip 8	
DIP switches					OFF
EPD1	8	■	■	■	EPD2: 8K2/NC 7 ■ EPD2: PES/MEC 6 ■ EPD1: 8K2/NC 5 ■ EPD1: PES/MEC
EPD2	Inactive		ON	ON	ON
N.C. ESPE	ON	OFF			
N.O 8k2 Q ESPE		OFF	OFF		
Photoelectric				ON	OFF

Fast / Normal Response Time (Sub Controller)

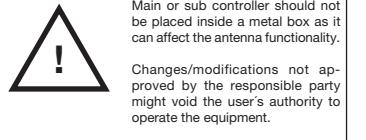
Normal response time (Default): Limit sw +/- terminals connected

Fast response time: Limit sw +/- terminals open

Fast / Normal response option must be selected before association!

Note: Fast mode supports only one sub controller.

Procedure for installation and wiring



Main and sub controller should not be placed inside a metal box as it can affect the antenna functionality.

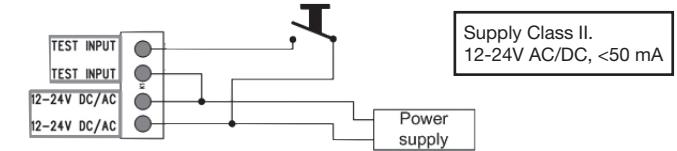
Changes/modifications not approved by the responsible party might void the user's authority to operate the equipment.

Main Controller WSM6GAOOD24, WSM6GACCD24

Main controller DIP switch: Set the desired radio channel number (1-15) and the required Test Input mode.

(Active/High/Low). In addition, set the desired active time (15-105 s or Manual Active Time). The Test input can be connected directly to the door controller or connected to a contact, if no door controller is used.

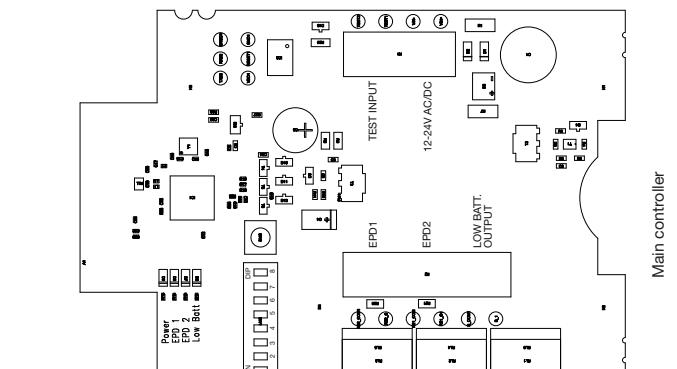
In case of no door controller, use the following wiring in order to send test input to the main controller by means of a contact:



In this case, Dip sw 5 must be in ON position (Active high).

Power ON

Apply power to the main controller. On the main controller, the power and low-batt LEDs should toggle on and off in order to indicate that the device is not associated with any sub controllers.



Sub Controller WSS2GA2BAT

Sub controller DIP switch: Set the desired radio channel number (1-15) (same as main controller), and the desired entrainment protection device/safety edge type(s). Set/remove Normal/Fast response jumper.

Note: Fast/Normal response option is read only during configuration.

Connect safety edge (ESPE):
Mechanical N.C. or N.O. 8.2 kΩ:
Tx+ and Tx- terminals.

Photoelectric low consumption ESPE N.C.:
See text on PCB.

*ESPE (electro-sensitive protective equipment)

Verification/Test
Edge1/2 status can be verified on LED1/2.

Activate the push button on the sub controller with a short push (1/2 s).

Now the safety edge1 and safety edge2 LEDs show status of the entrainment protection for the next 30 seconds. LED EPD1 ON=Edge1 not interrupted etc.

Final Verification

Inspect the installation before putting it into service. Check that the system works as intended.

Association Procedure (Main and Sub controller)

1. Press the push button on the main controller for more than 3 seconds, until the green LED is continuously lit and safety LED EPD2 starts flashing. The main controller is now in association mode, ready to be connected to the sub controllers(s).

2. Go to the sub controller and press the push button for more than 3 seconds. The sub controller now enters association mode and LED EPD2 starts flashing. (Step 2 to be repeated until all sub controllers have been associated).

