



SGCWE100
SAGITTARIUS CONVENTIONAL SYSTEM EXPANDER MODULE

TDS-SGCWE-0006

29/11/2011

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PRODUCT'S SPECIFICATION

	Name	Function	Signature	Date
Edited				
Verified				
Approved				



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1 Identification

Model Number: **SGCWE100**
 Description: Sagittarius conventional system expander module

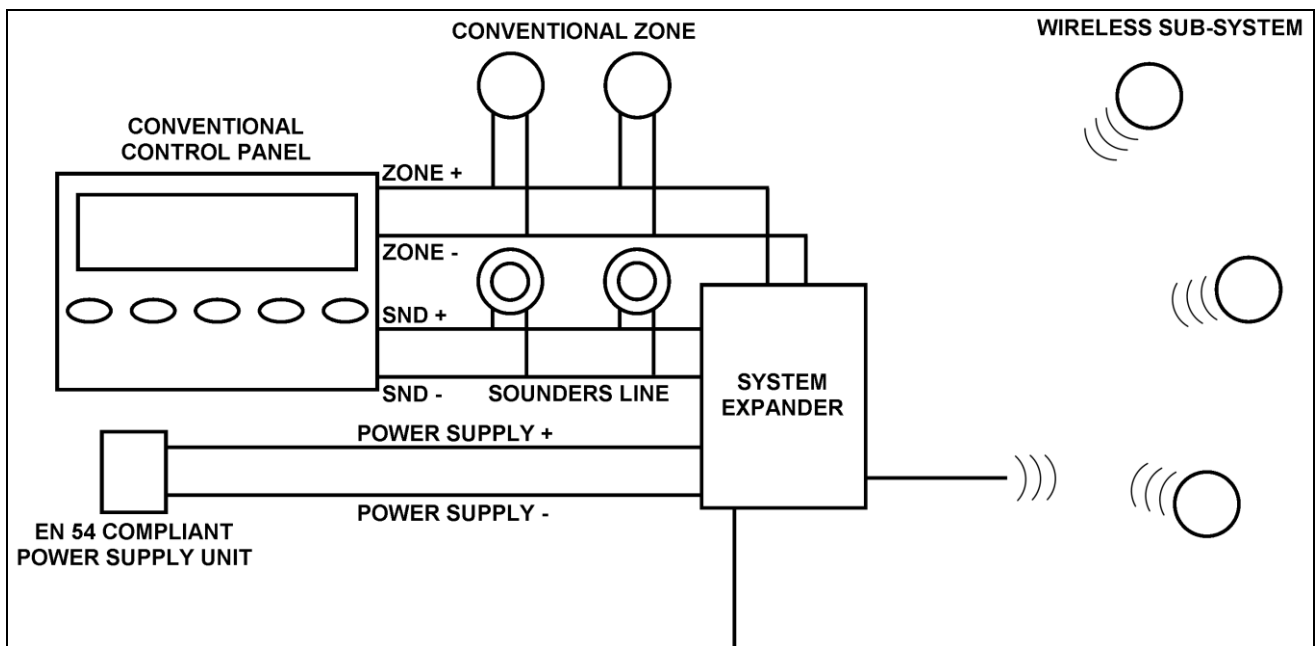
2 Standard

Device meets: EN 54-25:2008
 EN 54-18:2005

3 Description

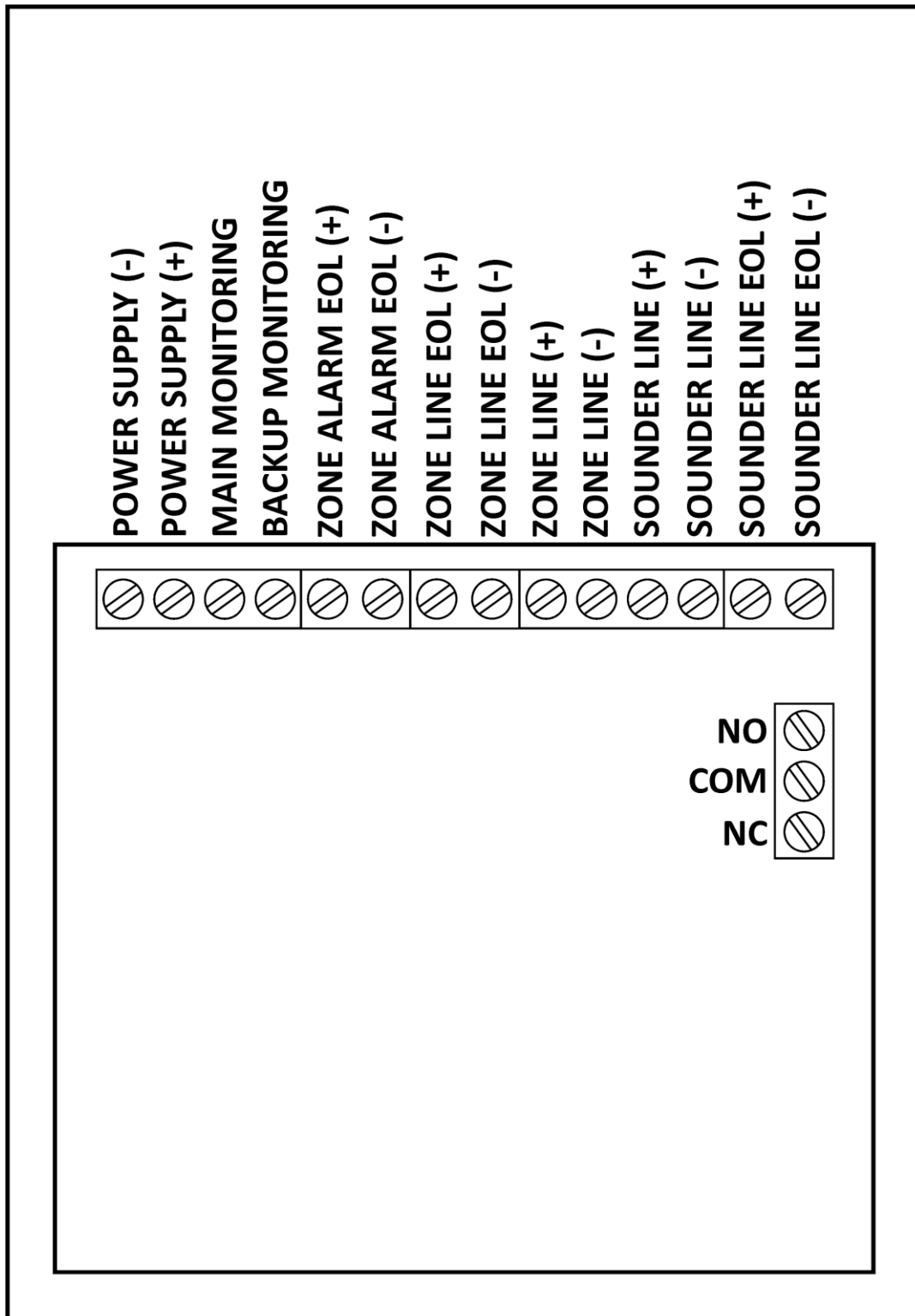
The Sagittarius conventional system expander module permits to add a wireless sub-system to a conventional fire security installation.

The **SGCWE100** can be used as follows:



4 Wiring

Device's terminal blocks are schematized as following:





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Terminal	Description	Notes
POWER SUPPLY (-)	Device's power supply. Negative pole	Power supply, independent or from control panel
POWER SUPPLY (+)	Device's power supply. Positive pole	Power supply, independent or from control panel
MAIN MONITORING	Main power supply monitoring	
BACKUP MONITORING	Backup power supply monitoring	
ZONE ALARM EOL (+)	Alarm end of line resistor. Positive pole.	Value depending on control panel
ZONE ALARM EOL (-)	Alarm end of line resistor. Negative pole.	Value depending on control panel
ZONE LINE EOL (+)	Conventional zone line end of line resistor. Positive pole.	Value depending on control panel
ZONE LINE EOL (-)	Conventional zone line end of line resistor. Negative pole.	Value depending on control panel
ZONE LINE (+)	Conventional zone line. Positive pole.	Conventional zone input
ZONE LINE (-)	Conventional zone line. Negative pole.	Conventional zone input
SOUNDER LINE (+)	Sounder's line. Positive pole.	Sounders control line
SOUNDER LINE (-)	Sounder's line. Negative pole.	Sounders control line
SOUNDER LINE EOL (+)	Sounder line end of line resistor. Positive pole.	Value depending on control panel
SOUNDER LINE EOL (-)	Sounder line end of line resistor. Negative pole.	Value depending on control panel

Terminal	Description	Notes
NO	Normally open relay terminal	Currently not used
COM	Common relay terminal	Currently not used
NC	Normally closed relay terminal	Currently not used



5 EOL resistors values and their installation

A conventional installation needs to have these End Of Line resistors installed:

- zone line End Of Line resistor
- sounder line End Of Line resistor

and this resistor always installed on the **SGCWE100**'s terminal blocks:

- zone alarm End Of Line resistor

in order to work properly.

Their values must be chosen referring specifically to the manual of the supplied control panel.

We have two distinct cases:

- The **SGCWE100** is at the beginning or in the middle of the zone line and / or sounder line (conventional devices follow the device on the line or are positioned before and after it).
- The **SGCWE100** is at the end of the zone line and / or sounder line (all conventional devices are positioned before it).

In installation we can take the following actions:

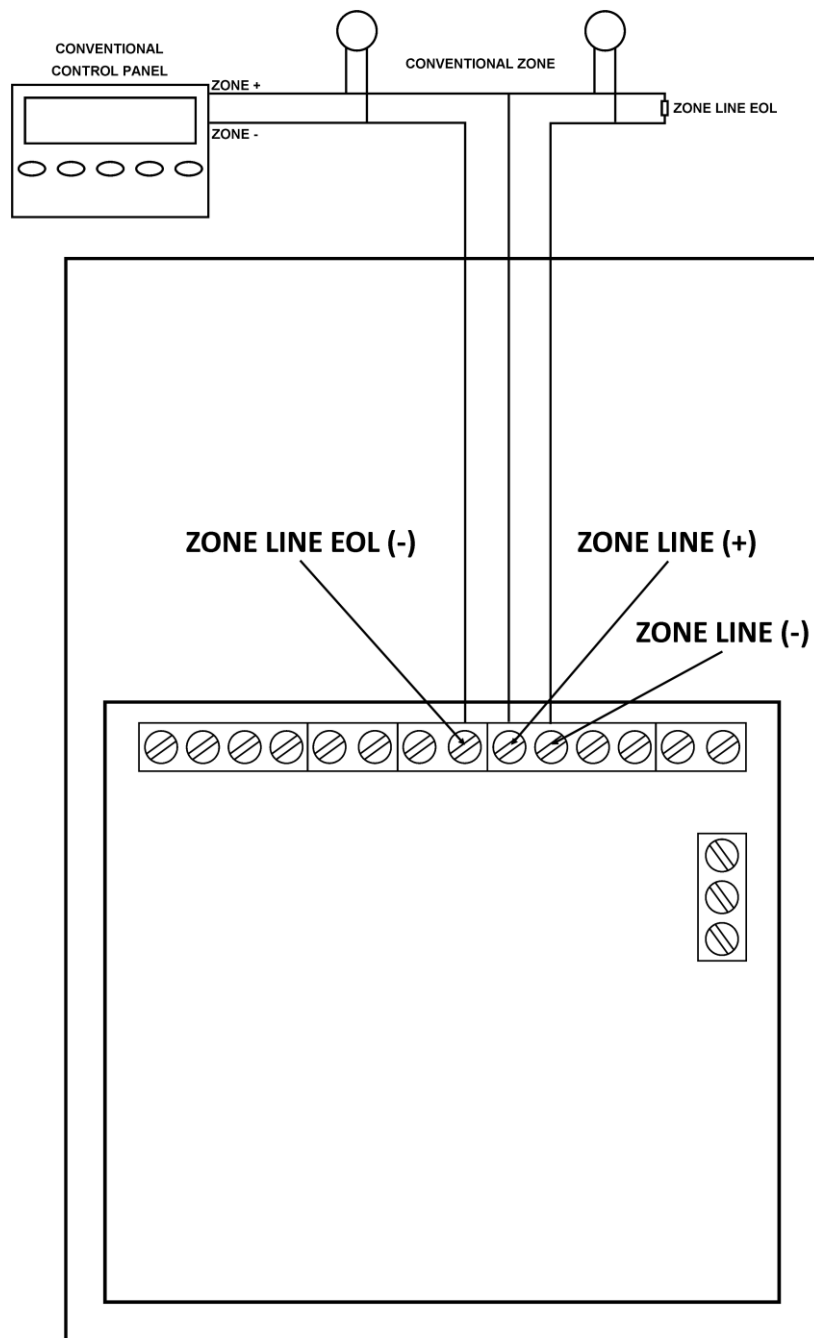
- If the **SGCWE100** is at the end of the line, the relative EOL resistor must be fitted to the device's terminals and not externally as normally is done.
- If the **SGCWE100** is at the beginning or in the middle of the line, the relative EOL resistor must be fitted externally as normally is done, but not into the device's terminal blocks.

Following are illustrated the all possible external and internal EOL wiring schemes for the **SGCWE100** for the "zone line" and the "sounders line":

EXTERNAL ZONE LINE EOL

IMPORTANT: please note that with this wiring configuration, if a fault occurs on the wireless sub-system, all the remainder conventional line, subsequent the expander, is isolated from the system until the fault itself is handled and reset; this occurs unless each sensor on the conventional line is equipped with a Schottky diode and the control panel provides for their use.

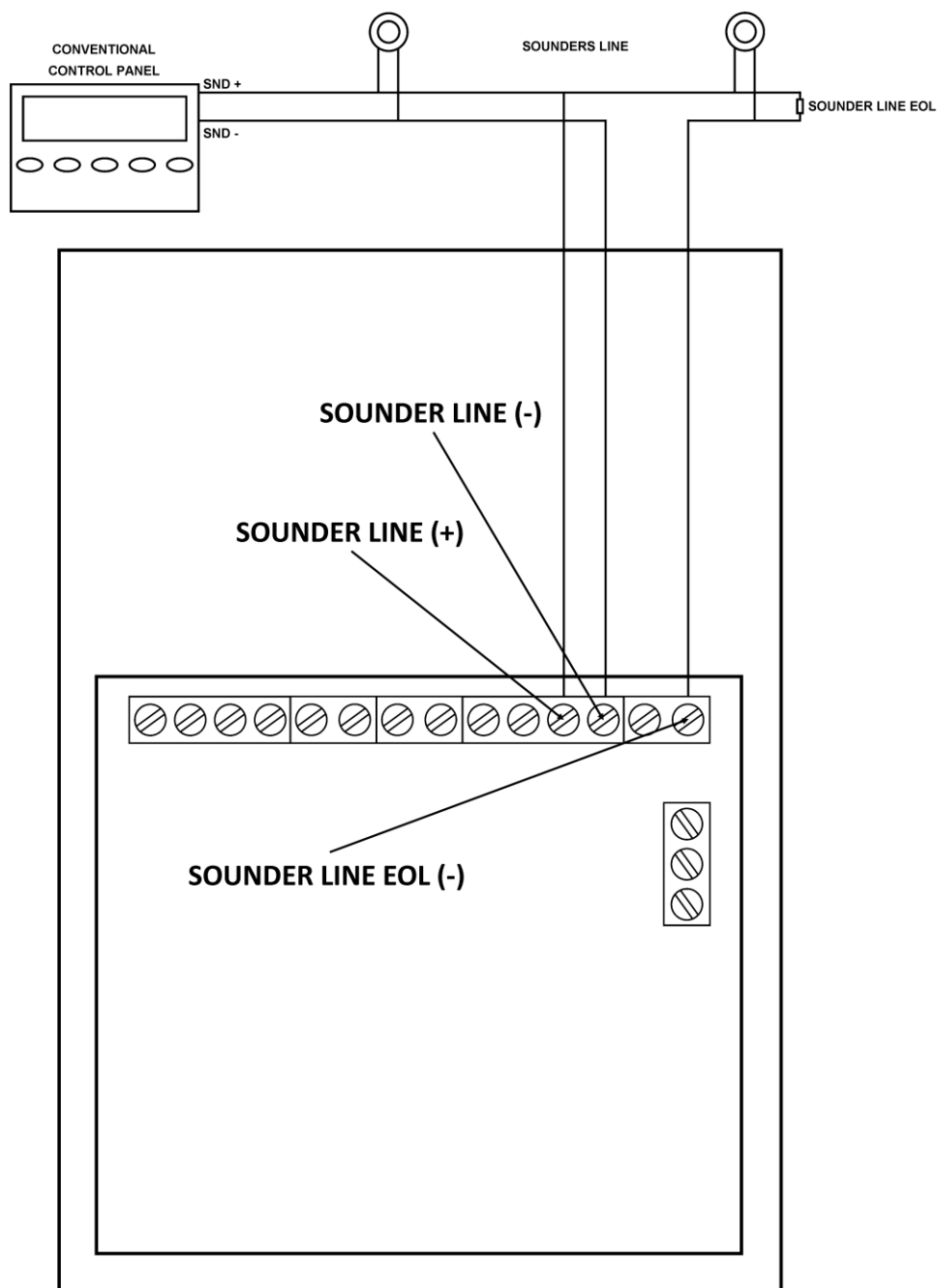
Please refer to your applicable codes of practice and to your conventional control panel documentation.



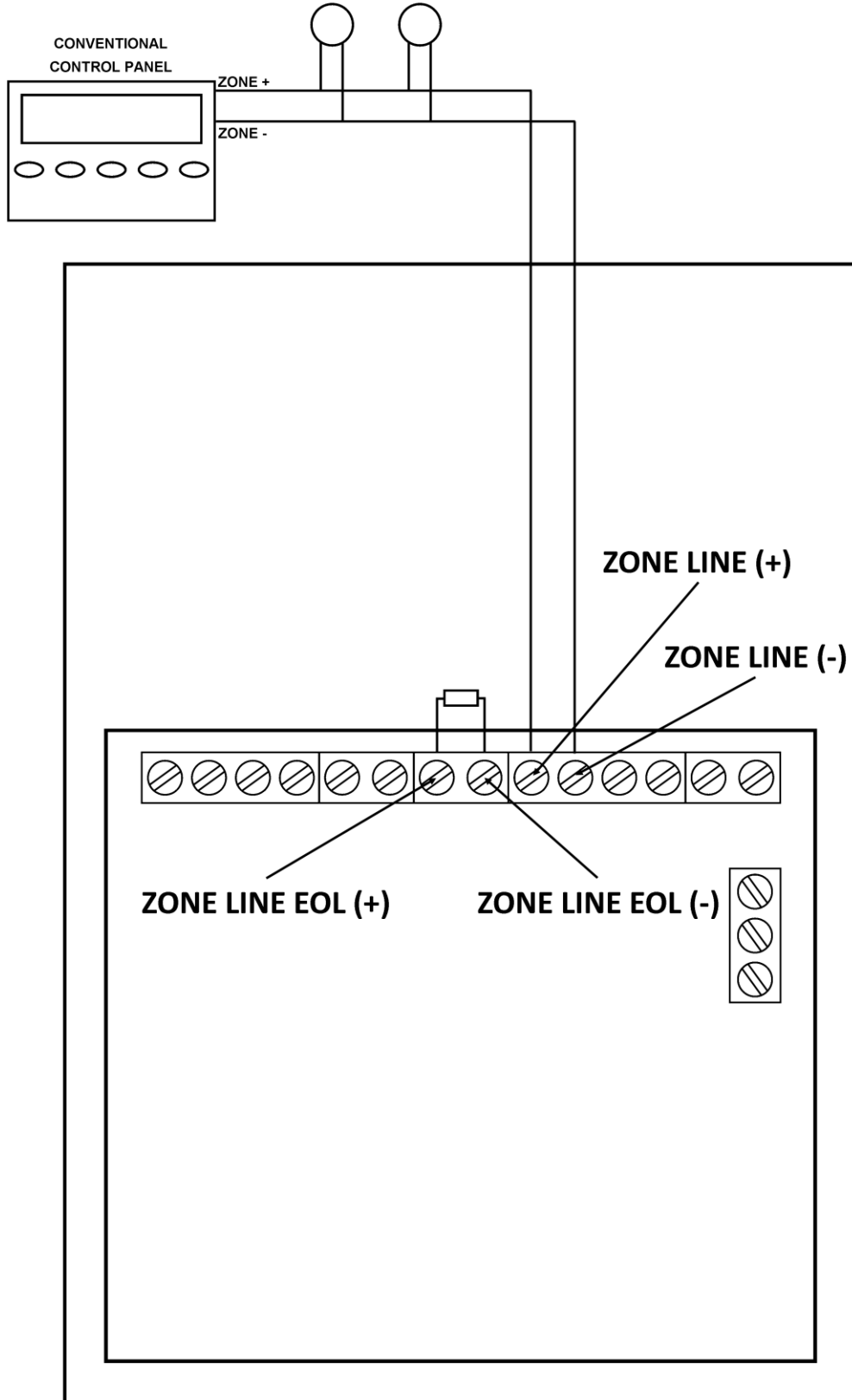
EXTERNAL SOUNDER LINE EOL

IMPORTANT: please note that with this wiring configuration, if a fault occurs on the wireless sub-system, all the remainder sounder output line, subsequent the expander, is isolated from the system until the fault itself is handled and reset; this occurs unless each sounder on the sounder output line is equipped with a Schottky diode and the control panel provides for their use.

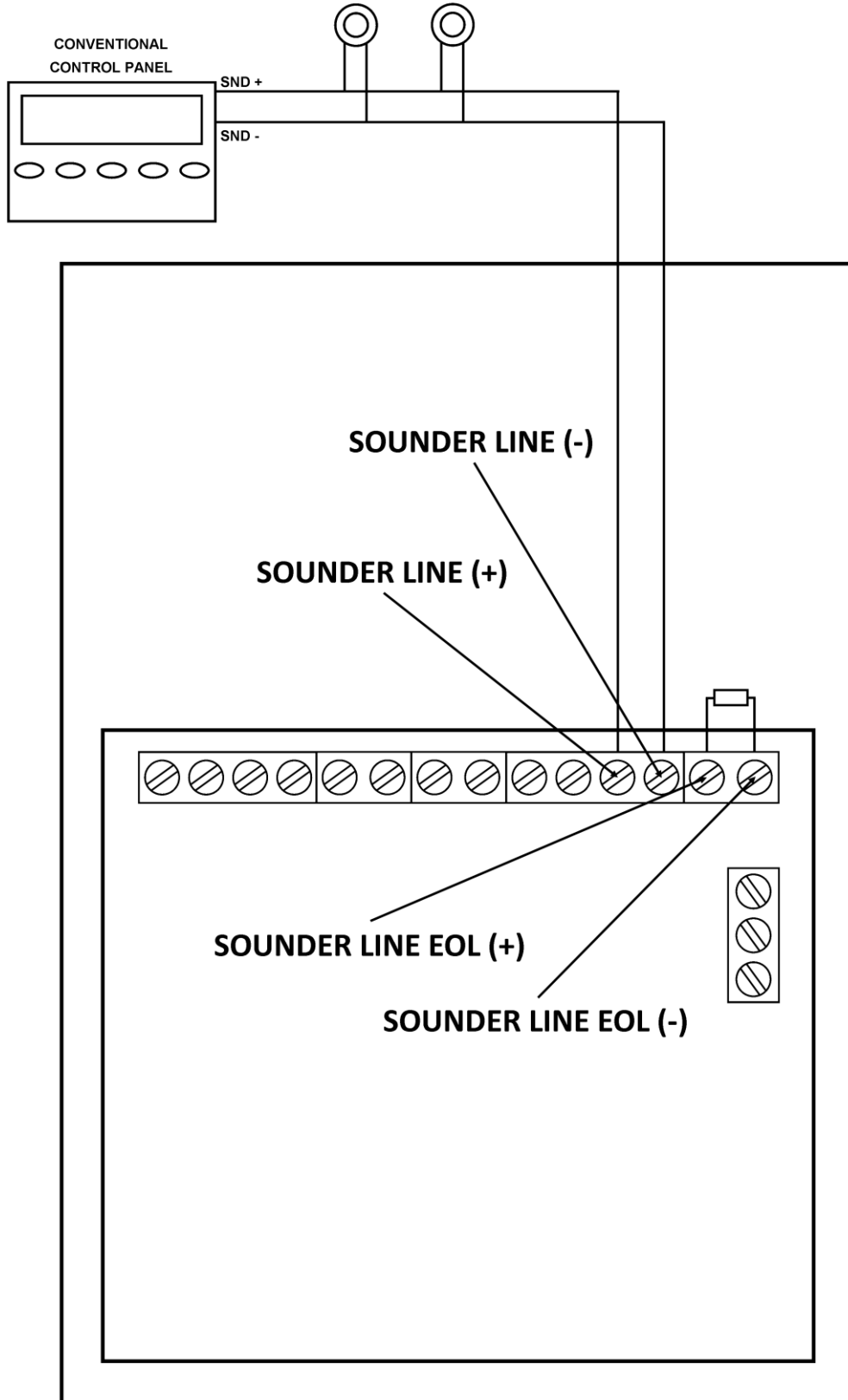
Please refer to your applicable codes of practice and to your conventional control panel documentation.



INTERNAL ZONE LINE EOL



INTERNAL SOUNDER LINE EOL





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6 Power supply

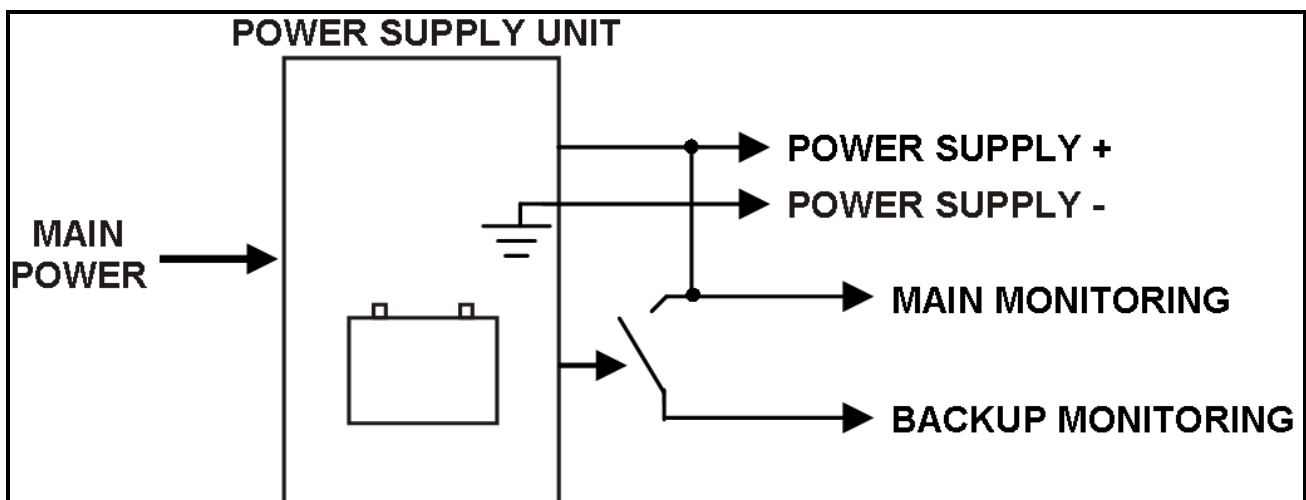
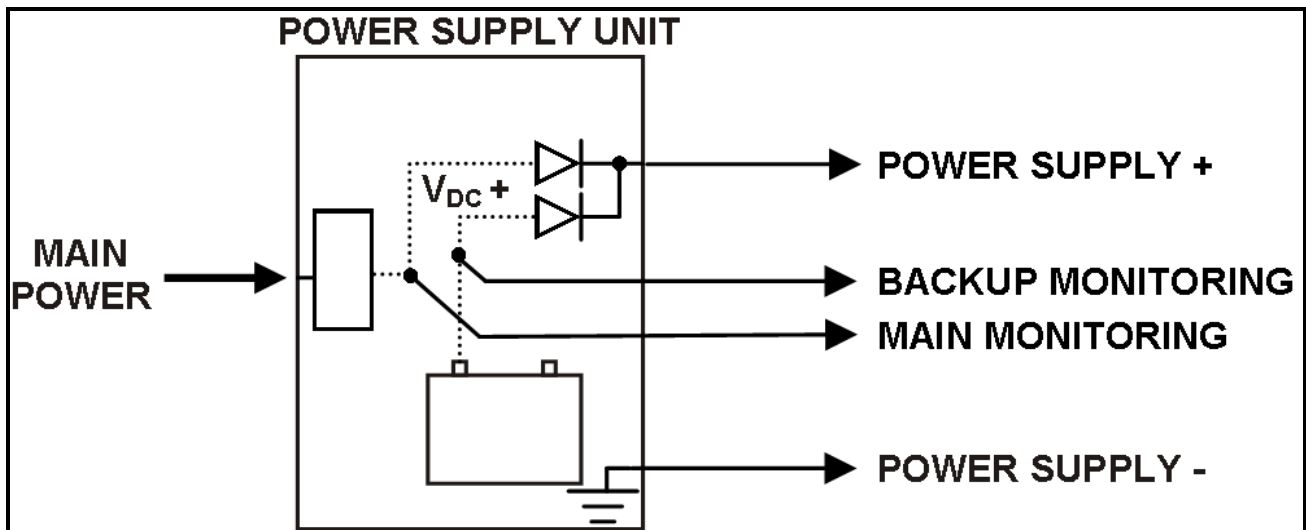
The conventional system expander must be power supplied; this can be done in different ways:

- Directly by the control panel.
- From an external EN 54 compliant power source.
For the power backup unit, MAIN MONITORING and BACKUP MONITORING terminal blocks are used.

Power supply voltage specifications can be found at the end of this document.

7 Power supply backup

If the **SGCWE100** is not power supplied by the control panel, an external power backup unit is to be added as in the following schematic examples:



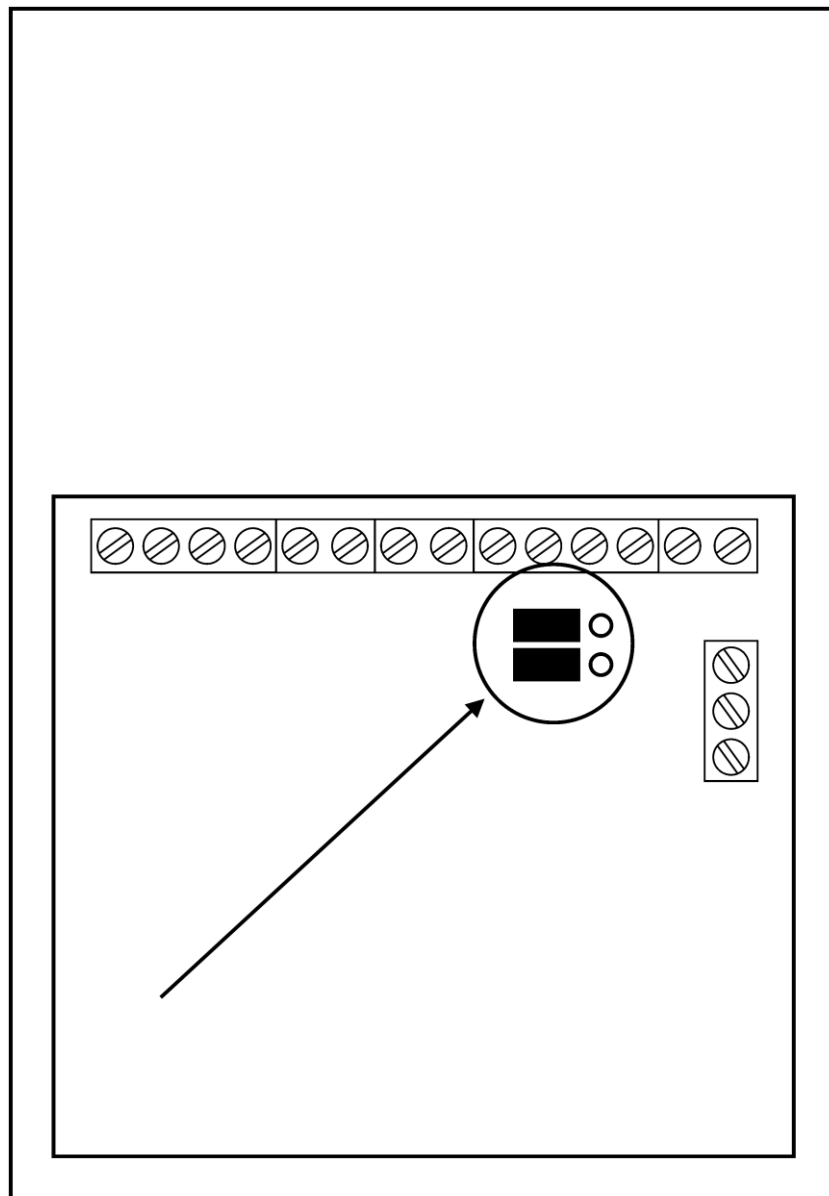
8 Sounders control

Conventional sounders are installed on the SOUNDERS LINE and the voltage level applied to their terminals by the control panel controls their functioning by activating or deactivating them (silencing).

Wireless sounders are controlled in the same exact way through the **SGCWE100**: this means that this kind of radio outputs respond indirectly to the voltage level applied by the control panel to the SOUNDERS LINE positive and negative terminals of the **SGCWE100**.

9 Checking electrical bridges positioning

In order to function, the **SGCWE100** needs to have two electrical bridges fitted on the pins on its PCB in the way illustrated in the following picture:





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10 Programming the SGCWE100

After having performed all the wiring of the **SGCWE100** device, what needs to be done is to program the device in order to create the wireless sub-system.

How to create the wireless sub-system is explained in other documentation (e.g. "GUIDE TO THE WIRELESS SYSTEM INSTALLATION", document code APN-W0001).

The **SGCWE100** device is programmed solely through the WIRELEX FIRE software installed on a personal computer and this connected to the conventional system expander through an RS232 cable; please note that the **SGCWE100** is equipped on its PCB with an RS232 port used for interfacing and programming purposes.

Targets to be achieved in programming are the following:

- Selecting the **SGCWE100** as a central node for the system.
- Activating or deactivating MAIN MONITORING and BACKUP MONITORING **SGCWE100** terminals.
If these terminals are used, the power supply fault feature must be activated.
- Selecting and programming a wireless channel for the wireless sub-system.
- Creating a defined wireless system identified with a unique system code.
- Linking all wireless child devices that compose the radio system to the **SGCWE100**.

WIRELEX FIRE SOFTWARE RELEASE, IN ORDER TO WORK WITH THE SGCWE100, MUST BE FROM REVISION 5.0 AND ABOVE.



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11 Electrical specifications

Specifications	Min	Typ	Max	Units	Notes
Power supply voltage range	9	12	30	V	
Current consumption	-	50	-	mA	NORMAL condition @12 V
Current consumption	-	40	-	mA	FAULT condition @12 V
Current consumption	-	60	-	mA	ALARM condition @12 V
Current consumption	-	26	-	mA	NORMAL condition @24 V
Current consumption	-	21	-	mA	FAULT condition @24 V
Current consumption	-	31	-	mA	ALARM condition @24 V
Power supply lower fault threshold; MAIN MONITORING is used	-	9	-	V	Fault is signalled if the SGCWE100 has been programmed with the "MAIN MONITORING" power supply control option
Power supply lower fault threshold; BACKUP MONITORING is used	-	9	-	V	Fault is signalled if the SGCWE100 has been programmed with the "BACKUP MONITORING" power supply control option
Conventional ZONE LINE applied voltage	-	-	-	V	Same as device's power supply applied voltage
SOUNDER LINE maximum voltage	-	27	-	V	



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12 Radio specifications

Specifications	Min	Typ	Max	Units	Notes
Communication range between SGCWE100 and wireless devices	-	200	-	m	In open space
Operating frequency	868.15	-	869.85	MHz	
Message transmission period	1.5	-	15	Min	From the SGCWE100 to its child devices
Modulation type	-	-	-	-	FSK
Operating frequency channels	-	7	-	Units	
Radiated power	-	5	-	dBm	Corresponding to 3 mW

13 Environmental specifications

Specifications	Min	Typ	Max	Units	Notes
Operating temperature range	-30	-	+50	°C	
Ingress protection rating	-	51C	-	IP	

14 Other specifications

Specifications	Values	Notes
Dimensions	190 mm x 230 mm x 50 mm	With antennas
Dimensions	120 mm x 160 mm x 50 mm	Without antennas
Weight	330 grams	



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15 Modification list

From revision 0003 to 0004 – 08/02/2011:

- Page 7 and page 8: added notes about the pictured wiring schemes.

From revision 0004 to 0005 – 23/09/2011:

- Page 15: "Power supply voltage range" max value extended to 30 V.

From revision 0005 to 0006 – 29/11/2011:

- Reference to normative standards has been corrected.