3. When the association procedure is finished, the sub controller automatically leaves association mode and the LEDs on the sub controller stop flashing. The LEDs flash a number of times corresponding to the respective sub controllers' assigned number in the line.

4. Press the push button on the main controller for more than 3 seconds in order to exit the association mode. The association procedure is now finished and you can start using the system. If no sub controller has been associated to the main controller, the main controller remains in *Not associated* mode (red and green LEDs toggle).

Safety parameters according to EN ISO 13849-1

MTTFd: 91,89 Jahre

DCAVG: 97,73%

Category: 2

Performance Level: d

EC Declaration of Conformity
Carlo Gavazzi Industri A/S, Over Hadstenvej 40, DK-8370 Hadsten, Denmark, declare that the product Wireless Safety Edge System for Gates
Main controllers: WSM6GAOOD24 & WSM6GACCD24,
Sub module: WSS2GA2BAT is in conformity with
The Low-Voltage Directive 2006/95/EC
EN60947-5-2 Control circuit devices and switching elements - Proximity switches EN60947-5-3 Emission standards for residential, commercial and light-industrial environments
EN60947-5-2 Control circuit devices - switching elements - Proximity switches (R&TE) Directive 1999/5/EC
EN300228 FRTM - Data transm. equip. (2.4 GHz ISM band) using WB modulation techniques
Machinery Directive 2006/42/EC, amended by Directive 98/79/EC
EN ISO 13849-1:2008
EN 12987:2003+A1:2009, clause 4.1 b
For industrial doors only See EN13241-1:EN161496-2 Electro-sensitive protective equipment
EU Construction Products Directive (89/106/EEC)
EN13241-1, EN12445, EN1253, EN 1298
Person authorized to compile the technical file:
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EC type examination No. 44 205 14 087601, Notified body 0044
TUV Nord Cert GmbH, Langemarkstr. 20, 45141 Essen, Germany
Hadsten, 16 June 2014, K. Soerensen (R&D Manager)

Low Battery Indication

Main Controller
In case of low battery on one of the connected sub controllers, the Low Batt LED turns on and the Low Batt relay will be turned off.

Sub Controller
LED EPD1 on the sub controller that has a low battery gives a short flash every second.

Specifications Main Controller (WSM6GAXx2D4)

Rated operational volt. (U_b) 12 to 24 VAC/VDC (-10 +15%) Class II

Ripple (U_{pp}) ≤ 10%

Supply current < 50 mA

Communication Frequency 2.4 GHz duplex

Channel number 16 selectable via DIP switch

Active time 15 – 105 s, fixed time or manual set

Relay 2 x ESPE NC or
2 x ESPE NO 8.2 kΩ

Low Battery SPST
SPST
SPST

1 A / 30 VDC

0.5 A / 30 VAC

>100,000 AC11 or DC11

Protection Reverse polarity, transients

Indications Main Controller Power supply Green LED
ESPE 1 or 2 active 2 x yellow LEDs
Low Battery Red LED

Test input (active high or active low)
Active high 12-24 V
Active low 0 V

Test impulse time Minimum pulse width > 100 ms

Maximum pulse width < 2 s

Relay response on Active time begin/end Start Active Time >250 ms

End of Active time 1 sec

Response time t_{OFF} Fast mode < 15 ms

t_{OFF} Normal mode (1 sub) < 42 ms

t_{OFF} Normal mode (2 sub) < 42 ms

t_{OFF} Normal mode (3 sub) < 56 ms

Protection Edge for Nebencontroller

Setzen Sie 4 Batterien ein, wenn der Nebencontroller bei Temperaturen unter 0 °C arbeitet oder die Option für die schnelle Reaktionszeit „Fast Response“ genutzt wird.

Hauptcontroller WSM6GAOOD24, WSM6GACCD24

DIP-Schalter des Hauptcontrollers: Legen Sie den gewünschten Funkkanal (1-15) und den erforderlichen Testeingangsmodus fest (Aktiv hoch/niedrig).

Stellen Sie außerdem die gewünschte Aktivierungsdauer ein (15-80 s oder manuelle Aktivierungsdauer).

Der Testeingang kann direkt mit dem Türcontroller oder mit einem Kontakt verbunden werden, falls kein Türcontroller verwendet wird.

Wenn kein Türcontroller eingesetzt wird, führen Sie die Verkabelung folgendermaßen aus, um den Testeingang mithilfe eines Schalters an den Hauptcontroller zu senden: