EN50131-3:2009
EN50131-1:2006+A1:2009
PD6662:2010

Security Grade 3
Environmental Class II

Software Version >9.1

Pyronix®
www.pyronix.com

Installation Reference

For the EURO 162 and
EURO 280 control panels

RINS1529-4

Contents Page

Default User Code:	1234
Default Master Manager:	2222
Default Engineer Code:	1111

1. System Overview

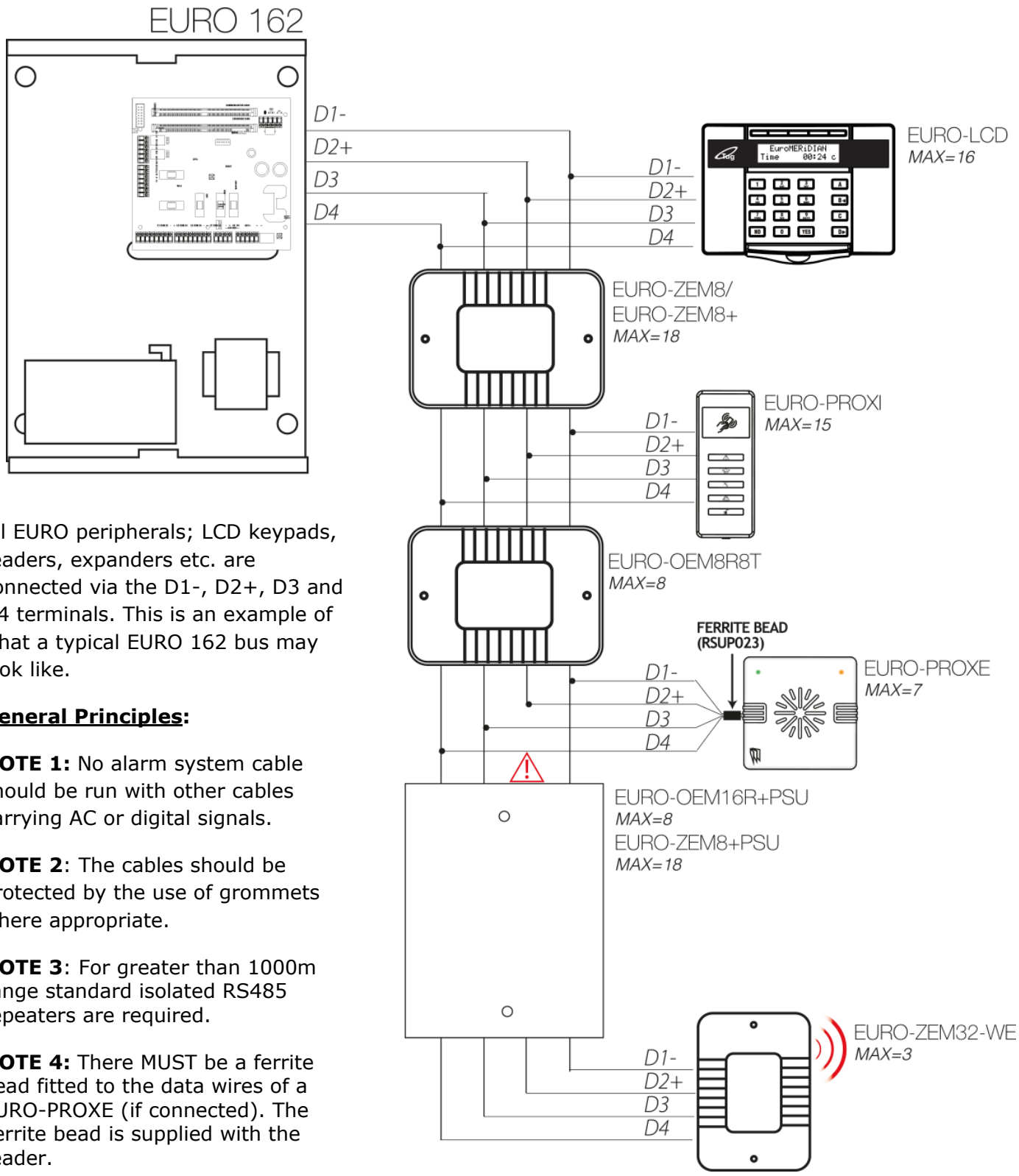
The EURO control panel is wired control panel that can have a maximum of 162 inputs (EURO 162) or a maximum of 280 inputs (EURO 280). It also is compatible with Two Way Enforcer wireless peripherals using the EURO-ZEM32-WE (wireless expander).

1.1 System Overview

EURO PANELS:	EURO 162 iD	EURO 162 End of Line	EURO 280 iD	EURO 280 End of Line
Inputs (max)	162		280	
Inputs (max iD)	30		30	
Inputs (max wireless inputs) Using EURO-ZEM32-WE	96 (3 x ZEM32-WE)		96 (3 x ZEM32-WE)	
Inputs (max wired ZEMs)	-	18	-	30
Set Points (Max) $	16		30	
Of which max keypads	16		16	
Other Devices Max $	15		29	
Wireless Bells	2		2	
Level Sets	12		14	
Full Areas	12		14	
Wards (Max)	15		29	
Shunts	81		140	
Wireless Keyfobs	32		32	
User / Manager Codes £	200		500	
Duress / Guard Codes	20		20	
Logs Mandatory	1000		1000	
Logs Access	500		500	
Logs Optional	500		600	
Output Modules	8		16	
EN Grade	3		3	
Environment Class	II		II	
Comms	Modem, ATE Pins, ARM®		Modem, ATE Pins, ARM®	
Modem Type	EURO-073-ARM		EURO-073-ARM	
MSX card compatible	✓		✓	
Autoset & Gates	✓		✓	
Shunt, Day Alarm, Unset Input Types	✓		✓	
Follow Input	✓		✓	
Special Log	✓		✓	
Intelligent Inputs	Multiple		Multiple	
Display when Set	✓		✓	
Selectable Resistance Ranges	✓		✓	
Download When Set	✓		✓	
Remote Set and Soak	✓		✓	
Event Signalling to Insite	✓		✓	
Dial Out Menu	Upload/Commission		Upload/Commission	
Power Supply	2.5A. Grade 1: 2.25A / Grade 2: 1.4A / Grade 3: 0.9A			
£	Plus engineer and master manager codes			
$	Includes keypads and tag readers			

1.2 The Devices

1.2.1 The EURO 162 Bus Diagram



All EURO peripherals; LCD keypads, readers, expanders etc. are connected via the D1-, D2+, D3 and D4 terminals. This is an example of what a typical EURO 162 bus may look like.

General Principles:

NOTE 1: No alarm system cable should be run with other cables carrying AC or digital signals.

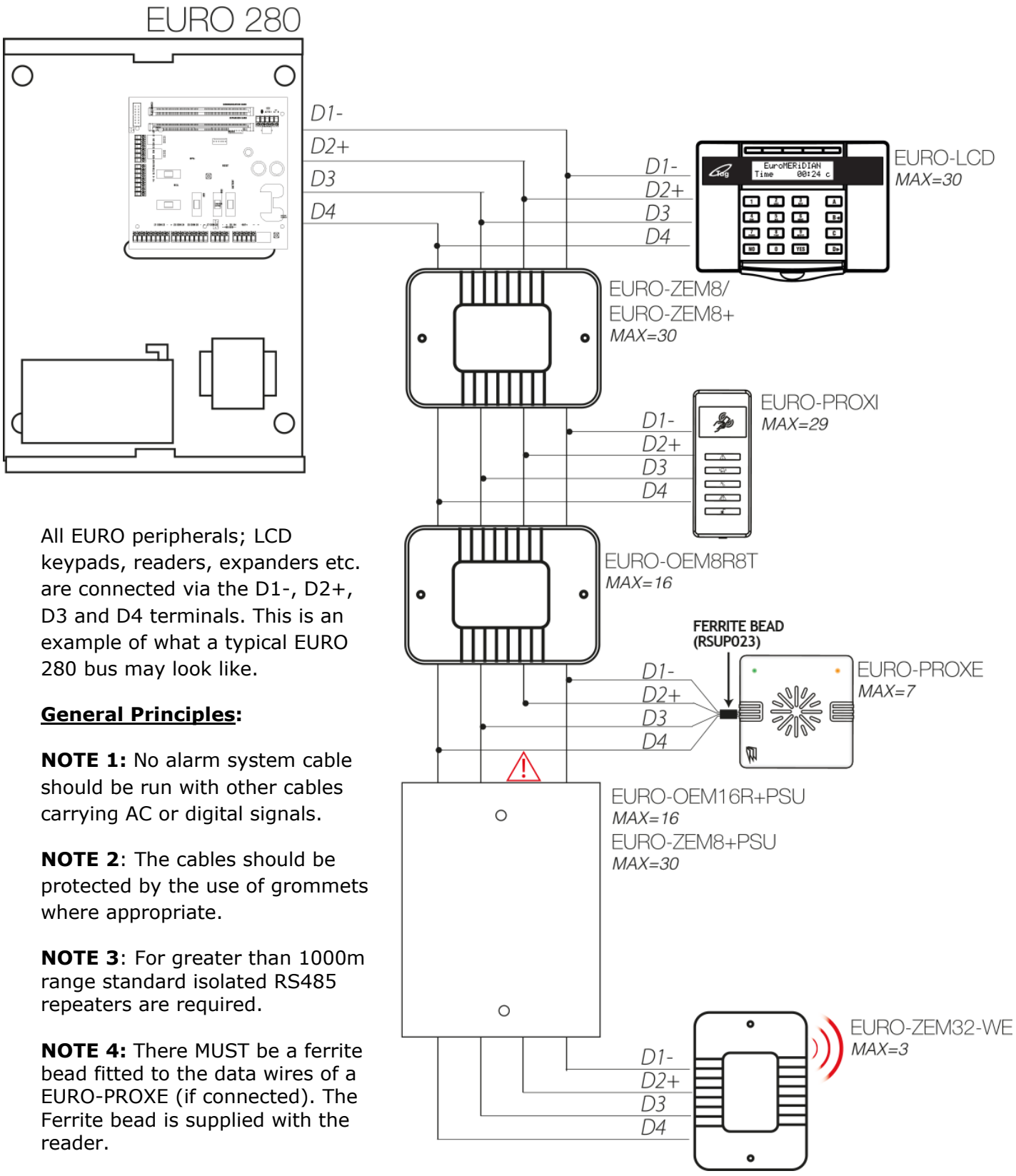
NOTE 2: The cables should be protected by the use of grommets where appropriate.

NOTE 3: For greater than 1000m range standard isolated RS485 repeaters are required.

NOTE 4: There MUST be a ferrite bead fitted to the data wires of a EURO-PROXE (if connected). The Ferrite bead is supplied with the reader.

NOTE 5: (IMPORTANT!) If an expansion module with a power supply on board is connected, the D2+ terminal MUST NOT be connected between the main bus and module.

1.2.2 The EURO 280 Bus Diagram



All EURO peripherals; LCD keypads, readers, expanders etc. are connected via the D1-, D2+, D3 and D4 terminals. This is an example of what a typical EURO 280 bus may look like.

General Principles:

NOTE 1: No alarm system cable should be run with other cables carrying AC or digital signals.

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NOTE 4: There MUST be a ferrite bead fitted to the data wires of a EURO-PROXE (if connected). The Ferrite bead is supplied with the reader.

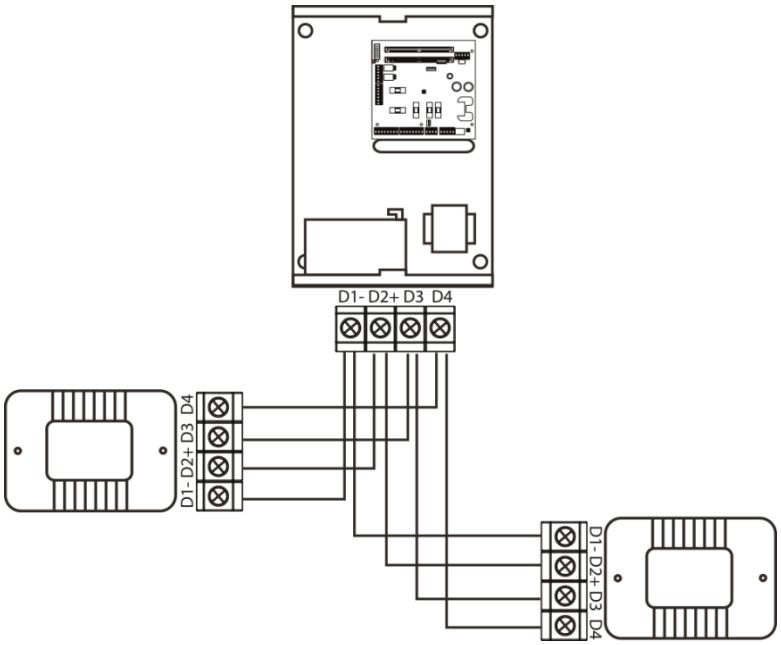
NOTE 5: (IMPORTANT!) If an expansion module with a power supply on board is connected, the D2+ terminal MUST NOT be connected between the main bus and module.

1.2.3 RS-485 Wiring

Cable type	**Screened Cable**	**Bus range (m)**	**Wiring Format**	
			Daisy Chain Range	*Star Range*
4 core alarm cable	Use when bus located near 230VAC mains power line	300m	No limit.	50m
6 core alarm cable doubling D1 (0V) and D2 (12V)		1000m		
Twisted pair		1000m		

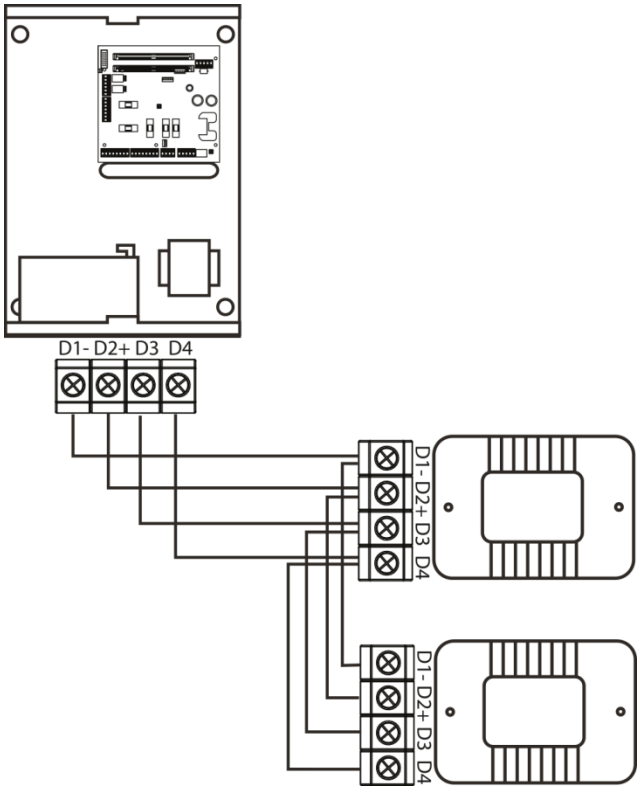
Daisy Chain Wiring Diagram

Example #1



Daisy Chain Wiring Diagram

Example #2



1.3 EURO Input Mapping Overview:

1.3.1 EURO 162 Input Mapping Table:

DEVICES	Address	Input Numbers
EURO 162 PCB	PCB	1-8
EURO-ZEM8 / EURO-ZEM8+ / EURO-ZEM8+PSU / EURO-ZEM32-WE	0	9-16
	1	17-24
	2	25-32
	3	33-40
	4	41-48
	5	49-56
	6	57-64
	7	65-72
	8	73-80
	9	81-88
	10	89-96
	11	97-104
EURO-ZEM8 / EURO-ZEM8+/ EURO-ZEM8+PSU	12	105-112
	13	113-120
	14	121-128
	15	129-136
	16	137-144
	17	145-152
EURO-LCD	0	153-154
EURO-LCD / EURO-PROXI*	1	155-156
	2	157-158
	3	159-160
	4	161-162
Total		***162***

NOTE 1: 3 x EURO-ZEM32-WE can be connected to the EURO 162. This expander allows 32 inputs which are separated into 4 addresses (each address enables 8 wireless inputs). It is possible to mix the wired and wireless remote expanders.
When installing a EURO-ZEM32-WE, the first wireless expander (Address 0) will learn the 32 wireless keyfobs and 2 wireless sounders. If this expander is disconnected, the keyfobs and sounders will need to be learnt on another expander again.

***NOTE 2:** If the EURO-PROXI (Internal Tag Reader) is programmed as an 'Set/Unset' device, 2 inputs are can be programmed. If the EURO-PROXI is programmed as 'Entry Control' or 'Access Control' only 1 input can be programmed.

1.3.2 EURO 280 Input Mapping Table:

DEVICES	Address	Input Numbers
EURO 280 PCB	PCB	1-8
EURO-ZEM8 / EURO-ZEM8+/ EURO-ZEM8+PSU / EURO-ZEM32-WE	0	9-16
	1	17-24
	2	25-32
	3	33-40
	4	41-48
	5	49-56
	6	57-64
	7	65-72
	8	73-80
	9	81-88
	10	89-96
	11	97-104
EURO-ZEM8 / EURO-ZEM8+/ EURO-ZEM8+PSU	12	105-112
	13	113-120
	14	121-128
	15	129-136
	16	137-144
	17	145-152
	18	153-160
	19	161-168
	20	169-176
	21	177-184
	22	185-192
	23	193-200
	24	201-208
	25	209-216
	26	217-224
	27	225-232
	28	233-240
	29	241-248
EURO-LCD	0	249-250
EURO-LCD / EURO-PROXI*	1	251-252
	2	253-254
	3	255-256
	4	257-258
	5	259-260
	6	261-262
	7	263-264
	8	265-266
	9	267-268
	10	269-270
	11	271-272
	12	273-274
	13	275-276
	14	277-278
	15	279-280
Total		***280***

NOTE 1: 3 x EURO-ZEM32-WE can be connected to the EURO 280. This expander allows 32 inputs which are separated into 4 addresses (each address enables 8 wireless inputs). It is possible to mix the wired and wireless remote expanders.

When installing a EURO-ZEM32-WE, the first wireless expander will learn the 32 wireless keyfobs and 2 wireless sounders. If this expander is disconnected, the keyfobs and sounders will need to be learnt on another expander again.

***NOTE 2:** If the EURO-PROXI (Internal Tag Reader) is programmed as an 'Set/Unset' device, 2 inputs are can be programmed. If the EURO-PROXI is programmed as 'Entry Control' or 'Access Control' only 1 input can be programmed.

1.4 Output Mapping Overview

1.4.1 EURO 162 Output Mapping Table

DEVICES	Address	Output Numbers
EURO 162i PCB	PCB	4
ATE Outputs (using communication ribbon)	Ribbon	10
EURO-OEM8R8T / EURO-OEM16R+PSU	0	1-16
	1	17-32
	2	33-48
	3	49-64
	4	65-80
	5	81-96
	6	97-112
	7	113-128
EURO-ZEM8+/ EURO-ZEM8+PSU	0	1-4
	1	1-4
	2	1-4
	3	1-4
	4	1-4
	5	1-4
	6	1-4
	7	1-4
	8	1-4
	9	1-4
	10	1-4
	11	1-4
	12	1-4
	13	1-4
	14	1-4
	15	1-4
	16	1-4
	17	1-4
EURO-LCD	0	1
EURO-LCD / EURO PROXI / EURO PROXE	1	1
	2	1
	3	1
	4	1
	5	1
	6	1
	7	1
	8	1
	9	1
	10	1
	11	1
	12	1
	13	1
	14	1
	15	1
Total		***230***

1.4.2 EURO 280 Output Mapping Table

DEVICES	Address	Output Numbers
EURO 280 PCB	PCB	4
ATE Outputs (using communication ribbon)	Ribbon	10
EURO-OEM8R8T / EURO-OEM16R+PSU	0	1-16
	1	17-32
	2	33-48
	3	49-64
	4	65-80
	5	81-96
	6	97-112
	7	113-128
	8	129-144
	9	145-160
	10	161-176

	11	177-192
	12	193-208
	13	209-224
	14	225-240
	15	241-256
EURO-ZEM8+/ EURO-ZEM8+PSU	0	1-4
	1	1-4
	2	1-4
	3	1-4
	4	1-4
	5	1-4
	6	1-4
	7	1-4
	8	1-4
	9	1-4
	10	1-4
	11	1-4
	12	1-4
	13	1-4
	14	1-4
	15	1-4
	16	1-4
	17	1-4
	18	1-4
	19	1-4
	20	1-4
	21	1-4
	22	1-4
	23	1-4
	24	1-4
	25	1-4
	26	1-4
	27	1-4
	28	1-4
	29	1-4
EURO-LCD	0	1
EURO-LCD / EURO PROXI / EURO PROXE	1	1
	2	1
	3	1
	4	1
	5	1
	6	1
	7	1
	8	1
	9	1
	10	1
	11	1
	12	1
	13	1
	14	1
	15	1
	16	1
	17	1
	18	1
	19	1
	20	1
	21	1
	22	1
	23	1
	24	1
	25	1
	26	1
	27	1
	28	1
	29	1
Total		***420***

2. Installation

1. Unscrew and remove the cover of the EURO control panel (Figure 1).
2. Install the supplied stand offs if needed before you mount the metal case to the wall (Figure 3).

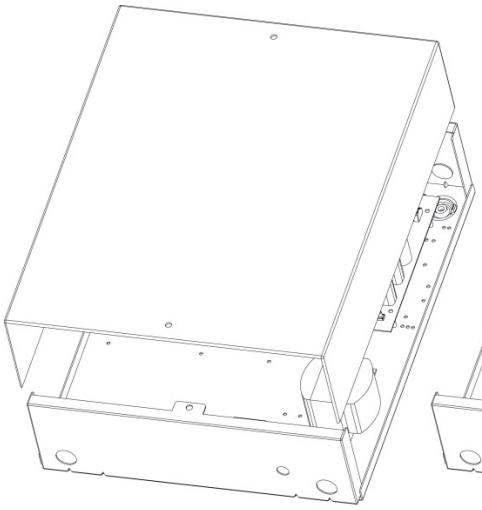


Figure 1.

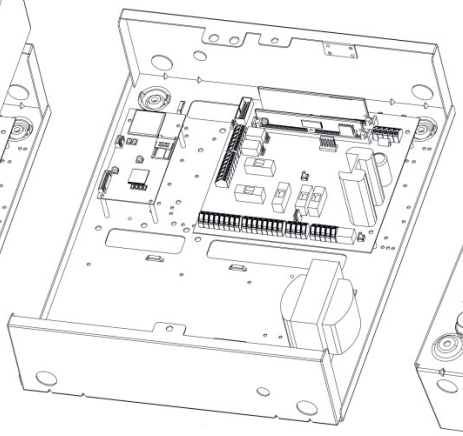


Figure 2.

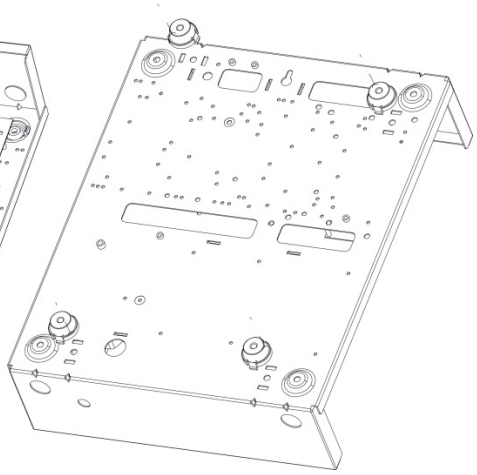
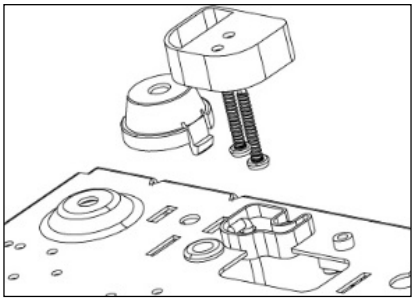
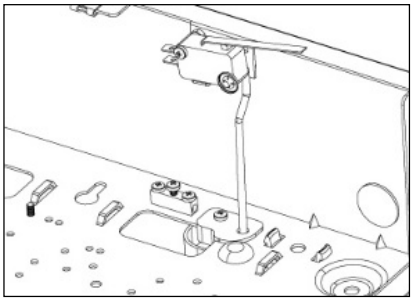


Figure 3.

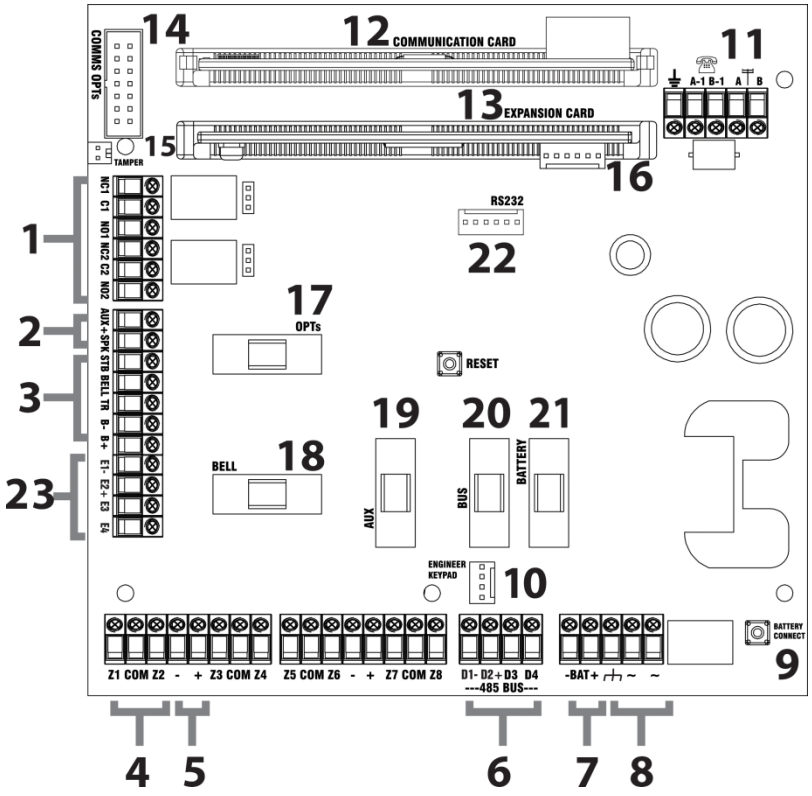
3. If required, connect any other devices (input expanders, output expanders etc.) before powering up the system.
4. The modem is already connected and will need the telephone line connecting. See page 54.
5. Screw the back metal plate to the wall.
6. The tamper mechanism comes already fitted and will operate properly once the casing is fitted to the wall. If using the stand offs, the following will need to be used for the rear tamper mechanism to work correctly.





7. Secure all the wires and close the enclosure making sure the tamper is operational
8. Turn on the power to the EURO control panel.

3. The Printed Circuit Board



1] Outputs 1 & 2
Relay outputs. See page: 23.

2] Speaker connection
Connects a 16ohm speaker. See page: 23.

3] External sounder connections
Connects an external sounder. See page:24.

4] Input connections
8 Fully programmable inputs. See page: 17.

5] Auxiliary 12V supply
12V power supply.

6] RS485 bus terminals
Connects peripherals. See from page: 4.

7] Battery connection:
Connects a battery to the control panel. See page: 15.

8] Earth & 17V connection
Connects the earth and 17V supply from the transformer.

9] Battery connect switch
Press to power up the control panel without the mains supply connected. See page: 15.

10] Engineer Keypad
An addressed keypad can be connected here to allow access to the engineer menu. See page: 17.

11] PSTN Connections
If a EURO-073-ARM modem is connected, the telephone line connections will go here. See page: 54.

12] EURO-073-ARM Card Slot
A EURO-073-ARM modem card can be connected here which will enable PSTN communication. See page: 54.

13] Expansion Card Slot
Used to insert an MSX card. See page: 59.

14] Communication ATE Outputs
Connects the supplied communication loom to enable an additional 9 programmable outputs. These are low current and would normally be used when connecting a stand-alone communicator to the control panel. See page: 15.

15] Tamper (hold off)
Tamper protection for the metal casing.

16] RS232 Connection
This connection on the expander card is used for an RS232 lead that will connect to a PC to allow uploading and downloading of data using the InSite software (see page: 56).

NOTE: Do not use the RS232 connection on the printed circuit board.

17] Outputs Fuse

18] Bell Fuse

19] Auxiliary Fuse

20] Bus Fuse

21] Battery Fuse

22] DO NOT USE

23] iD Terminals: See page: 19.

3.1 Technical Specification

Programmable Outputs	Ratings	Normal State	Active State
Output 1	Relay, 3A, max 30V	Normally Closed	Normally Open
Output 2	Relay, 3A, max 30V	Normally Closed	Normally Open
Speaker	16 ohms	No tones	Repeat RKP tones & internal sounder
Strobe Output	500mA	12v	0v
Bell Output	500mA	12v	0v
ATE Outputs	2mA	5v	0v

All outputs are programmed in "CHANGE OUTPUTS" in the Engineer menu.

Input Resistance	1k / 1k DEOL Range	4k7 / 2k2 DEOL Range	4k7 / 4k7 DEOL Range
Normal	0k5 to 1k4	1k4 to 2k9	3k7 to 8k3
Burglary Alarm	1k5 to 5k9	4k2 to 7k8	8k4 to 10k2
Fault	6k to 8k1	8k to 11k3	10k3 to 14k9
Masking	8k2 to 17k	11k6 to 22k	15k to 22k
Tamper	<0k5 or >17k	<1k4 or >22k	<3k7 or >23k

All inputs are programmed in "CHANGE INPUTS" in the Engineer menu.

Fuses	Value	Type
Bell fuse for bell terminals	F800mAL quick blow 250V	Glass
Auxiliary fuse for Aux terminals	F800mAL quick blow 250V	Glass
RS485 Bus Fuse for bus terminals	F800mAL quick blow 250V	Glass
Battery Fuse for battery terminals	F1.6A anti-surge quick blow 250V	Glass
iD Fuse for iD terminals	F800mAL quick blow 250V	Glass
230V Mains Fuse for mains terminals	T500mA anti-surge slow blow 250V	Ceramic

Panel Power Supply Output	Nominal	Range
Output Voltage	13.7V DC	10-15V DC
Output Current	2.0A Continuous	2.5A peak, during battery charging

Power Supply Type A.

Maximum output peak ripple voltage: Max 100mV

SD Voltage which the deep discharge protection function will operate at: 10.5V

Over Voltage Protection Trigger Voltage: 18V

NOTE 1. EURO power supplies are NOT designed for use with multiple batteries connected.
NOTE 2. System load should not exceed the panel power supply output shown above, or the maximum load supportable by the battery for the specified backup time, as in the table shown below.
NOTE 3. The power ratings are based on battery shown in table – but ANY battery capable of supporting the system load for the required time may be used without affecting these ratings.

Panel Power Supply Input	Nominal	Range
Mains Supply Voltage AC	230V AC at 50Hz	-15% +10%
Transformer Rating	45VA	18.5V at 2.5A

Battery Charging Specification

Float Voltage	13.8v DC	Current Limit	700mA
Battery low voltage cut off	10.5v	Standby battery capacity	7A to 17A
Recharge time	<24 Hours		

EN50131-6:2008 Rated Output

In accordance with EN50131-6:2008, the EURO standby times and effective output currents depend on the **Security Grade** of the system and how 230V mains missing fault is signalled to the Alarm Receiving Centre. Power supplies are rated in accordance with the requirements of EN50131-6, which are related to the maximum battery size that can be accommodated in the housing and vary according to the grade of the system in which they are installed, as per the following table:

Electrical Capability	EN50131-6 Rating. Maximum Load	
Example Battery Model	Grade 2	Grade 3
Yuasa NP7-12	1.4A	0.9A

EN50131-1:2006+A1:2009 (30 hrs if notified to an ARC) for 17Ah battery = 477mA (Grade 3).
EN50131-1:2006+A1:2009 (60 hrs if not notified to an ARC) for 17Ah battery = 193mA (Grade 3) .

EURO PCB Current Consumption	
Quiescent	75-90mA
User Code and Tag Guessing	
4-digit codes	10,000
6-digit codes	100,000
Disallowed codes	None
All codes	16^{12}
According to EN50131-3:2009 Annex B	
According to spec of manufacturer of RFID components used	

Environmental	
Operational	-10°C to +40°C, Certified
Storage	-20°C to +60°C
Humidity	75%
Dimensions	
Metal Casing	390 x 305 x 100mm Weight: 6kg
EURO Printed Circuit Board	150 x 175 x 30mm
EN50131 Grading	
EURO 162 / 280	Grade 3

The below table is specifies ATS (Alarm Transmission System) performance criteria in accordance with the requirements of EN50136-1-1.

Notification Equipment	**Grade 2 Criteria**			
	Option A	Option B	Option C	Option D
Remotely powered external sounder	2	Optional	Optional	Optional
Self-powered external sounder	Optional	1	Optional	Optional
Main Communication Path (ATS)	ATS 2	ATS 2	ATS 2	ATS 3
Second Communication Path (ATS)	Optional	Optional	ATS 1	Optional

Notification Equipment	**Grade 3 Criteria**			
	Option A	Option B	Option C	Option D
Remotely powered external sounder	2	Optional	Optional	Optional
Self-powered external sounder	Optional	1	Optional	Optional
Main Communication Path (ATS)	ATS 4	ATS 4	ATS 4	ATS 5
Second Communication Path (ATS)	Optional	Optional	ATS 3	Optional

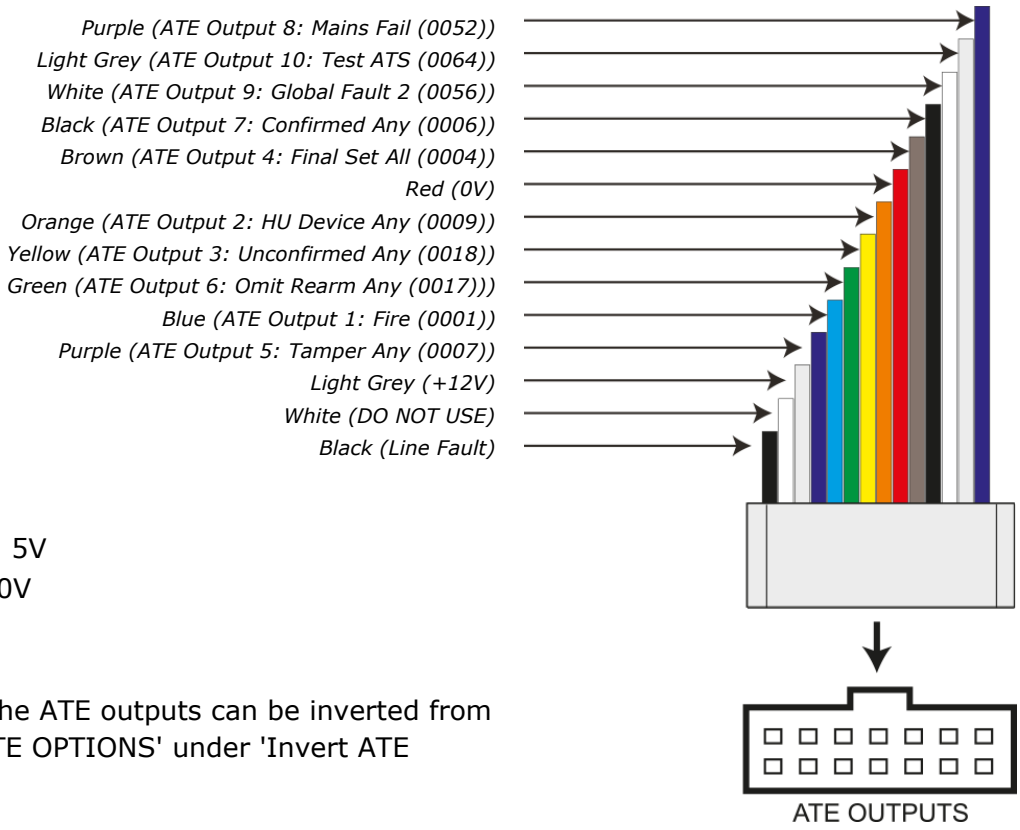
When used with a supervised premises transceiver, options 'Grade 3 Option D' are supported. The use of the Digi Modem restricts the options up to 'Grade 2 Option B'.

3.2 Important Installation Notes

- Ensure wiring is done to the national wiring regulations in the country where the installation is taking place. In the UK, this is BS 7671 Requirements for electrical installations; IET Wiring Regulations (17th edition). If in doubt, consult a local qualified electrician.
- Ensure that a readily accessible disconnect device incorporated in the premises installation wiring shall be provided external to the equipment with a contact separation of at least 3,0mm and connected as closely as possible to the supply. Example: Fused Spur Unit
- When fixing external wires, ensure that means are provided in the installation to prevent the SELV (Safety Electrical Low Voltage) or signal circuits from coming into contact with live parts of the power supply circuit. Wires shall be fixed near their terminal blocks.
- The end of stranded conductor shall not be consolidated by soft soldering at places where the conductor is subjected to contact pressure. Example: Must not solder ends of wires which are to be secured in detector and control panel terminal connectors.
- On completion of wiring use tie-wraps to prevent any loose wires causing a safety hazard (material of cables tie shall be rated at least HB or better).
- Cables ties and hoses shall be separate for power supply cable and SELV (Safety Electrical Low Voltage) wirings.
- Size of protective bonding conductors: minimum section 1.5mm². Example: Electrical Earth wire connections.

3.3 Communication ATE Loom

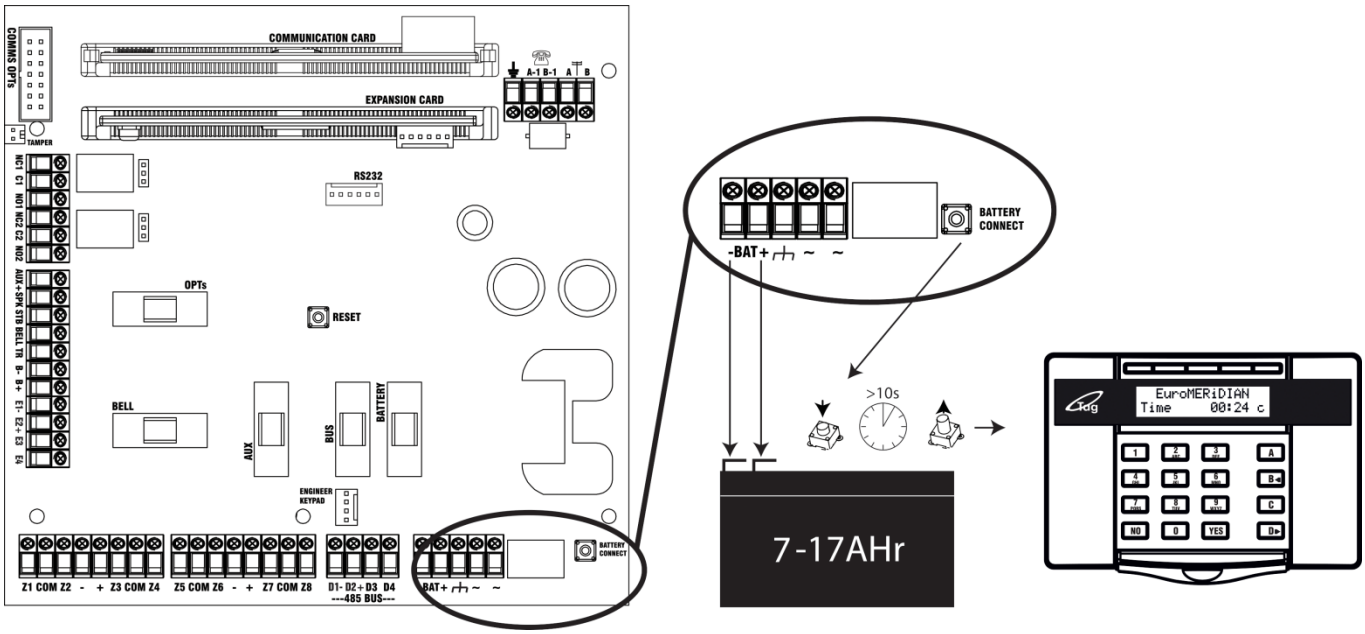
The ATE low power outputs are programmed in the engineer function: **'CHANGE OUTPUTS->Endstation PGMs".**



Normal Status: 5V
Active Status: 0V
Current: 2mA

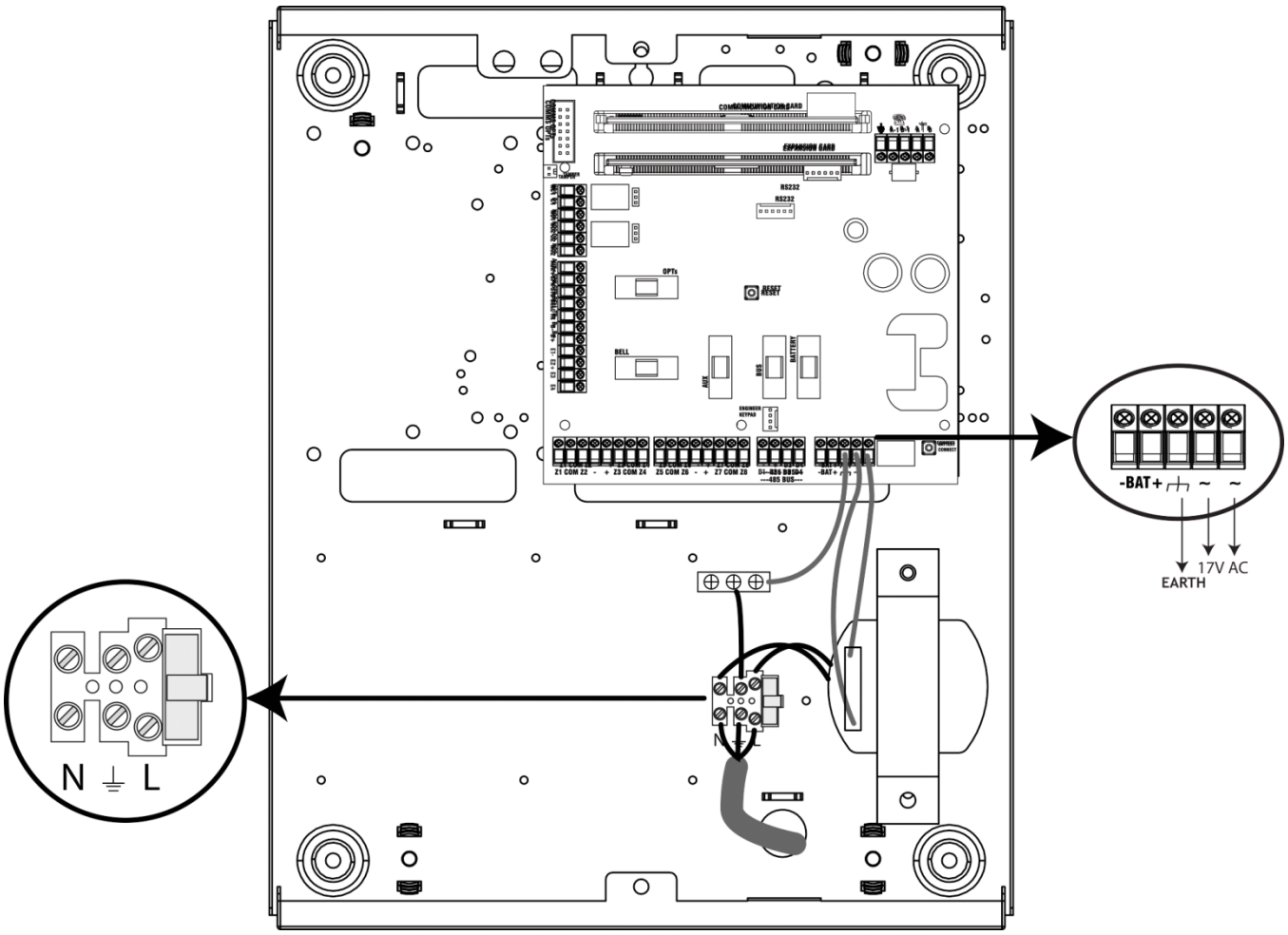
The polarity of the ATE outputs can be inverted from the function 'SITE OPTIONS' under 'Invert ATE Outputs'.

3.4 Battery Connection



NOTE: The battery connect button is only used if no mains is present and a battery power up is required.

3.5 AC Mains Supply Connection



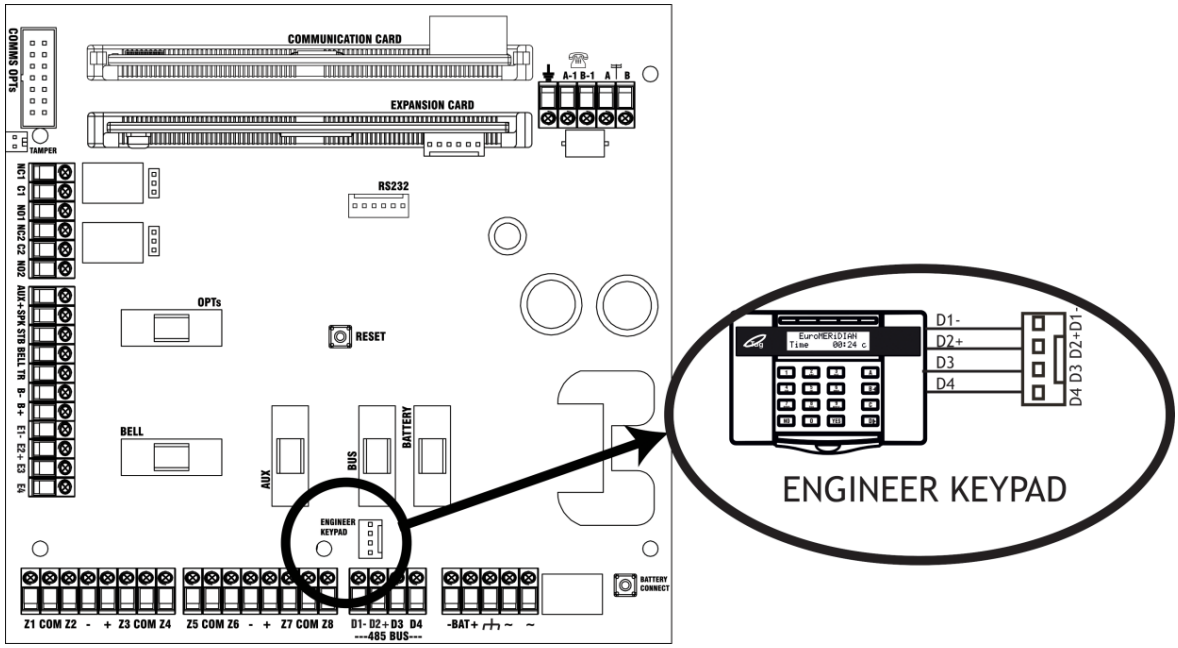
Panel Power Supply Input	Nominal	Range
Mains Supply Voltage AC	230V AC at 50Hz	-15% +10%
Transformer Rating	45VA	18.5V at 2.5A

Panel Power Supply Output	Nominal	Range
Output Voltage	13.7V DC	10-15V DC
Output Current	2.0A Continuous	2.5A peak, during battery charging
Power Supply Type A.		

Fuses	Value	Type
230V Mains Fuse for mains terminals	T500mA anti-surge slow blow 250V	Ceramic

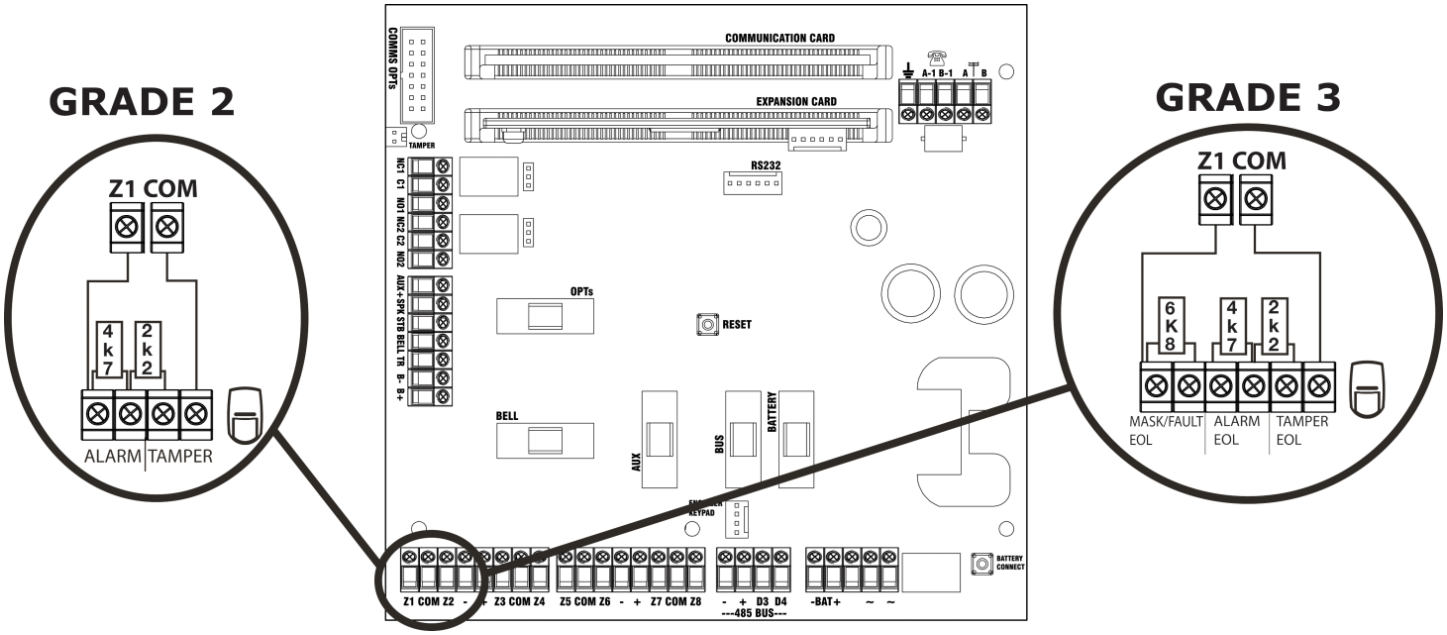
3.6 Engineer Keypad Connection

If required, any keypad can be connected to the 'Engineer Keypad' connections as shown below. This enables quick access to the Engineer menu without having to walk to the nearest keypad.

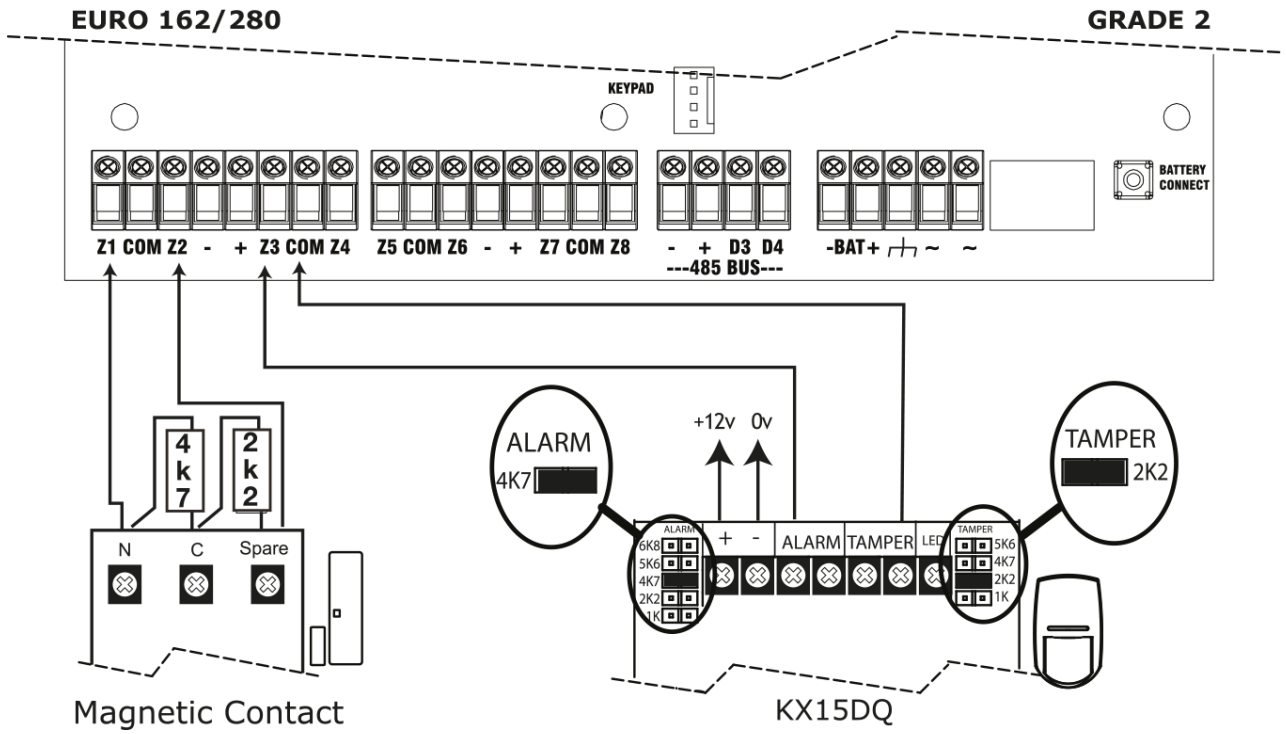


NOTE: Before an Engineer keypad is enabled, it should be addressed as an additional keypad on the EURO control panel before operation. See page: 26 for adding keypads to the EURO control panel.

4. Input Connections

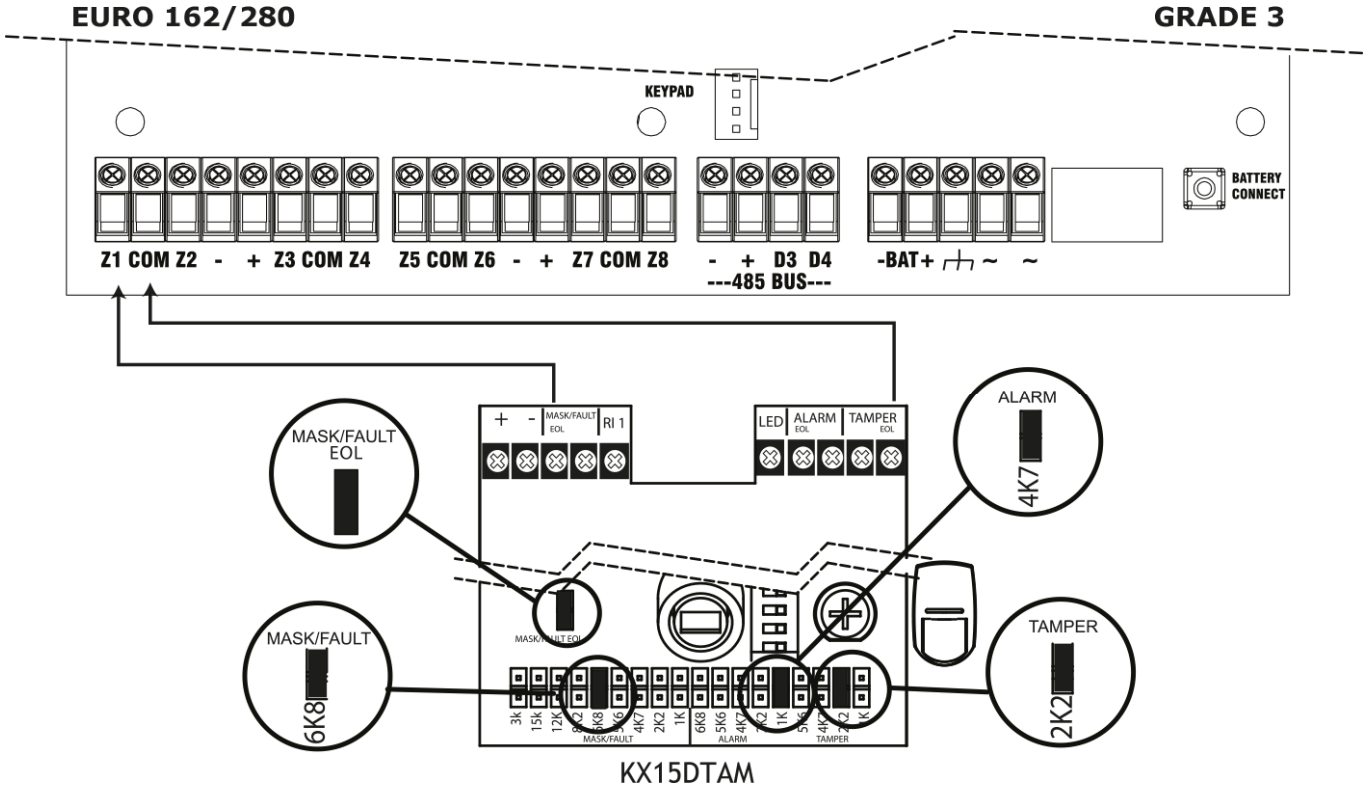


4.1 Default Grade 2 DEOL (Double End of Line) Input Wiring



The above wiring example shows the connections for a Grade 2 KX15DQ PIR detector.

4.2 Grade 3 Mask/Fault Input Wiring



The above wiring example shows the connections for a Grade 3 KX15DTAM detector.

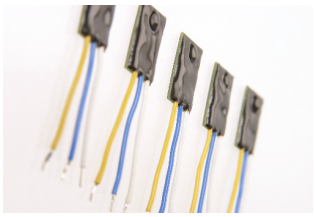
5. iD Wiring

The EURO control panels incorporate the feature of iD plus wiring.

This gives you a means of simplifying wiring by individually addressing a number of detectors wired to the control panel in parallel.

The use of SCREENED cable is specified to minimise any problems from RFI, especially taking into account the lack of control over any wiring installed after the alarm system is commissioned.

A small interface, known as a 'biscuit' – actually a silicon microchip - is used to achieve this, and wires directly into the terminals of any detector.



Each device has its own identification number, from 01 to 30, which must **NOT** be duplicated on the same network.

A network has a sequence of biscuits starting from 01.

The system polls the devices continuously for two signals:

A diagnostic signal showing that the device is correctly connected and functional – and that the tamper switch is correctly closed.

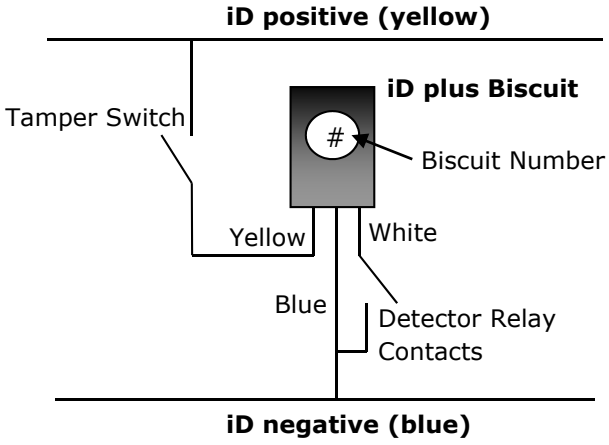
A signal to report the status of the detector being monitored.

5.1 iD Connectors

The devices wire in any order and any parallel configuration, requiring two cores only for communication plus the supply for detectors.

It is essential that the connections are correctly made, or serious malfunction of the entire iD network could result.

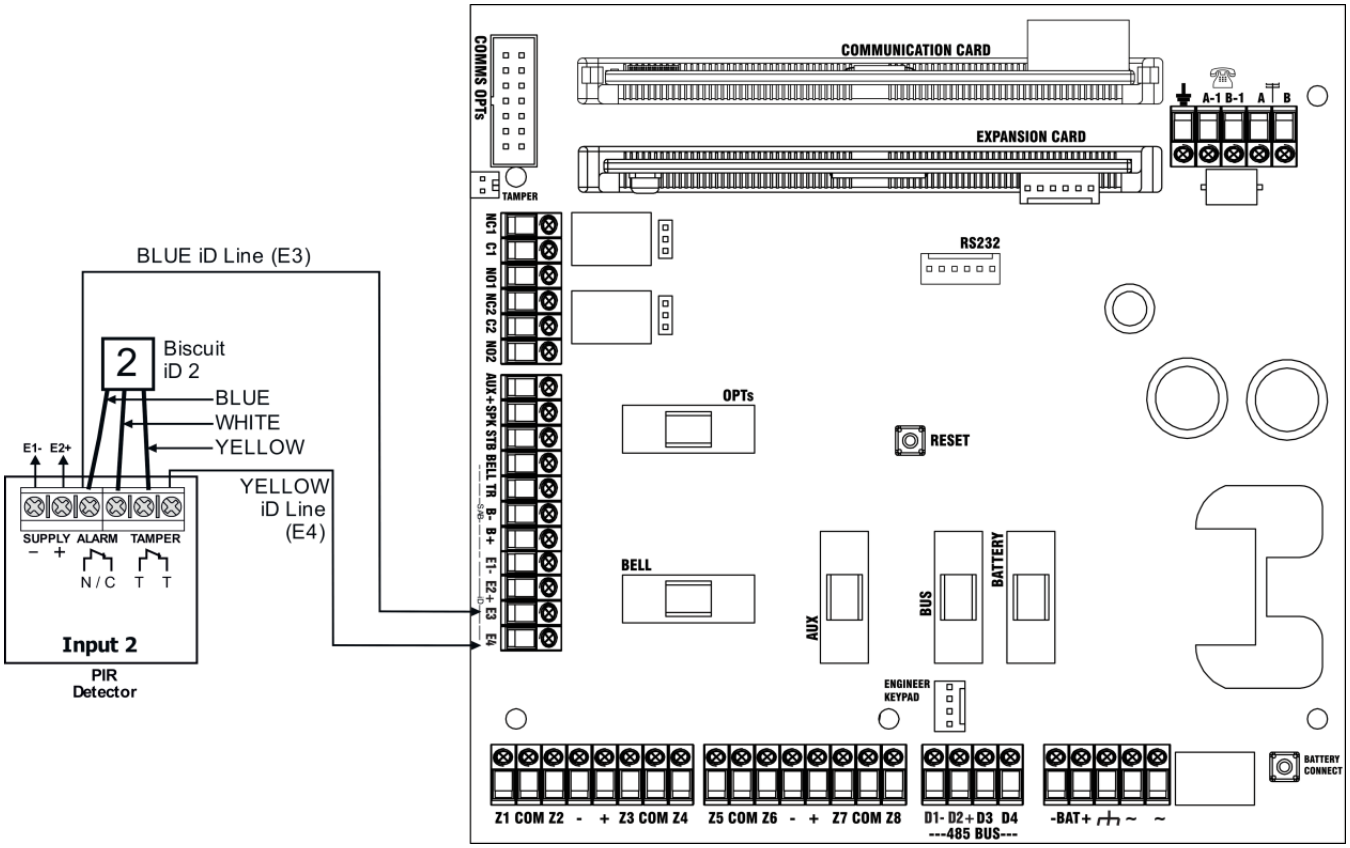
The standard wiring convention is YELLOW for the iD Line +, and BLUE for the iD Line –, which thus match the colour coding of the biscuit itself.



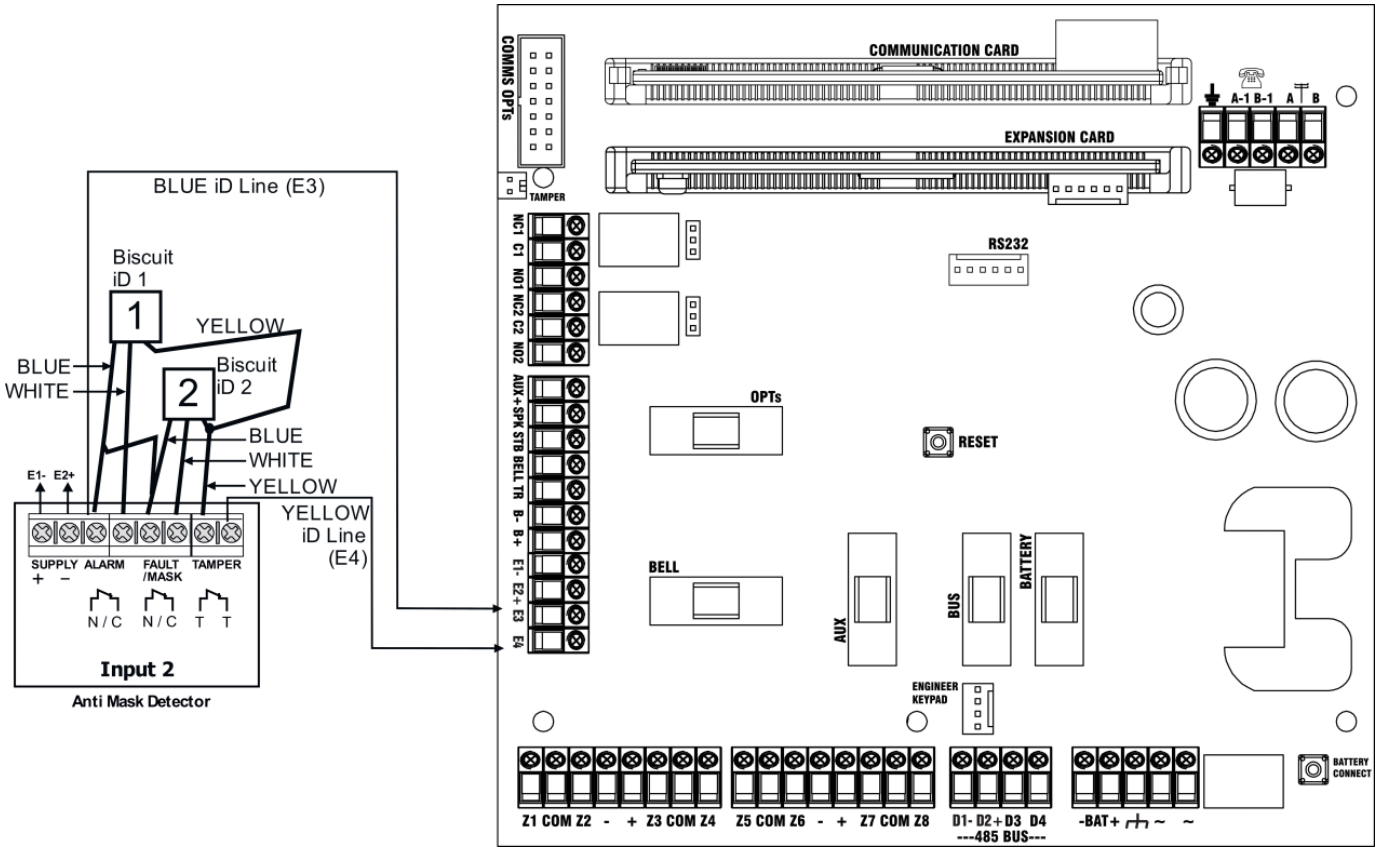
The third, WHITE, connection to the biscuit is used for the switch contact.

YELLOW:	iD+ Terminal E4
BLUE:	iD - Terminal E3
Tamper switch:	In series with YELLOW
Switch contact:	Between WHITE and BLUE

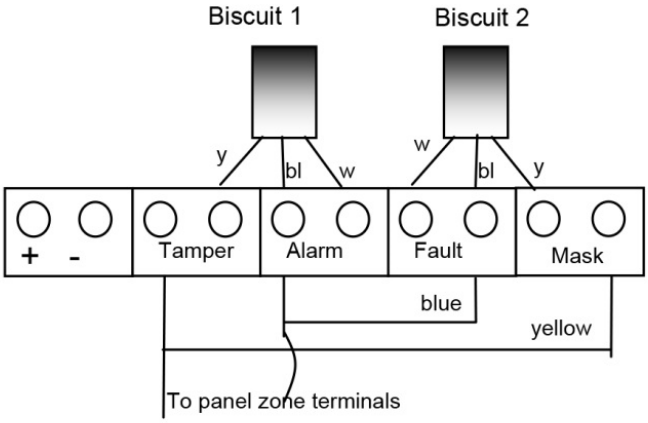
5.2 Connecting iD Biscuits to PIRs (Grade 2)



5.1 Connecting iD Biscuits to PIRs (Grade 3)



For separate fault and mask relays use the below configuration



Please note that when using masking you must program the masking biscuit (iD 2 in the above example as 'fault') and then pair the corresponding inputs using the 'paired input' attribute.

It is possible to spur off at this point to a further detector(s).

On completion of making connections, the biscuit should be placed neatly against the terminal block or cable form, ensuring that it does not obstruct the tamper switch, cause a short circuit, or obstruct the operation of the detector.

5.2 iD Termination

Each cable run should be terminated with a 0.01µF capacitor connected between iD + and - (yellow and blue) at the last biscuit.

NORMALLY OPEN DETECTORS should be connected in the same way. Select the 'Normally Open' attribute when programming the input.

WINDOW FOIL and similar detectors require the iD 'DP' junction box, which interfaces an optically isolated circuit to the iD biscuit.

Use of "iD PLUS" and original "iD" biscuits connected to the same iD networkis NOT recommended.

HINT: For maintenance and fault finding purposes, it is beneficial to have a simple record of the cable layout and biscuit order:

ES —01— 10 —05
|
08—02— 06 —06
|
└—09— 03 — 04

iD DP JUNCTION BOX:

Provides double pole circuit to interface to window foil, or other detectors that cannot be located close to the biscuit, for multiple contacts connected to the same biscuit, etc.

NOTE: The original 'DP' Junction box was designed for 24 Hour tamper, and similar circuits only, and does NOT separately identify a tamper circuit. This can be distinguished by having a socket for a 'plug-in' biscuit – the new type, with correctly identified tamper circuit, has terminals for a 'wired' biscuit.

Reminders for successful installation of an iD system:
Ensure that all biscuits are correctly connected
Avoid mixing iD and iD plus biscuits on the same iD network.
Ensure that safe wiring distances are not exceeded and cable runs are correctly terminated.
Ensure that all biscuits are wired directly to the detector
Do not extend the 'White' connection
Ensure that cabling specifications are carefully followed.
Ensure that the resistance measurements are correctly checked and recorded .

Castle cannot be held responsible for problems arising from failure to follow these specifications.

5.3 iD Commissioning Readings

On completion of the installation, it is essential that the commissioning readings described below be taken, both to ensure the integrity of the system and to satisfy the documentation requirements of PD6662, etc.

This procedure has been agreed with NSI as an acceptable method of meeting these requirements:

Complete the wiring, but do not secure the detector housings.

Remove the iD + and – connections from the terminals E3 & E4 at the End Station, and twist them together.

Measure, and record, the following readings, at each detector:
a: The resistance between the iD Blue and Yellow connections – and ensure that this is correct for the cable length involved (typically 100 meters of alarm cable will measure approx. 16 ohms).
b: The supply voltage at the detector (if applicable).

Secure the detector housing, ensuring that the tamper switch is correctly closed.

Repeat the above for each detector.

Separate the iD + & – wires at the End Station, and measure and record the resistance between them. Compare the reading with the table below to ensure that the correct number of biscuits is being read. Investigate any significant variation.

Check the resistance reading between the iD + & – wires and mains earth. This should show open circuit; any reading could indicate an earth leakage, which may cause problems later.

Check the voltage reading between the iD + & – wires and the 0v and +12v terminals (E1,2). This should show open circuit; any voltage present will indicate a leakage, which may cause problems later.

Replace the iD wiring in the End Station terminals.

Test iD line response in diagnostic menu, and Walk test detectors.

Note**: The measurements on this page are made with the wiring still in place at all detectors, and with power applied. The presence of the iD biscuits will not affect the readings.**

Table of resistance readings for measurement at step 6, above:

No of biscuits	Nominal resistance	No of biscuits	Nominal resistance	No of biscuits	Nominal resistance
1	1250K	11	114K	21	59.5K
2	625K	12	104K	22	56.8K
3	417K	13	96K	23	54.3K
4	313K	14	89K	24	52.1K
5	250K	15	83K	25	50.0K
6	208K	16	78K	26	48.1K
7	179K	17	73.5K	27	46.3K
8	156K	18	69.4K	28	44.6K
9	139K	19	65.8K	29	43.1K
10	125K	20	62.5K	30	41.7K

NOTE*:* These readings are a guide to the effectiveness of the wiring, and that all biscuits are correctly connected. This is NOT a diagnostic test for the biscuits themselves. A range of tolerance, roughly equivalent to the next figure above and below, should be expected

5.4 Important Notes for Installing iD systems

A transient generated by an iD biscuit whilst being addressed will occasionally cause another biscuit to perform a counter reset. This can result in the biscuit affected signalling again, at an incorrect address, and thus generate a 'twin device' alarm.

To eliminate this possibility a small value capacitor (0·01 µF recommended) should be wired across the iD line at a convenient biscuit or junction box, at the end of each iD spur.

A supply of suitable capacitors (marking code "103") is supplied with the EURO End station / ZEM.

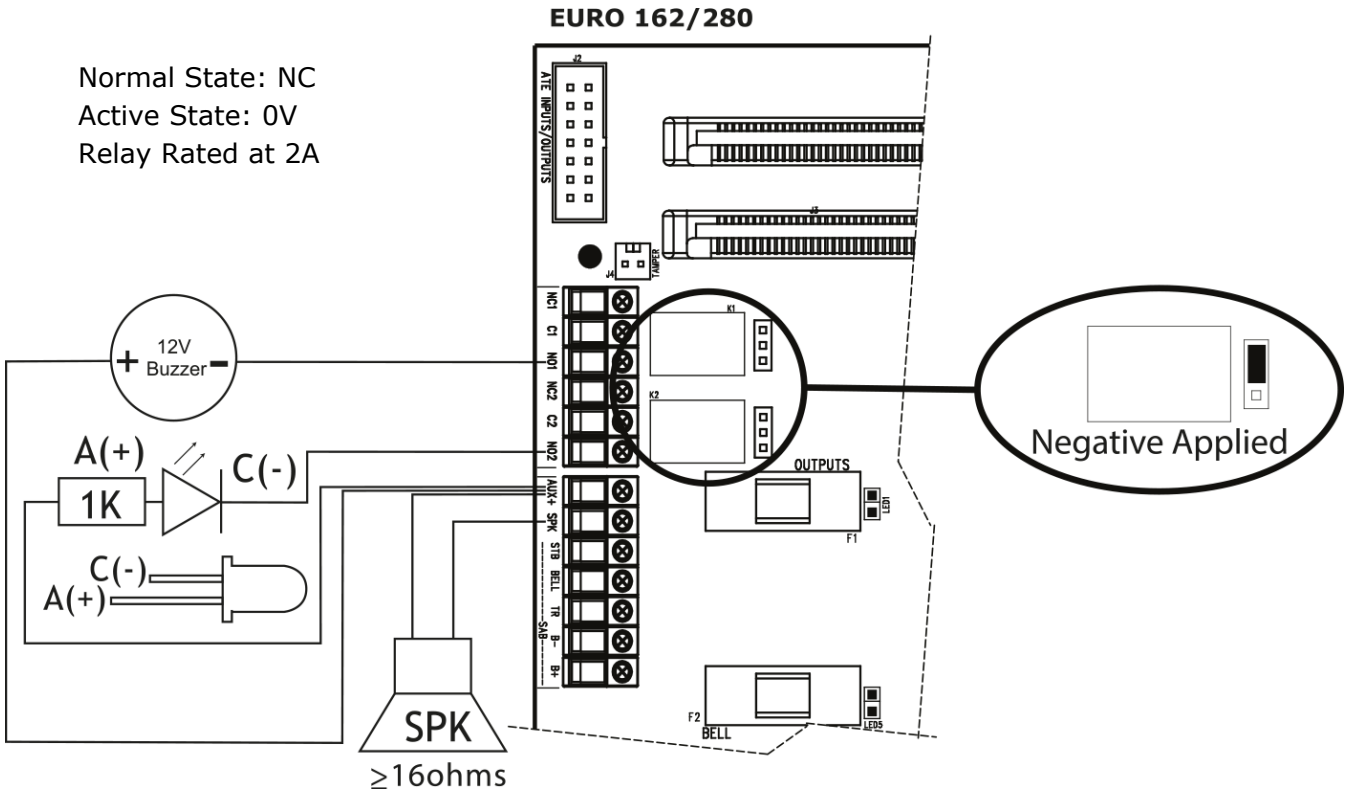
Do not extend the Biscuit White wire.

Remember that some sites may not be suitable for the use of iD systems, whether because of the re-use of wiring of dubious history, or the presence of severe sources of electrical interference.

6. Output (PGM) Connections

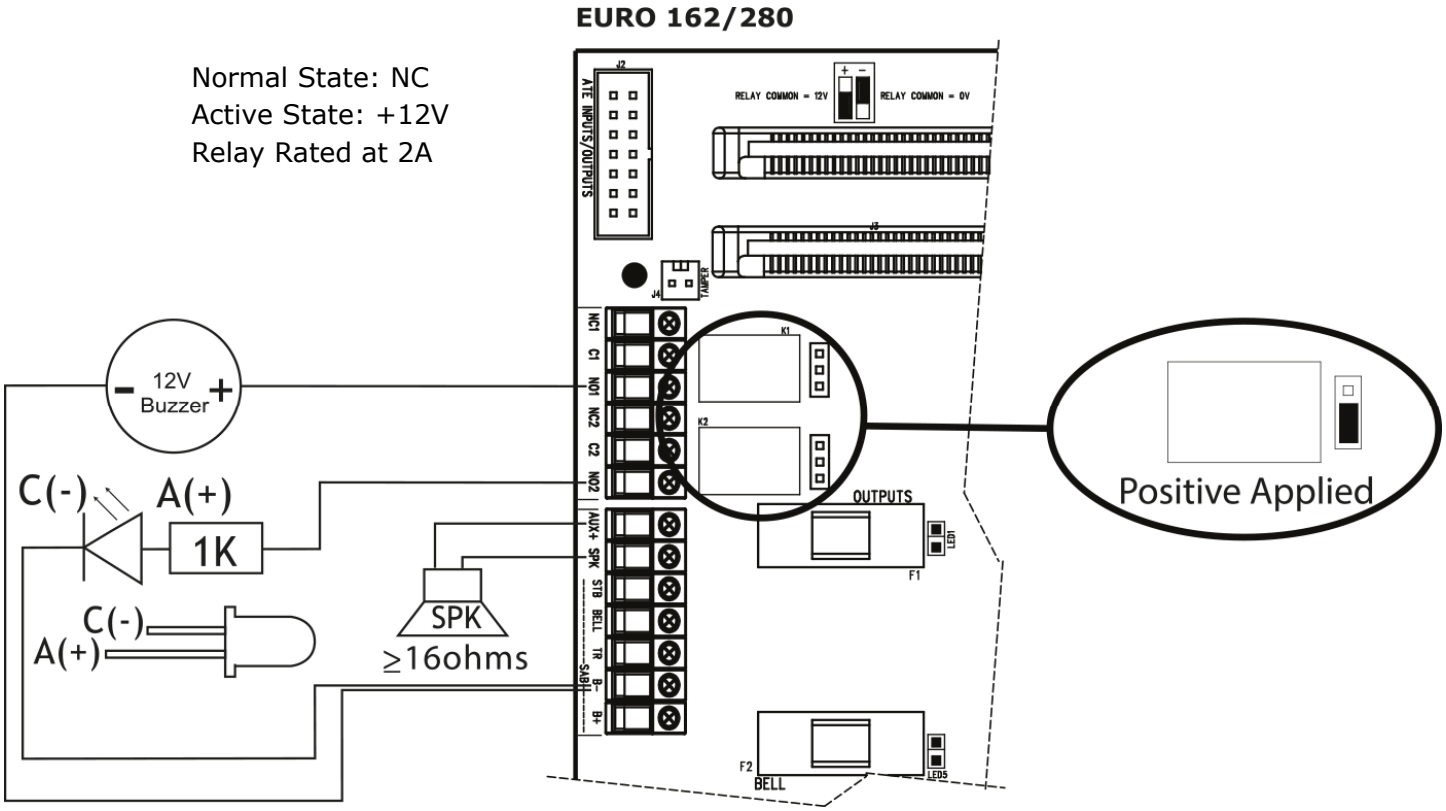
6.1 Negative Applied Wiring

Normal State: NC
Active State: 0V
Relay Rated at 2A



6.2 Positive Applied Wiring

Normal State: NC
Active State: +12V
Relay Rated at 2A

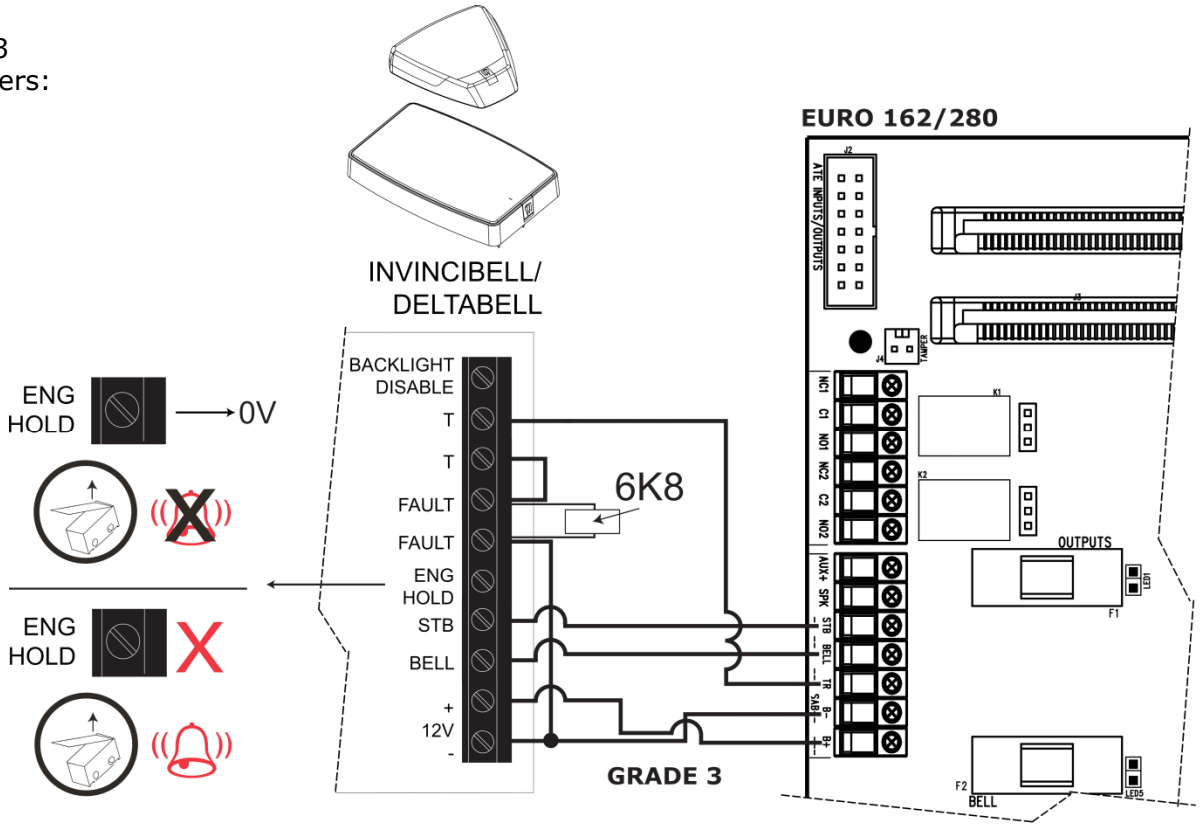


7. External Sounder Connections

7.1 Grade 3 External Sounder Wiring

Pyronix Grade 3
External Sounders:

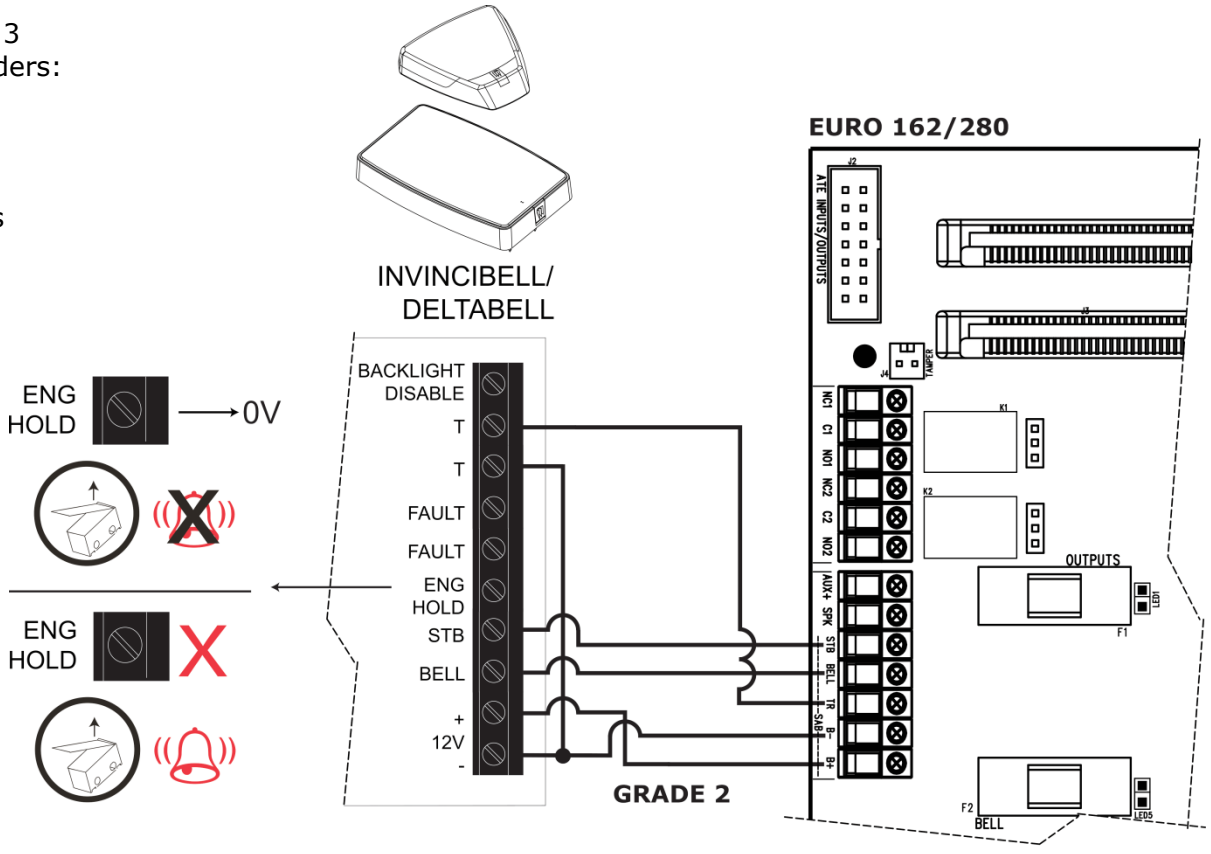
Deltabell Plus
Deltabell X
Invincibell Plus
Invincibell X



7.2 Grade 2 External Sounder Wiring with a Grade 3 Bell

Pyronix Grade 3
External Sounders:

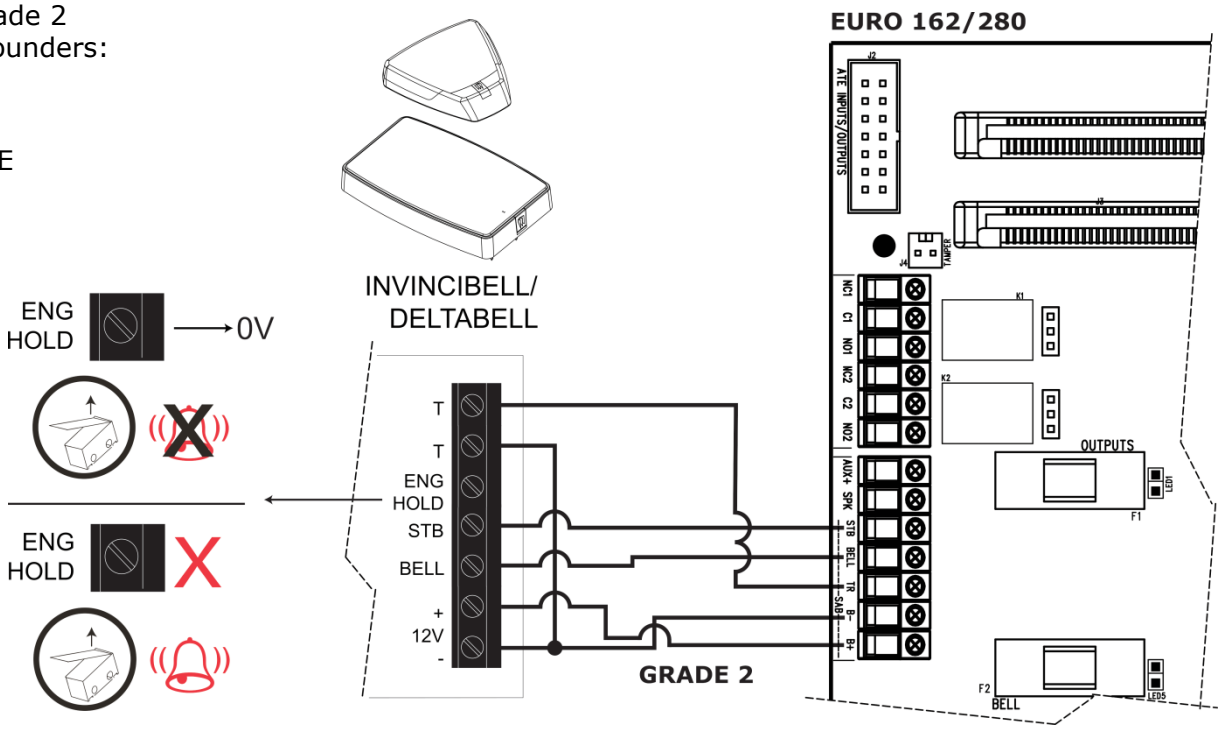
Deltabell Plus
Deltabell X
Invincibell Plus
Invincibell X



7.3 Grade 2 External Sounder Wiring

Pyronix Grade 2
External Sounders:

Deltabell E
Invincibell E



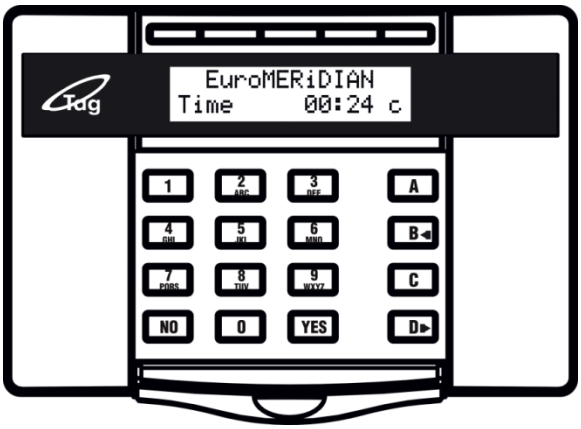
8. Connecting the EURO Peripherals

8.1 Connecting The LCD Keypad (EURO-LCD)

The EURO-LCD keypad is used for programming and user operation.

The EURO 162 and EURO 280 can have up to 16 x EURO-LCD keypads installed.

NOTE: See the keypad installation manual for the LED and button explanations.



8.1.1 Technical Specification

EURO-LCD (Keypad)			
Supply Voltage:	13.8VDC (9-16VDC Range)		
Current: Min Brightness:	25mA		
Current: Max Brightness:	45mA (in alarm: 55mA)		
Inputs 1 & 2:	Programmable, DEOL, Mask/Fault (Grade 3)		
Input EOL Resistor Values	1k / 1k DEOL Range	**4k7 / 2k2 DEOL Range**	4k7 / 4k7 DEOL Range
Normal	0k5 to 1k4	1k4 to 2k9	3k7 to 8k3
Burglary Alarm	1k5 to 5k9	4k2 to 7k8	8k4 to 10k2
Fault	6k to 8k1	8k to 11k3	10k3 to 14k9
Masking (6k8)	8k2 to 17k	11k6 to 22k	15k to 22k
PGM:	100mA		
PGM Normal State:	Floating		
PGM Active State:	0V		
Dimensions:	139 x 127 x 29mm		
EN50131 Certified:	Grade 3		
Colour and Casing:	White 3mm ABS		
Indication:	LEDs (Alert, Alarm, Fault, Tamper, Disarmed)		
Temperature	Storage: -10°C to +50°C Certified: -10°C to +50°C Nominal: -10°C to +40°C		
Front and rear tamper protected			

8.1.2 Addressing The EURO-LCD Keypad

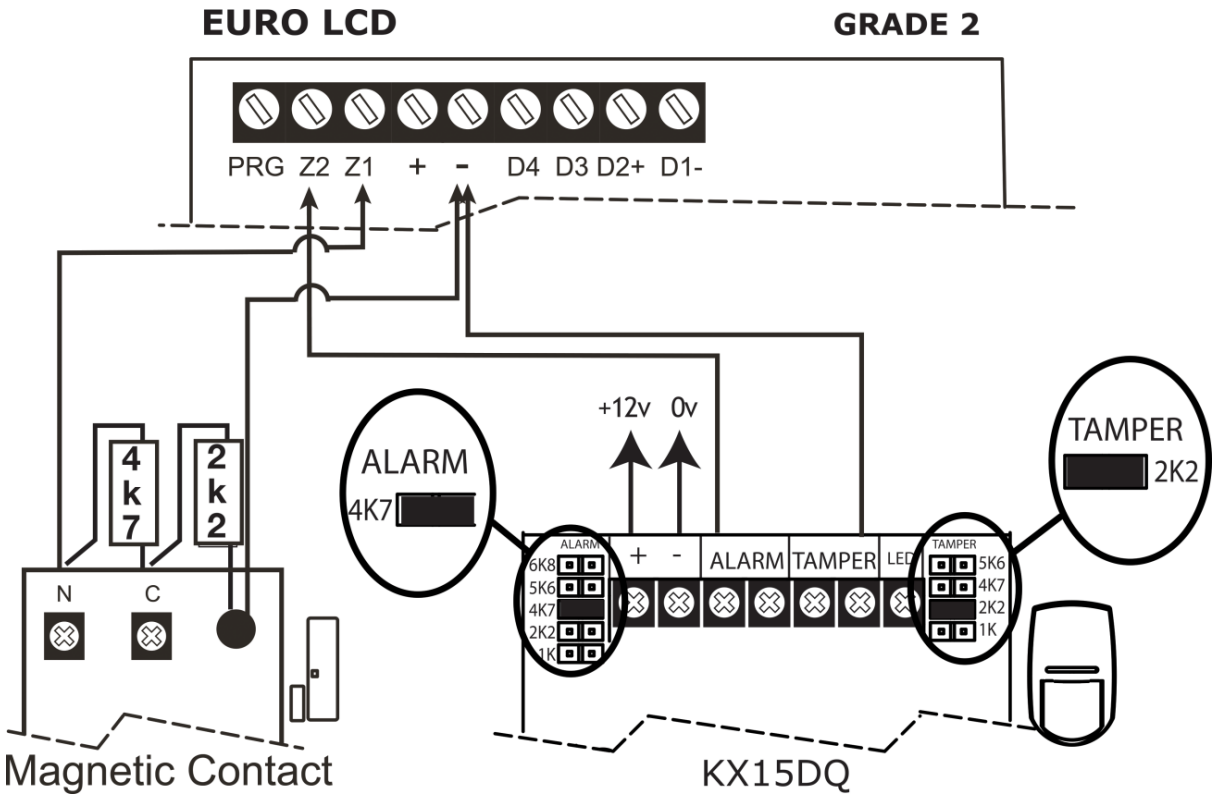
<u>Addressing</u> Hold the [D] key for more than 5 seconds.	
'**SECURITY CODE**' will be displayed. Enter '**2000**'	

The default address is '00'.	Address [00]
Enter the required Address and press YES Press A to exit. You must now address this from the menu "ASSIGN KEYPADS/READERS".	Address [01]

8.1.3 Addressing The EURO-LCD Keypad (From the Engineer Menu)

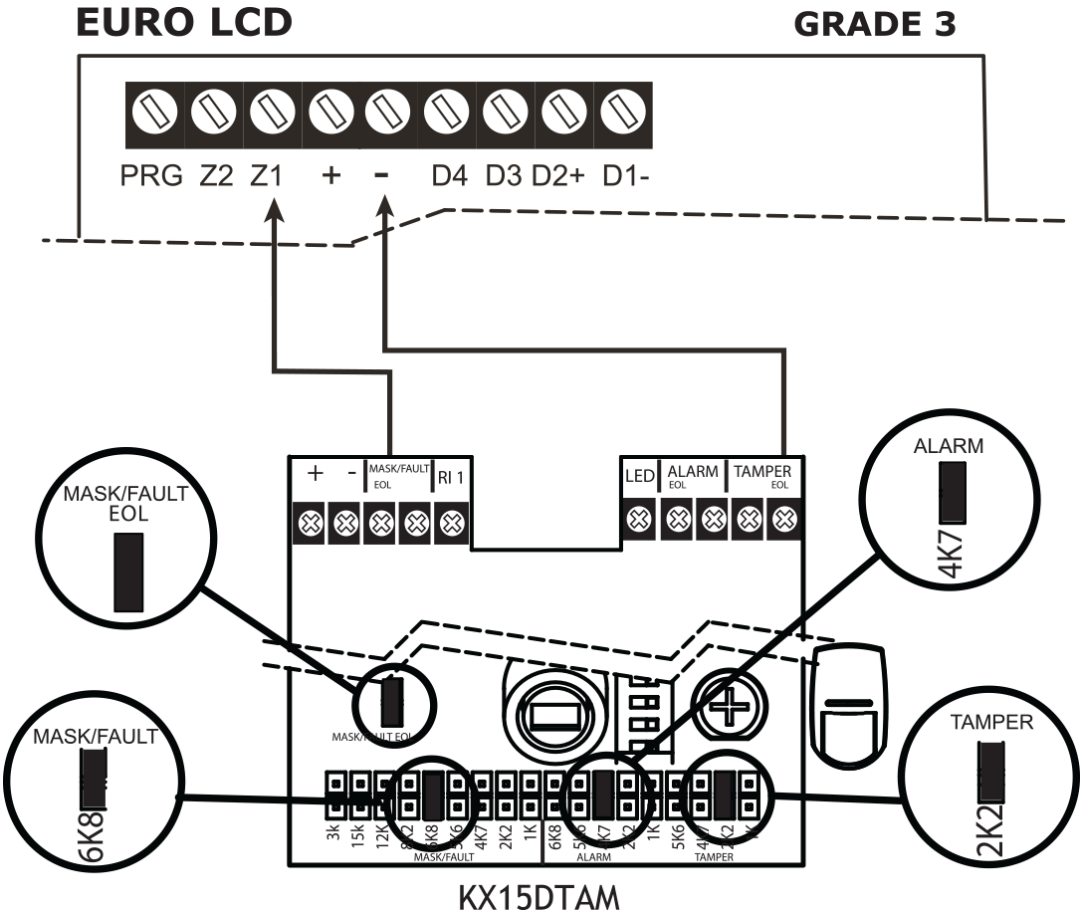
Enter the engineers menu and scroll to 'ASSIGN KEYPADS/READERS' and press YES. Please see the Programming Manual for more information.

8.1.4 Connecting The EURO-LCD Keypad Inputs (Grade 2)



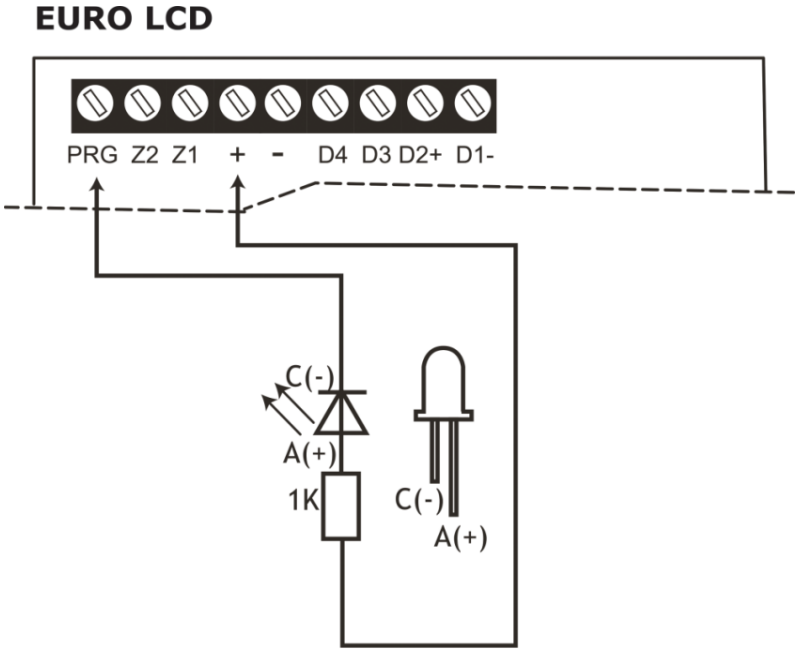
The above wiring example shows the connections for a Grade 2 KX15DQ PIR.

8.1.5 Connecting The EURO-LCD Keypad Inputs (Grade 3)



The above wiring example shows the connections for a Grade 3 KX15DTAM PIR.

8.1.6 Connecting The Outputs



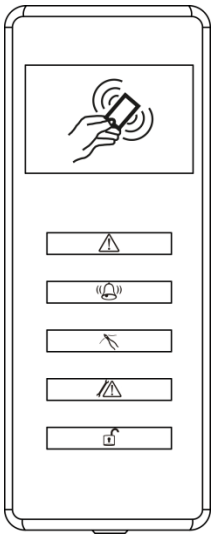
Normal State: 12V
Active State: 0V
Current: 100mA

8.2 Connecting The Internal Tag Reader (EURO-PROXI)

The Internal Tag Reader can have 2 inputs connected. It can be used as a set, unset, entry control or an access control device.

NOTE: See the reader installation manual for the LED and button explanations.

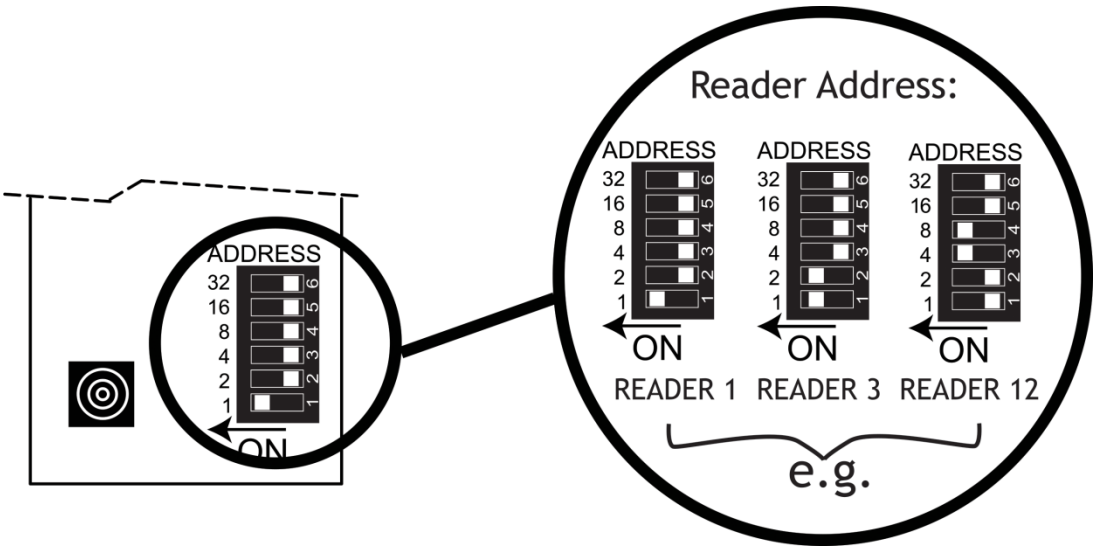
NOTE: The total number of readers that can be installed on the EURO 162 is 15, and the EURO 280 is 29. The readers are installed on the same bus as the keypads.



8.2.1 Technical Specification

EURO-PROXI (Internal Tag Reader)	
Input Voltage:	12VDC (9-15V DC range)
Supply Current:	<30mA Quiescent. <90mA Maximum
Inputs:	Programmable. 2 inputs; DEOL
Input EOL Fixed Resistor Values:	Alarm=4K7 / Tamper=2K2 Normal: 1k4 to 2k9 Burglary Alarm:4k2 to 7k8 Tamper: <1k4 or >22k
Shared Outputs:	Switched negative 150mA (Max)
Colour and Casing:	White 3mm ABS
Indication:	LEDs (Alert, Alarm, Fault, Tamper, Disarmed)
Temperature:	Storage:-20°C to 60°C Certified: -10°C to 40°C Nominal: -20°C to 60°C
Dimensions (H x W x D):	97 x 40 x 23mm
Front and rear tamper protected	
NOTE: If the EURO-PROXI (Internal Tag Reader) is programmed as an 'Set/Unset' device, 2 inputs are enabled. If the EURO-PROXI is programmed as 'Entry Control' or 'Access Control' only 1 input is enabled.	

8.2.2 Addressing The Internal Tag Reader (From the Reader)

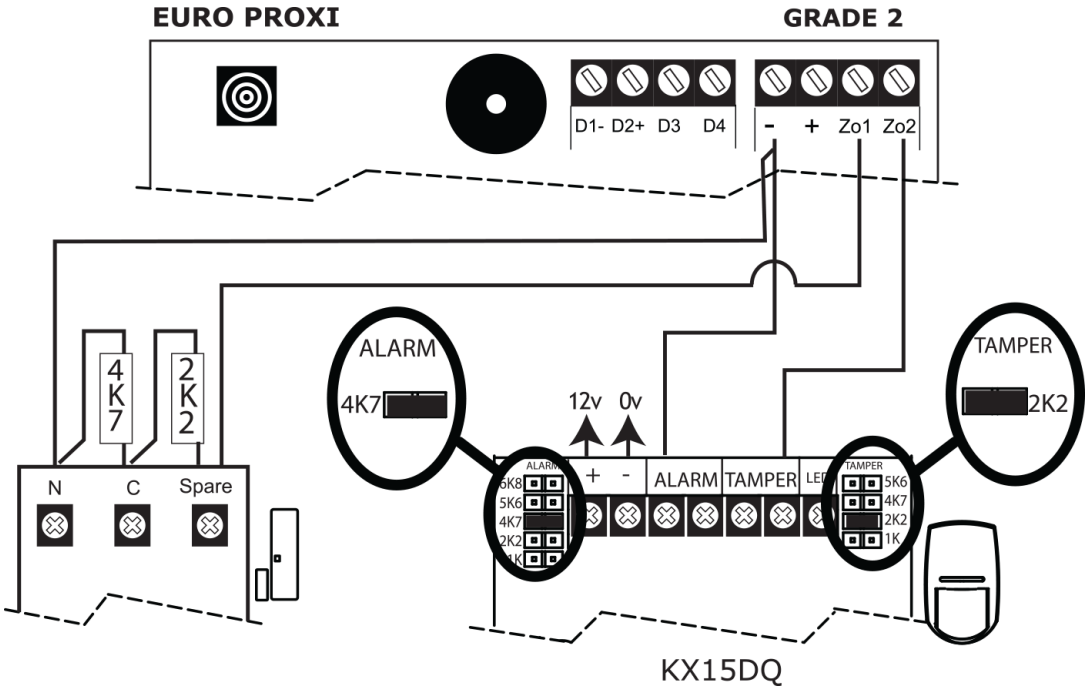


NOTE: The addressing is done by adding the relevant numbers on the dip switches:
For example: Dip switch 1 and 2 are only ON = Address 3.
Dip switch 1 and 16 are only ON = Address 17 etc.

8.2.3 Adding The Internal Tag Reader (From the Engineer Menu)

Enter the engineers menu and scroll to 'ASSIGN KEYPADS/READERS' and press YES . Please see the Programming Manual for more information.

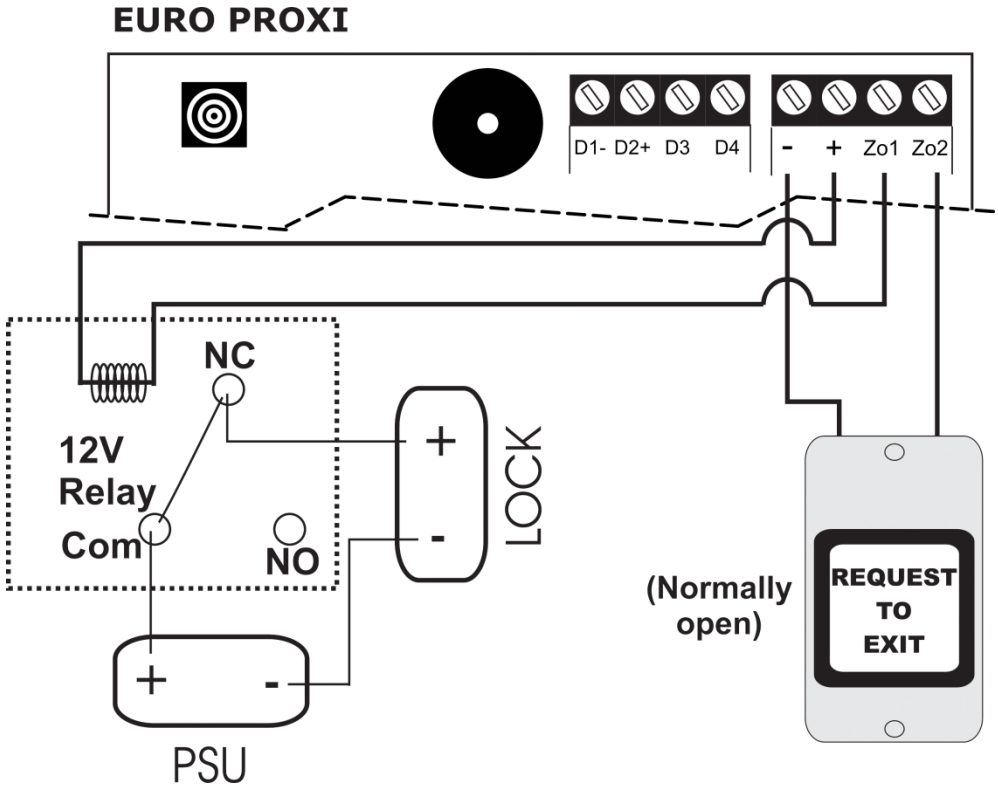
8.2.4 Connecting The Internal Tag Reader Inputs



The above wiring example shows the connections for a Grade 2 KX15DQ PIR.

NOTE: The resistance values are fixed to 4K7 Alarm and 2K2 Tamper in the EURO-PROXI.

8.2.5 Using the Internal Tag Reader as Access Control/Entry Control

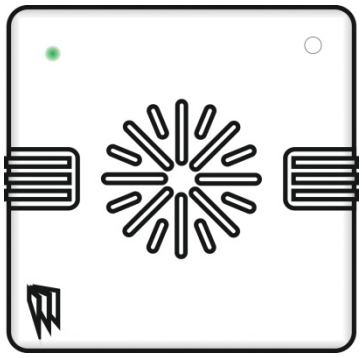


8.3 Connecting The External Proximity Reader (EURO-PROXE)

The External Proximity Reader can be used as either an set, unset, entry control or an access control device.

NOTE: See the reader installation manual for the LED and button explanations.

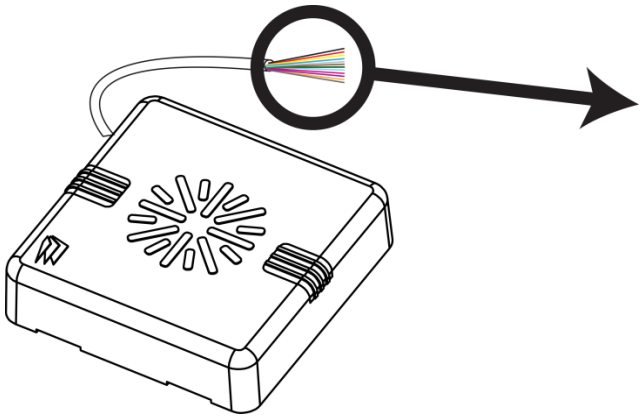
NOTE: The total number of readers that can be installed on the EURO 162 and EURO 280 is 7. The readers are installed on the same bus as the keypads.



8.3.1 Technical Specification

EURO-PROXE (External Tag Reader)	
Supply voltage:	9-15VDC
Current consumption:	Max 22mA
Input status when reader is Set/Unset or Ward Control:	
Input:	Programmable. DEOL
Input EOL fixed resistor value:	Alarm=4K7 / Tamper=2K2 Normal: 1k4 to 2k9 Burglary Alarm:4k2 to 7k8 Tamper: <1k4 or >22k
Input status when reader is used as Access or Door Entry Control:	
Input 1:	Programmable
Input Function:	Door monitor feature. Door opening time limit is programmable from the Engineer Menu
Input 2:	Not programmable
Note: Access control falls outside the scope of EN 50131	
Output 1:	Not programmable. Activates the Door Lock Relay
Output 2:	Not programmable. Door monitor alarm activation (forced or open for longer than programmed time).
Output 1/2 Normal state:	Floating
Output 1/2 Active state:	0V
Colour and Casing:	3mm ABS Black
Potted	Type B
Temperatures:	Storage: -10°C to 50°C Certified: -25°C to 60°C Nominal: -10°C to 50°C
Dimensions (H x W x D):	85 x 85 x 21mm
IP65 Rated. If the control panel fails to set, this is indicated by a broken tone on the external proximity reader and the red LED will not illuminate. If this occurs, please check the information at the nearest keypad.	

8.3.2 Addressing the External Tag Reader (From the Reader)



ADDRESS #1: BROWN & ORANGE to 0V/D1

ADDRESS #2: BROWN & GREEN to 0V/D1

ADDRESS #3: BROWN to 0V/D1

ADDRESS #4: GREEN & ORANGE to 0V/D1

ADDRESS #5: ORANGE to 0V/D1

ADDRESS #6: GREEN to 0V/D1

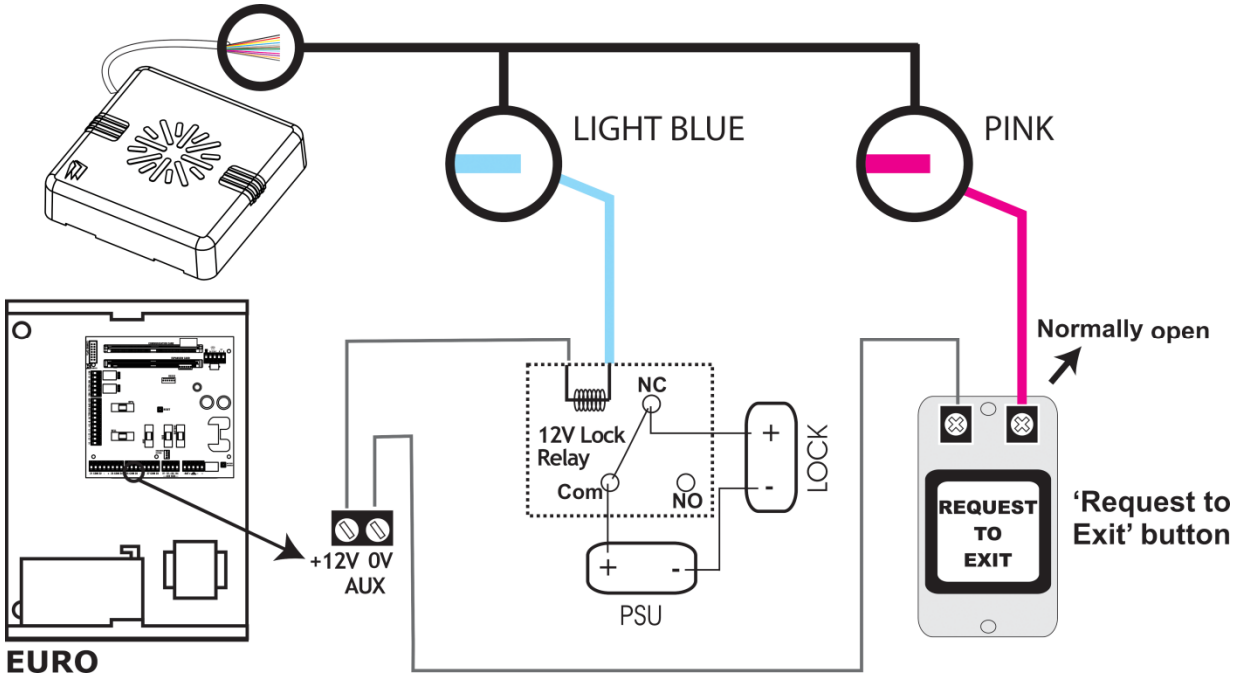
ADDRESS #7: BROWN, ORANGE & GREEN to 0V/D1

8.3.3 Adding the External Tag Reader (From the Engineer Menu)

Enter the engineers menu and scroll to 'ASSIGN KEYPADS/READERS' and press YES. Please see the Programming Manual for more information.

8.3.4 Connecting a Mag Lock and a Request to Exit Button to the External Tag Reader

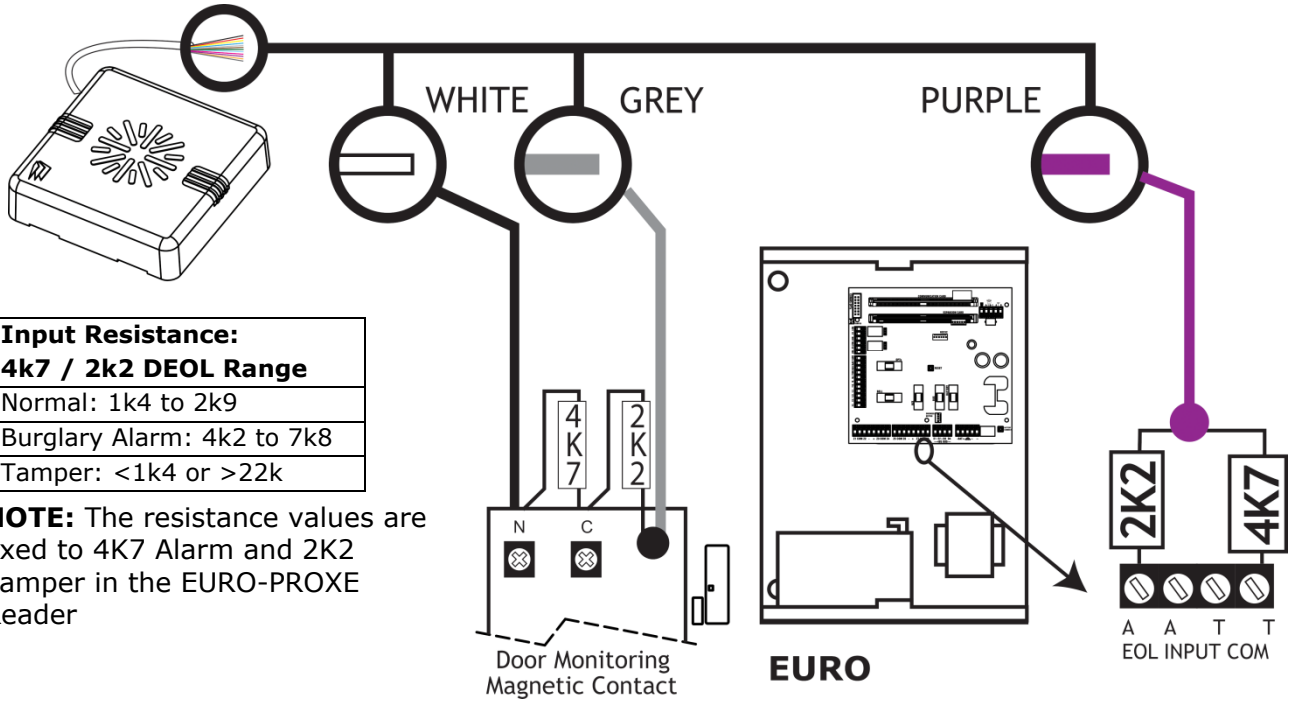
The diagram show the relay mag lock control switching positive and shows a normally open request to exit button, and takes "0V" from the control panel.



8.3.5 Connecting Door Monitoring and Door Alarm Monitoring to the External Tag Reader

Connecting Door Monitoring: Use the white and grey wire. The door monitor input needs to be programmed as the first input number of the reader address (programmed as "Entry Delay"). If the door contact is forced open without presenting a valid tag or pressing the push to exit button, then the panel will go into an alarm. **NOTE:** The DEOL values must be 4K7, 2K2 as shown. This does not affect the control panel DEOL values.

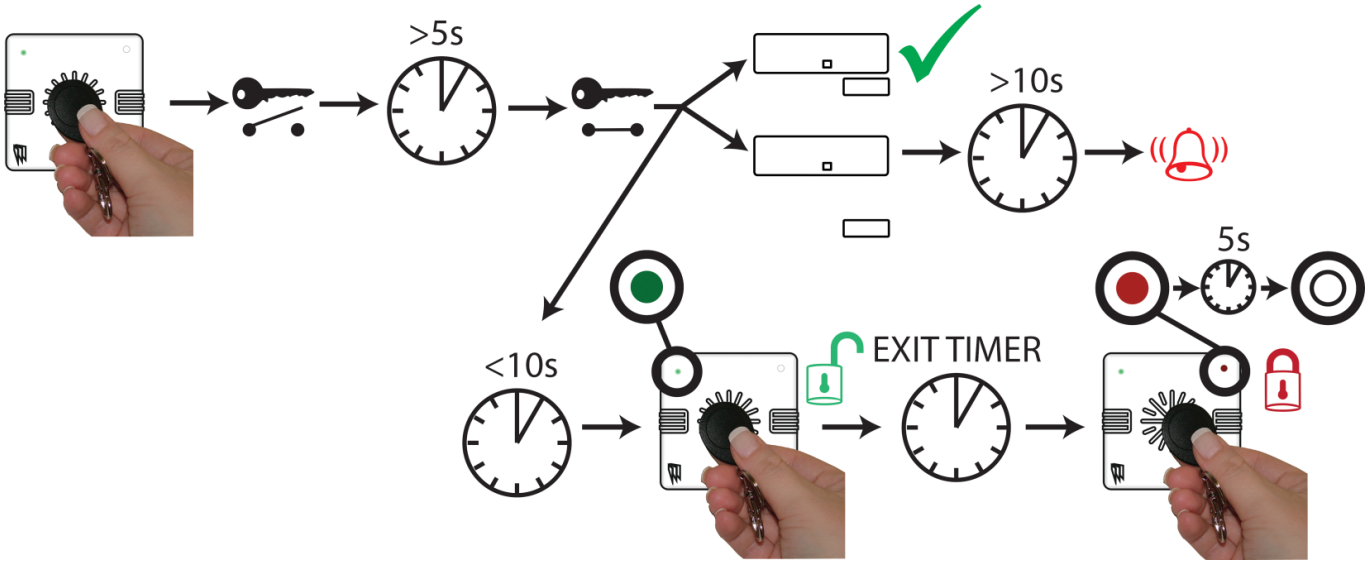
Connecting Door Alarm Monitoring: Use the purple wire. When the door monitor exceeds the door open time or if the door is forced open then the alarm PGM will generate an alarm. The input at the control panel should be programmed as "24 Hour" and the attribute programmed as "Normally Open".



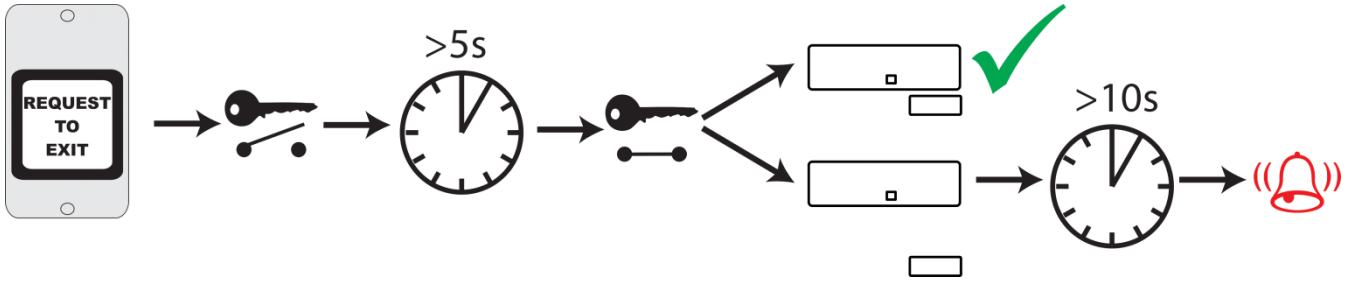
Input Resistance: 4k7 / 2k2 DEOL Range
Normal: 1k4 to 2k9
Burglary Alarm: 4k2 to 7k8
Tamper: <1k4 or >22k

NOTE: The resistance values are fixed to 4K7 Alarm and 2K2 Tamper in the EURO-PROXE Reader

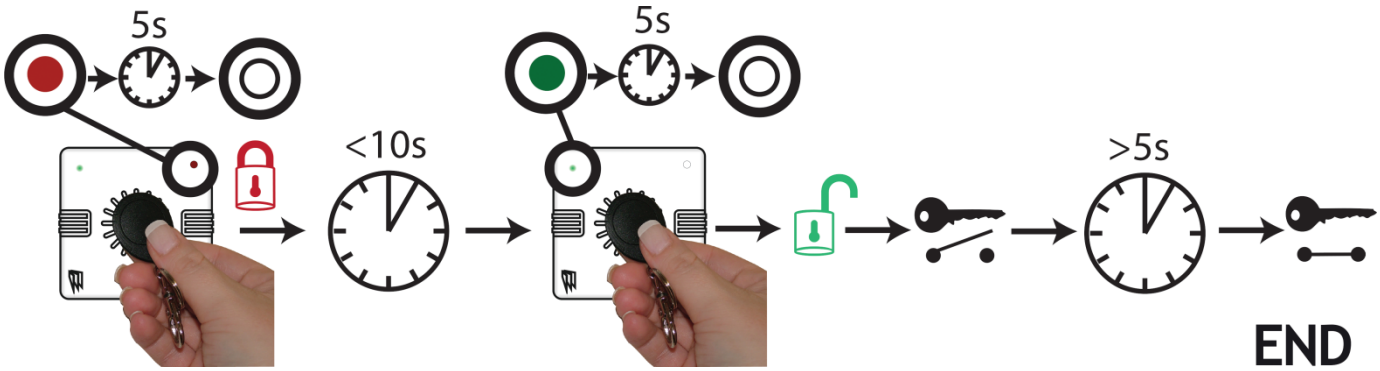
8.3.6 Using the External Tag Reader for Arming and Entry Control



8.3.7 Using the Request to Exit button



8.3.8 Using the External Tag Reader Disarming



8.4 Connecting The Zone Expander Module (EURO-ZEM8)

8.4.1 The EURO-ZEM8 Expander

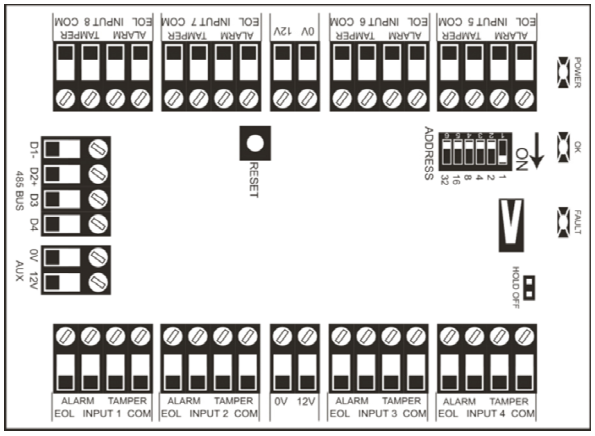
EURO-ZEM8

The EURO-ZEM8 is an input expander that supports 8 normal.

It also supports NC (normally closed), DEOL input and 3 Resistor (Grade 3) configurations.

The EURO 162 will support up to 18 x Zone Expander Modules and the EURO 280 will support up to 30 x Zone Expander Modules. Please see page: 4.

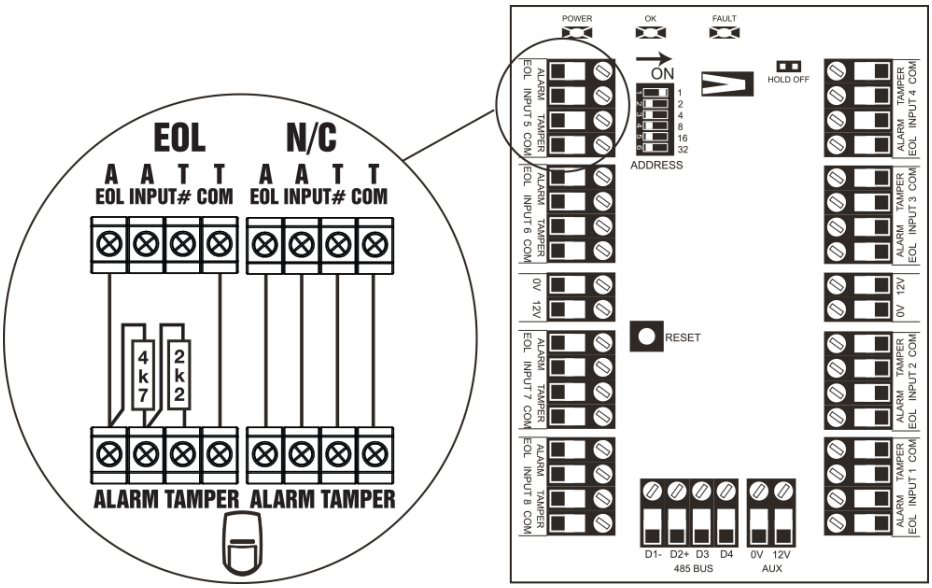
NOTE: To wire double pole, program the resistor range to 4K7/2K2 in 'CHOOSE MODE' of the Engineer menu.



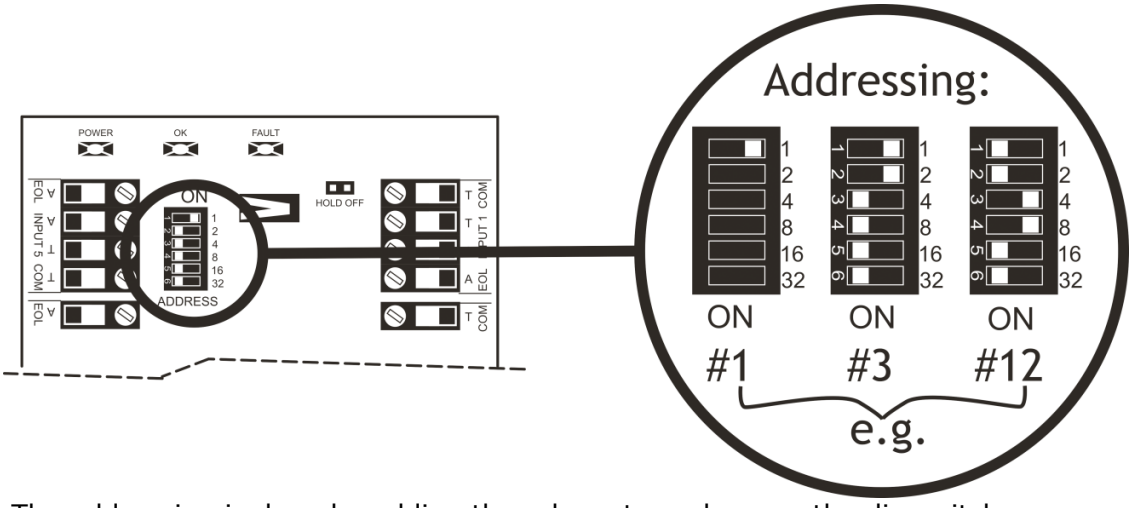
8.4.2 EURO-ZEM8 Technical Specification

EURO-ZEM8 (Inertia Input Expander)			
Input Voltage	9-15V		
Current Consumption	45mA		
Inputs	NC, DEOL, 3 Resistor (Grade 3)		
Normal	1k / 1k DEOL Range	**4k7 / 2k2 DEOL Range**	4k7 / 4k7 DEOL Range
Burglary Alarm	0k5 to 1k4	1k4 to 2k9	3k7 to 8k3
Fault	1k5 to 5k9	4k2 to 7k8	8k4 to 10k2
Masking (6k8)	6k to 8k1	8k to 11k3	10k3 to 14k9
Tamper	8k2 to 17k	11k6 to 22k	15k to 22k
Dimensions (plastic box)	173 x 125 x 32mm		
Dimensions (PCB)	128 x 87 x 16mm		
Colour and Casing	White 3mm ABS with clear polycarbonate window		
Security Grade	3		
Indication	LEDs (Power, OK and Fault)		
Temperature	Storage: -20°C to +60°C Certified: -10°C to +40°C Nominal: -10°C to +50°C		
Front and rear tamper protected			

8.4.3 The EURO-ZEM8 Input Configuration



8.4.4 Addressing The EURO-ZEM8 (From The Expander)

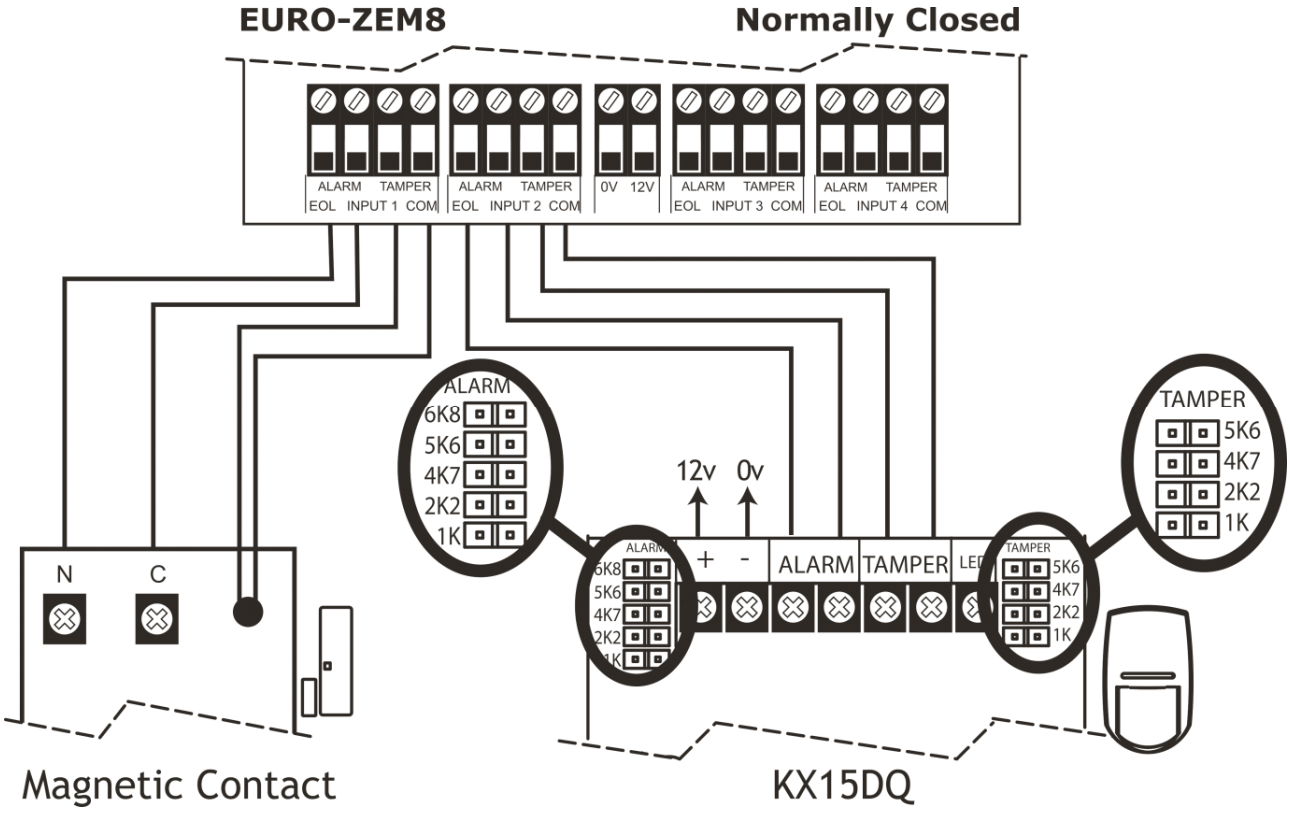


NOTE: The addressing is done by adding the relevant numbers on the dip switches:
For example: Dip switch 1 and 2 are only ON = Address 3.
Dip switch 1 and 16 are only ON = Address 17 etc.

8.4.5 Adding the EURO-ZEM8 (From the Engineer Menu)

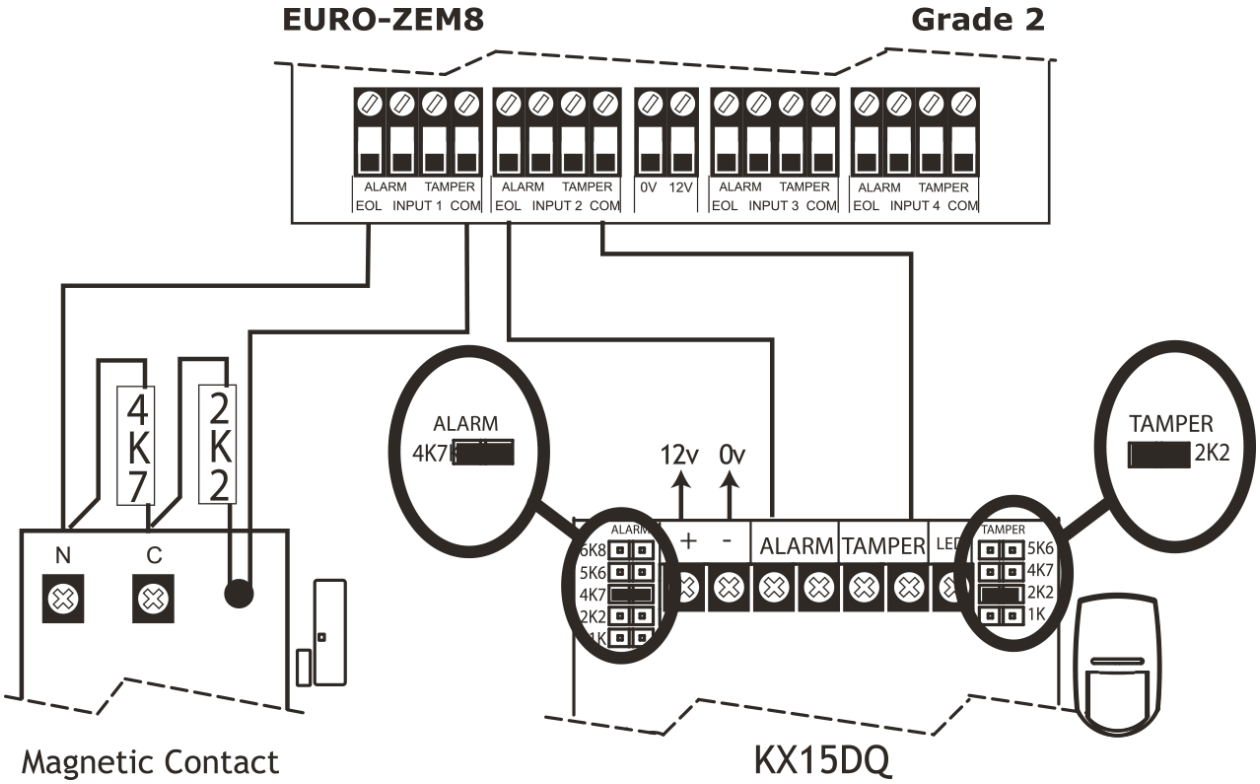
Enter the engineers menu and scroll to 'INSTALL ZEM?' and press [YES]. Please see the Programming Manual for more information.

8.4.6 Wiring Inputs on the EURO-ZEM8 (Normally Closed)



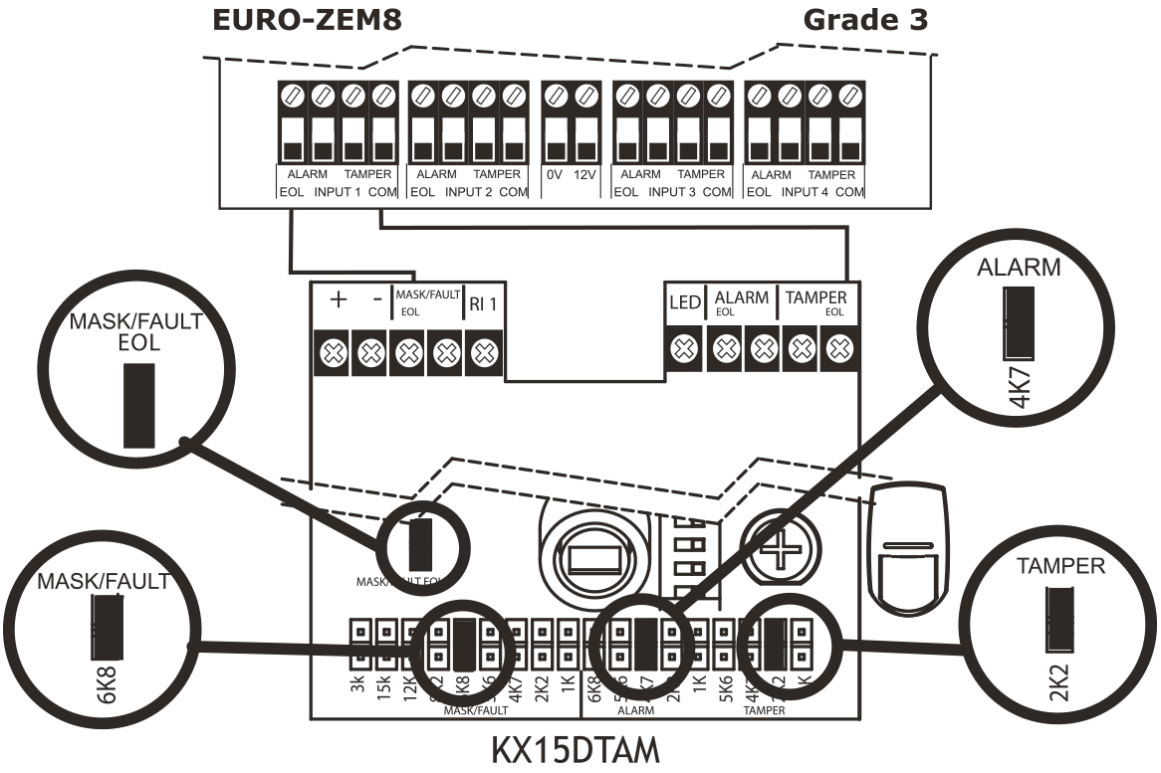
The above wiring example shows the normally closed connections for a KX15DQ PIR.

8.4.7 Wiring Inputs on the EURO-ZEM8 (DEOL: Grade 2)



The above wiring example shows the connections for a Grade 2 KX15DQ PIR.

8.4.8 Wiring Inputs on the EURO-ZEM8 (3EOL: Grade 3)



The above wiring example shows the connections for a Grade 3 KX15DTAM PIR.

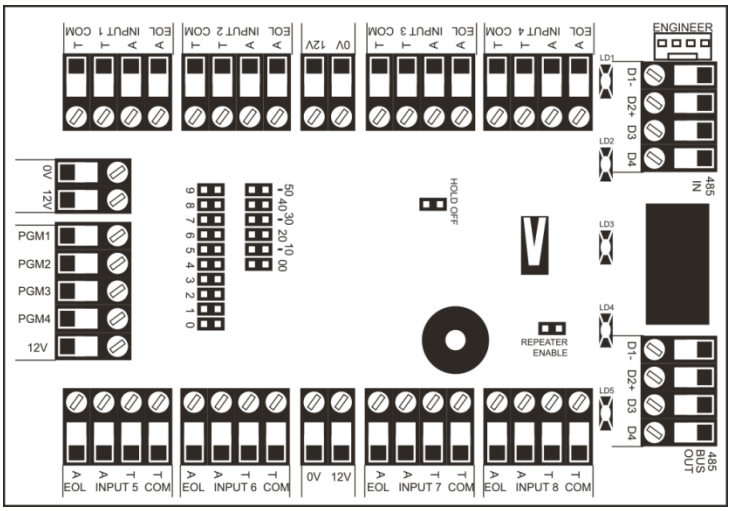
8.5 Connecting The Zone Expander Module with 4 PGMs (EURO-ZEM8+)

EURO-ZEM8+

The EURO-ZEM8+ is an input expander that supports 8 inputs and 4 PGMs.

It also supports NC (normally closed), DEOL input and 3 Resistor (Grade 3) configurations.

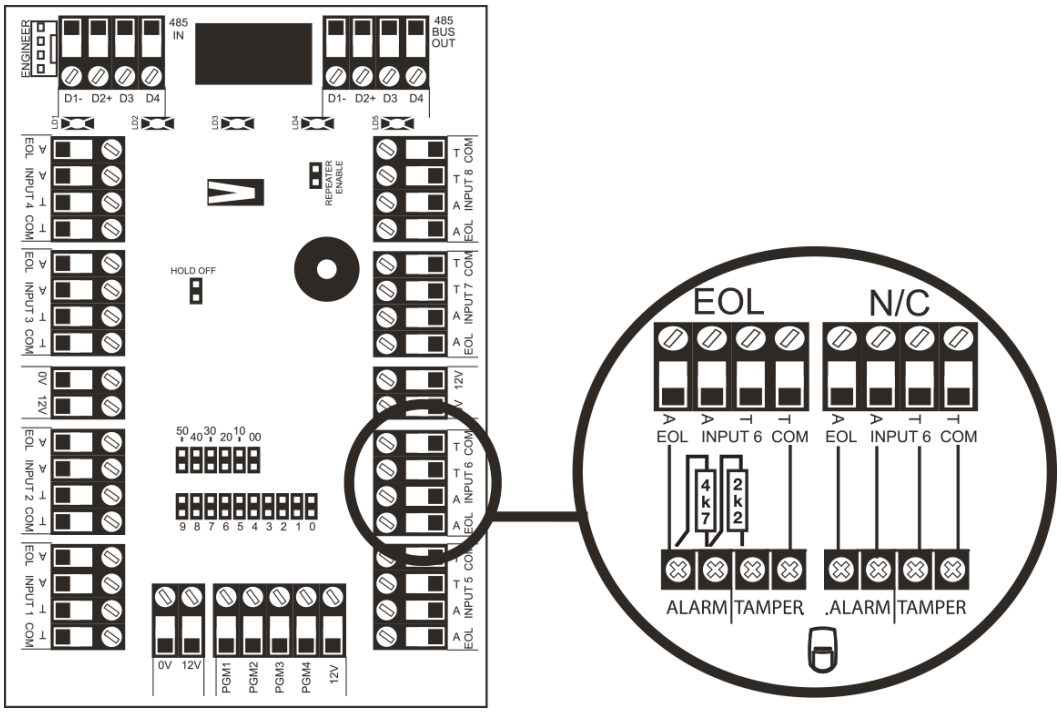
The EURO 162 will support up to 18 x Zone Expander Modules and the EURO 280 will support up to 30 x Zone Expander Modules. Please see page: 4.



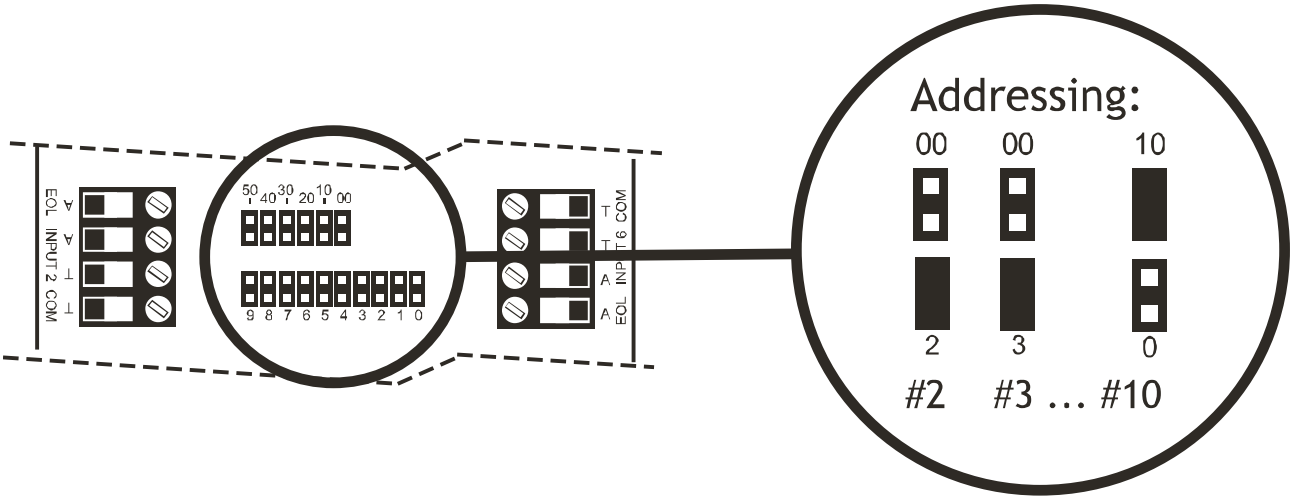
8.5.1 EURO-ZEM8+ Technical Specification

EURO-ZEMX8+ (Input Expander)			
Input Voltage	9-15V		
Current Consumption	30mA		
Inputs	Programmable NC, DEOL, 3 Resistor (Grade 3)		
Input EOL Resistor Values	1k / 1k DEOL Range	**4k7 / 2k2 DEOL Range**	4k7 / 4k7 DEOL Range
Normal	0k5 to 1k4	1k4 to 2k9	3k7 to 8k3
Burglary Alarm	1k5 to 5k9	4k2 to 7k8	8k4 to 10k2
Fault	6k to 8k1	8k to 11k3	10k3 to 14k9
Masking (6k8)	8k2 to 17k	11k6 to 22k	15k to 22k
PGM1 - PGM4	100mA each		
PGM1 - PGM4	Normal state: 12V		
PGM1 - PGM4	Active state: 0V		
Dimensions (plastic box)	173 x 125 x 32mm		
Dimensions (PCB)	128 x 87 x 16mm		
Colour and Casing	White 3mm ABS with clear polycarbonate window		
Indication	LEDs (Power, OK and Fault)		
Temperature	Storage: -20°C to +60°C Certified: -10°C to +40°C Nominal: -10°C to +50°C		
Front and rear tamper protected			

8.5.2 EURO-ZEM8+ Input Configuration



8.5.3 Addressing the EURO-ZEM8+

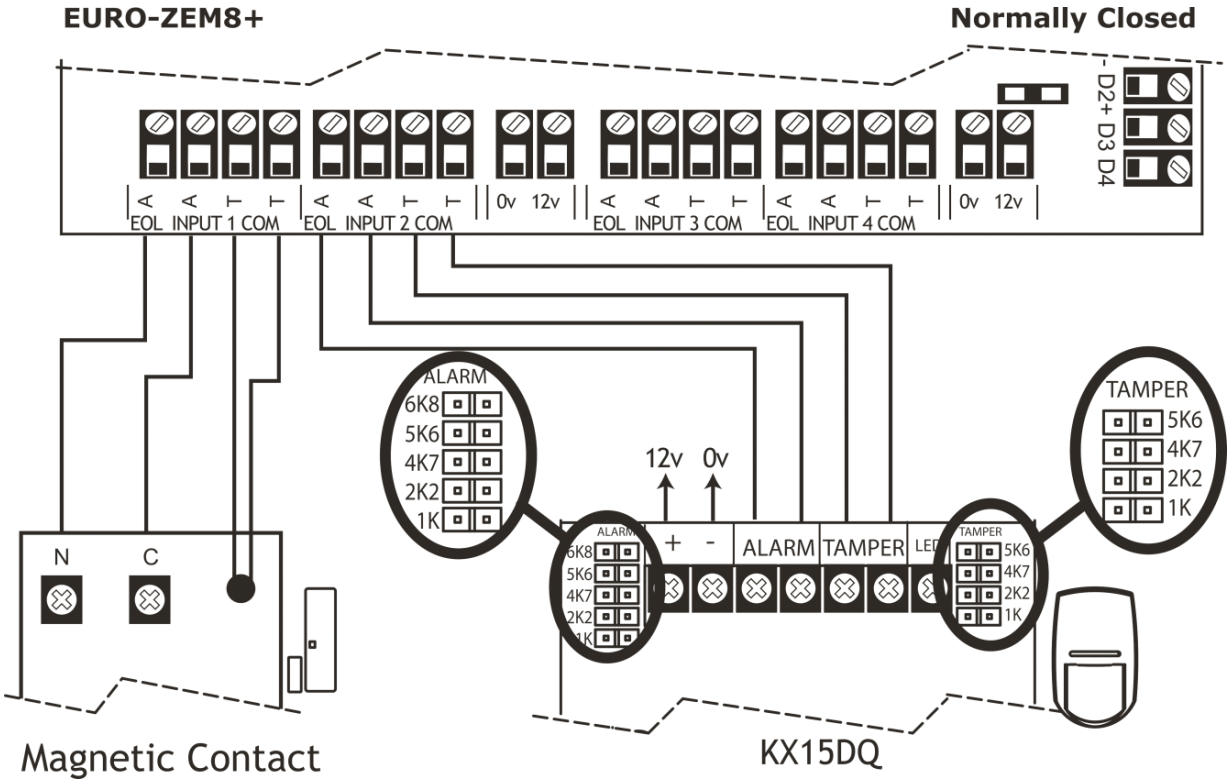


NOTE: The addressing is done by headers that represent the address.
For example: If a header is placed on 00, and 9, the address is 9.
If a header is placed on 20, and 3, the address is 23 etc.

8.5.4 Adding the EURO-ZEM8+ (From the Engineer Menu)

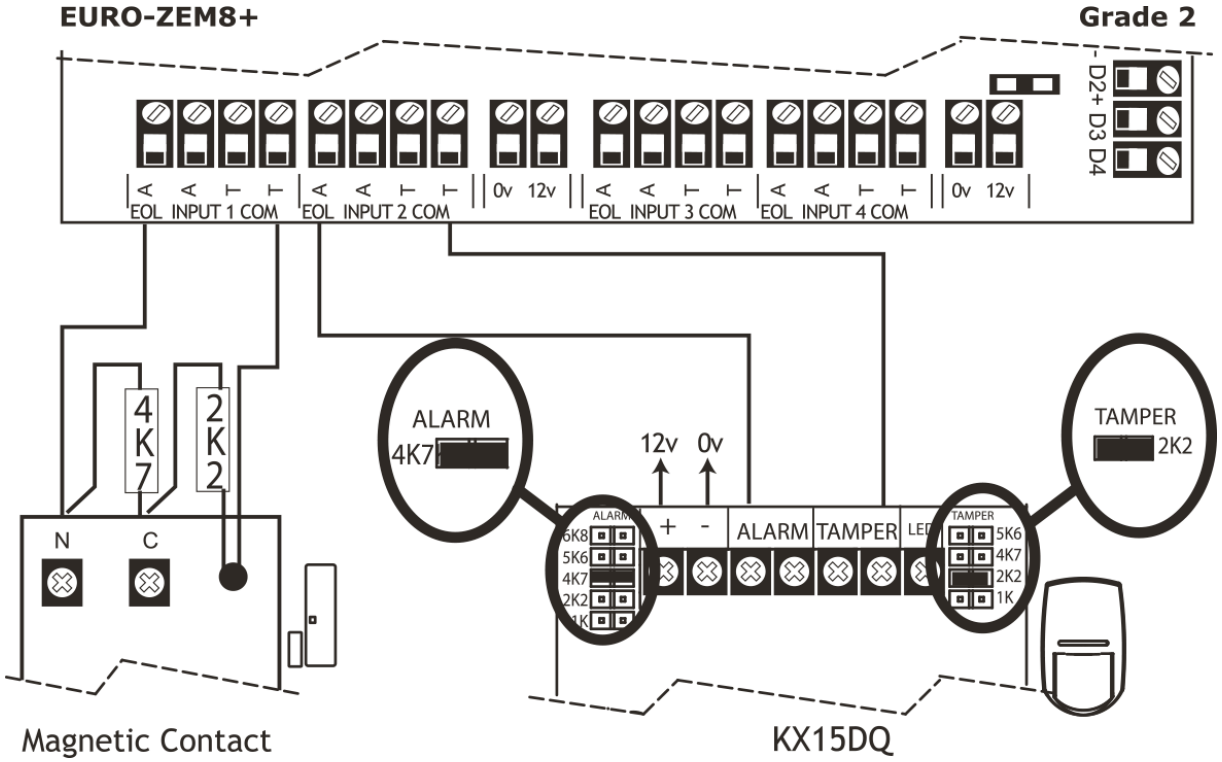
Enter the engineers menu and scroll to 'INSTALL ZEM' and press YES. Please see the Programming Manual for more information.

8.5.5 Wiring Inputs on the EURO-ZEM8+ (Normally Closed)



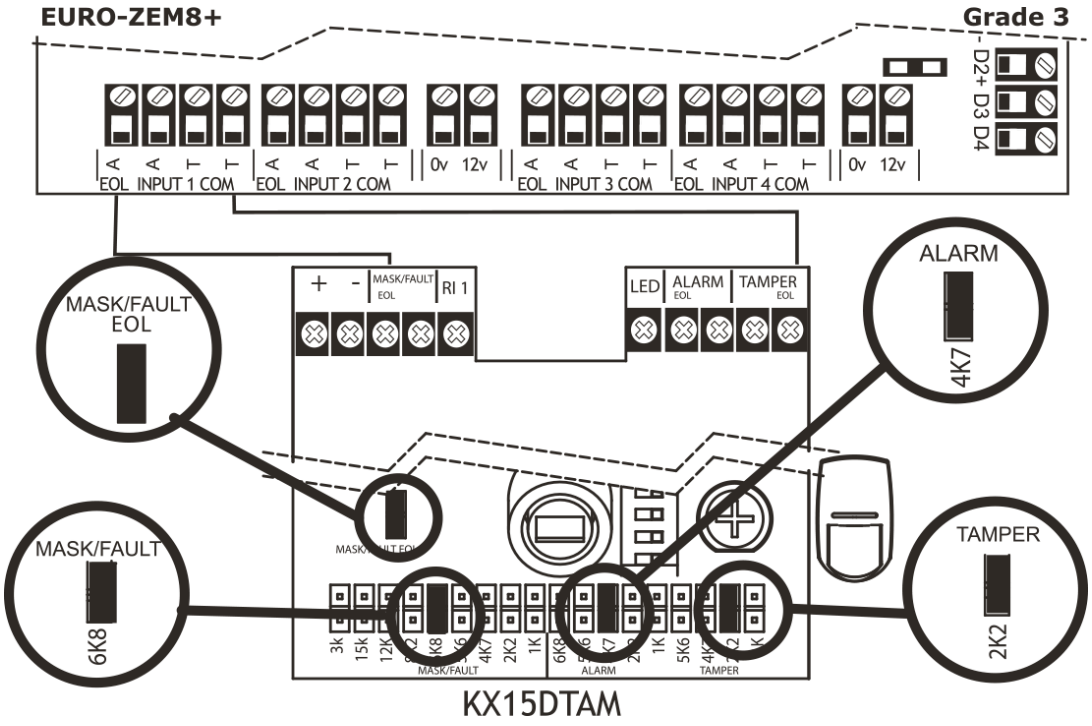
The above wiring example shows the normally closed connection for a KX15DQ PIR.

8.5.6 Wiring Inputs on the EURO-ZEM8+ (DEOL - Grade 2)



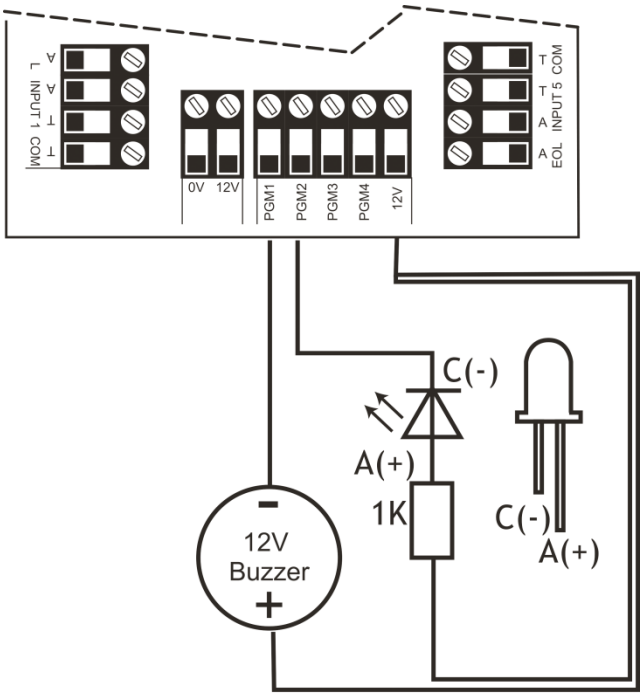
The above wiring example shows the connections for a Grade 2 KX15DQ PIR.

8.5.7 Wiring Inputs on the EURO-ZEM8+ (Mark/Fault - Grade 3)



The above wiring example shows the connections for a Grade 3 KX15DTAM PIR.

8.5.8 Output Wiring on the EURO-ZEM8+



Normal State: 12V
Active State: 0V
Max Current: 100mA

Normal State: 12V
Active State: 0V
Current: 100mA

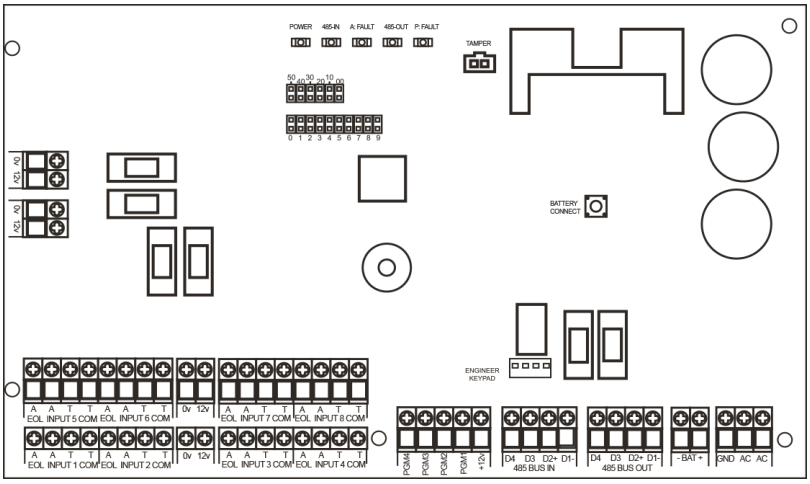
8.6 Connecting The Zone Expander Module with PSU (EURO-ZEM8+PSU)

EURO-ZEM8+PSU

The EURO-ZEM8+ is an input expander that supports 8 inputs and 4 PGMs and has a built in 2.5 power supply.

It also supports NC (normally closed), DEOL input and 3 Resistor (Grade 3) configurations.

The EURO 162 will support up to 18 x Zone Expander Modules and the EURO 280 will support up to 30 x Zone Expander Modules. Please see page: 4.



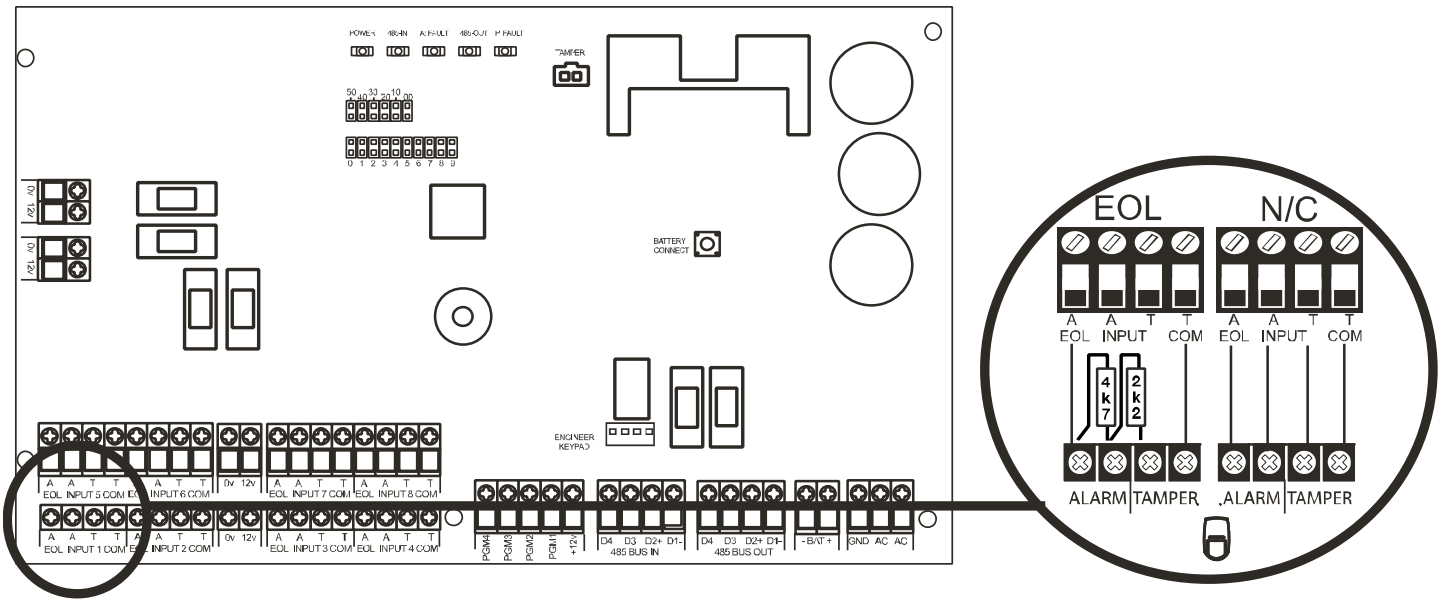
NOTE: The D2+ terminal must not be connected.

8.6.1 EURO-ZEM8+PSU Technical Specification

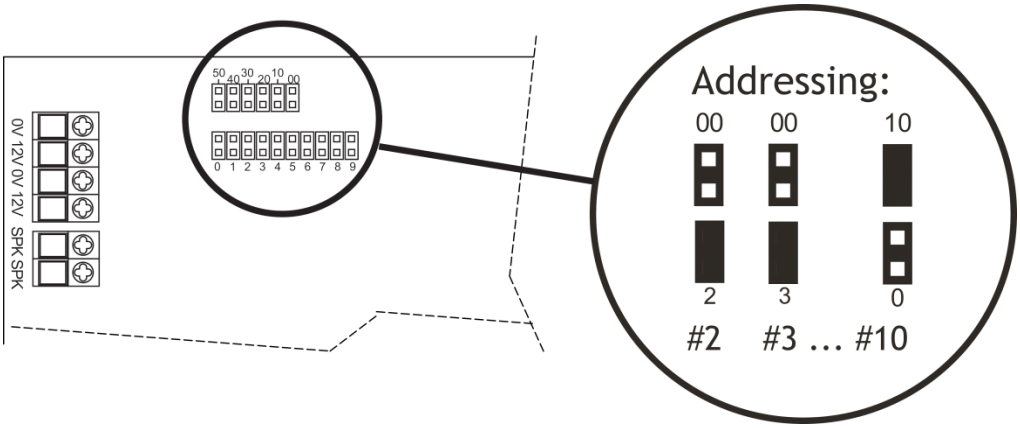
EURO-ZEM8+PSU (Input Expander with Power Supply)			
Input Voltage	9-15V		
Current Consumption	65mA		
Inputs	Programmable NC, DEOL, 3 Resistor (Grade 3)		
Input EOL Resistor Values	1k / 1k DEOL Range	**4k7 / 2k2 DEOL Range**	4k7 / 4k7 DEOL Range
Normal	0k5 to 1k4	1k4 to 2k9	3k7 to 8k3
Burglary Alarm	1k5 to 5k9	4k2 to 7k8	8k4 to 10k2
Fault	6k to 8k1	8k to 11k3	10k3 to 14k9
Masking (6k8)	8k2 to 17k	11k6 to 22k	15k to 22k
PGM1 - PGM4	100mA each		
PGM1 - PGM4	Normal state: 12V		
PGM1 - PGM4	Active state: 0V		
Power Supply Rating	2.0A continued and 2.5A in peak when charging battery		
Transformer Rating	44VA		
Dimensions (metal box)	390 x 305 x 100mm		
Dimensions (PCB)	215 x 125 x 65mm		
Colour and Casing	White metal casing		
Indication	LEDs (Power, RS485 In, A-Fault, RS485 Out, P-Fault)		
Temperature	Storage: -20°C to +60°C Certified: -10°C to +40°C Nominal: -10°C to +50°C		

EN50131 Certified Grade 3
Front and rear tamper protected with one tamper switch
PD6662:2010 Installations – Back up battery time = 12hrs providing that a mains fail signal is reported to the ARC. A 17Ah battery, will support a maximum load of 1350mA for a period of 12 hours.
EN50131-1:2006+A1:2009 Installations - Back up battery time = 30hrs providing that a mains fail signal is reported to the ARC.
A 17Ah battery, will support a maximum load of 497mA for a period of 30 hours. Installations which are not supported by an ARC mains fail reported signal = 60 hours. A 17Ah battery, will support a maximum load of 248mA for a period of 60 hours.

8.6.2 EURO-ZEM8+PSU Input Configuration



8.6.3 Addressing the EURO-ZEM8+PSU

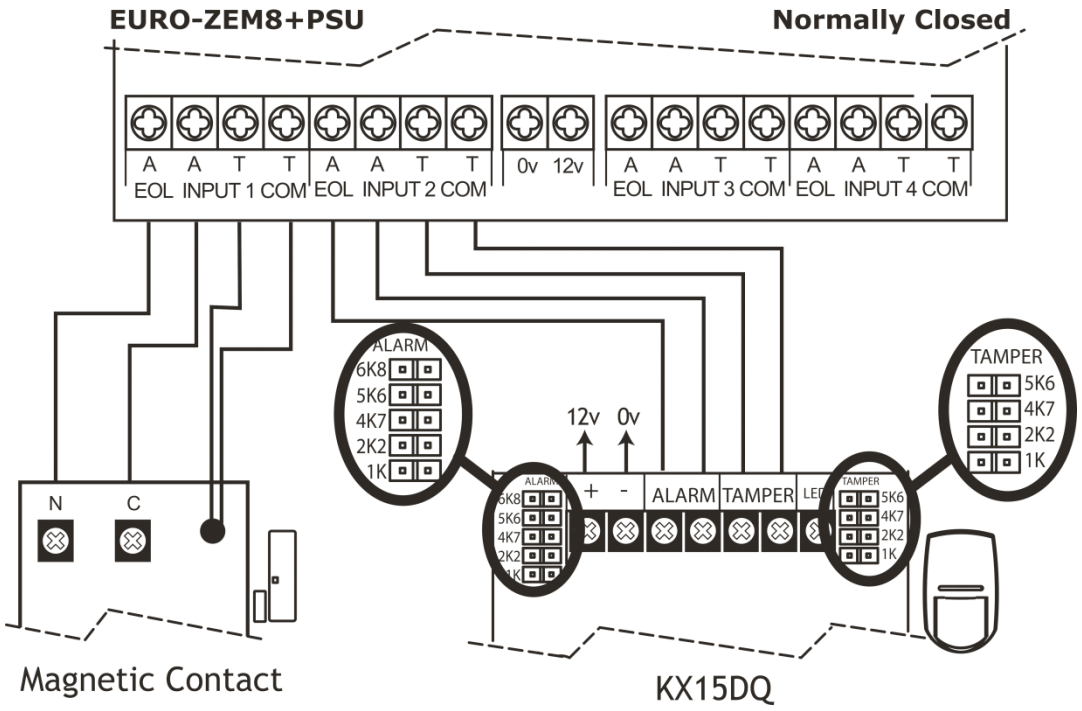


NOTE: The addressing is done by headers that represent the address.
For example: If a header is placed on 00, and 9, the address is 9.
If a header is placed on 20, and 3, the address is 23 etc.

8.6.4 Adding the EURO-ZEM8+PSU (From the Engineer Menu)

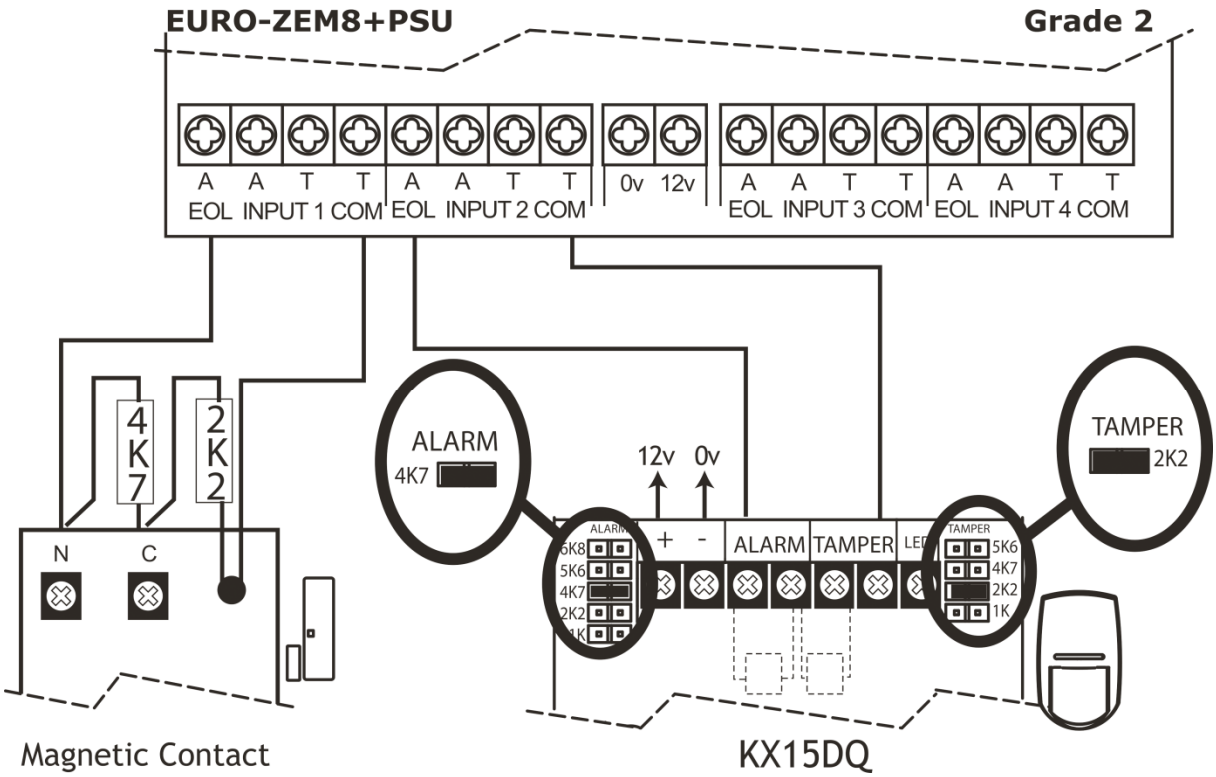
Enter the engineers menu and scroll to 'INSTALL ZEM' and press [YES]. Please see the Programming Manual for more information.

8.6.5 Wiring Inputs on the EURO-ZEM8+PSU (Normally Closed)



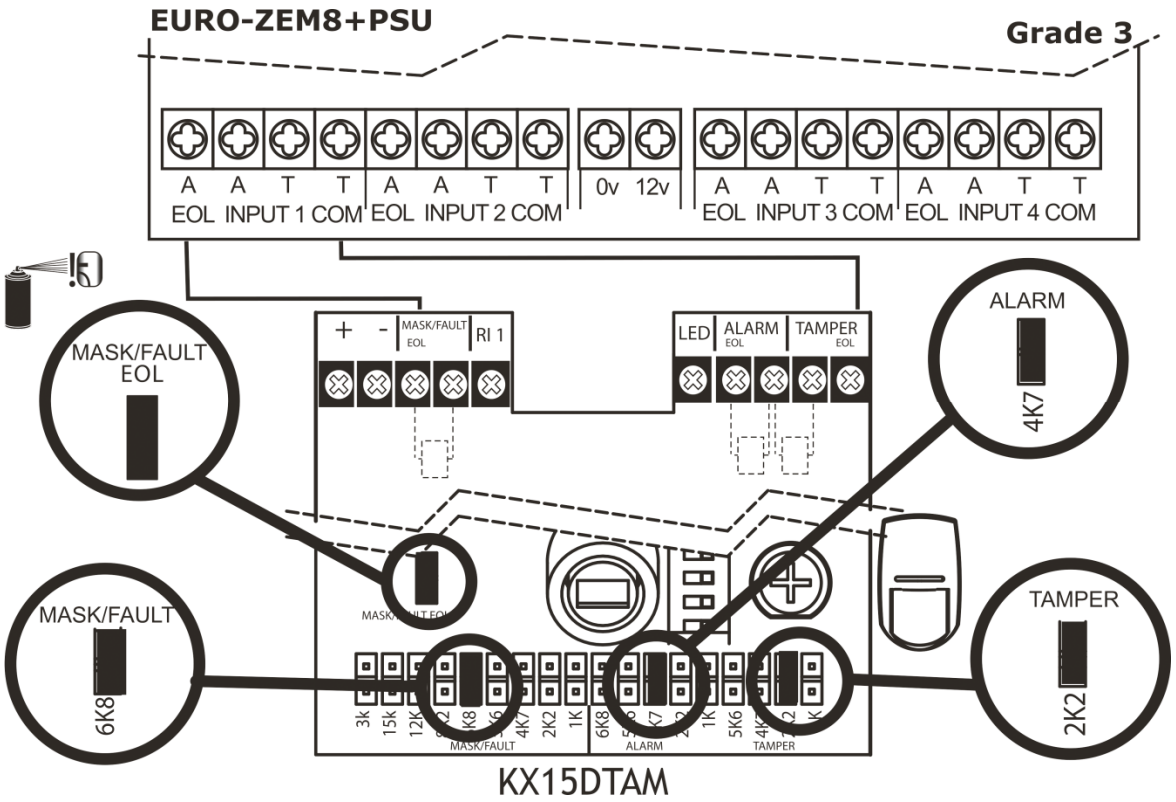
The above wiring example shows the normally closed connections for a KX15DQ PIR.

8.6.6 Wiring Inputs on the EURO-ZEM8+PSU (DEOL: Grade 2)



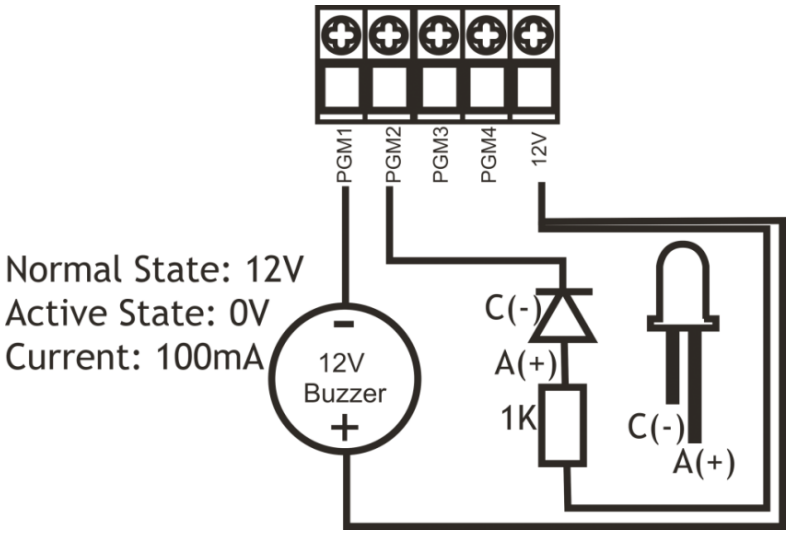
The above wiring example shows the connections for a Grade 2 KX15DQ PIR.

8.6.7 Wiring Inputs on the EURO-ZEM8+PSU (DEOL: Grade 3)



The above wiring example shows the connections for a Grade 3 KX15DTAM PIR.

8.6.8 Output Wiring on the EURO-ZEM8+PSU



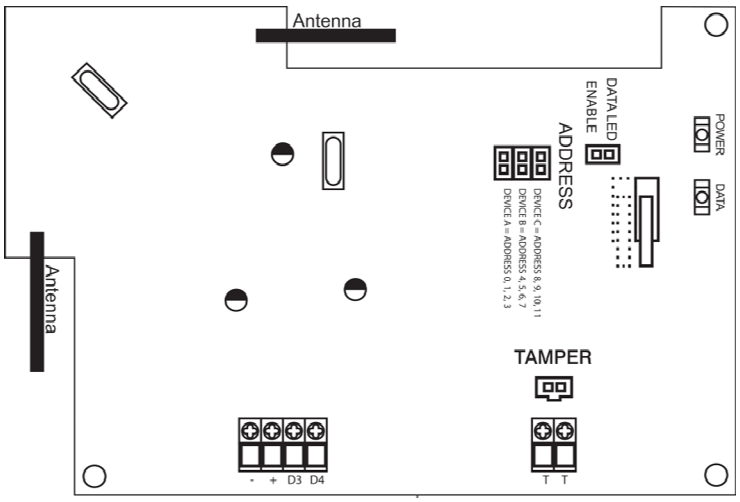
8.7 Connecting The Enforcer Wireless Zone Expander Module (EURO-ZEM32-WE)

EURO-ZEM32-WE

The EURO-ZEM32-WE is a wireless input expander that supports Two Way wireless Enforcer technology. Each expander will allow 32 wireless inputs. The first expander on the bus will allow 32 wireless keyfobs and 2 wireless bells.

The EURO 162 will support 2 x EURO-ZEM32-WE's and the EURO 280 will support 3 x EURO-ZEM32-WE's.

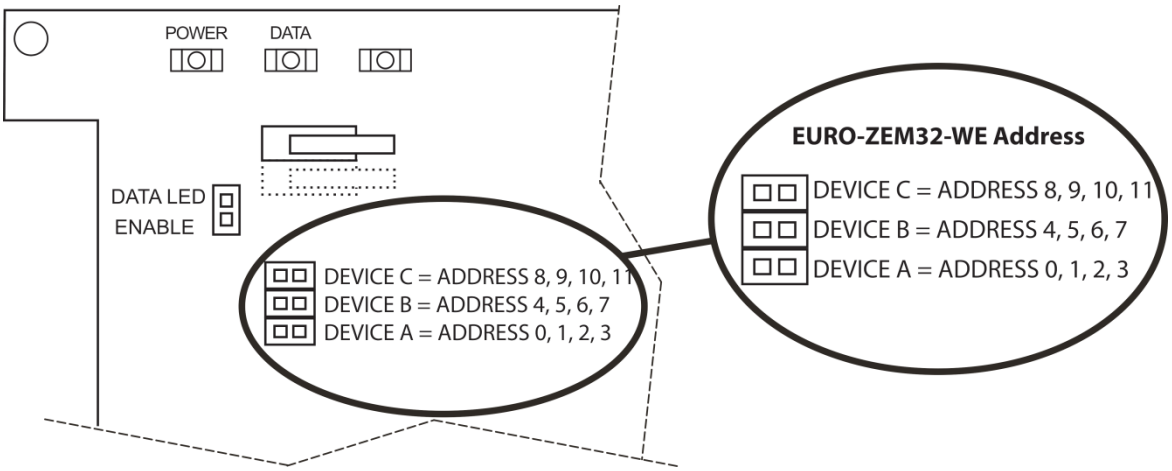
Please see page: 4.



8.7.1 EURO-ZEM32-WE Technical Specification

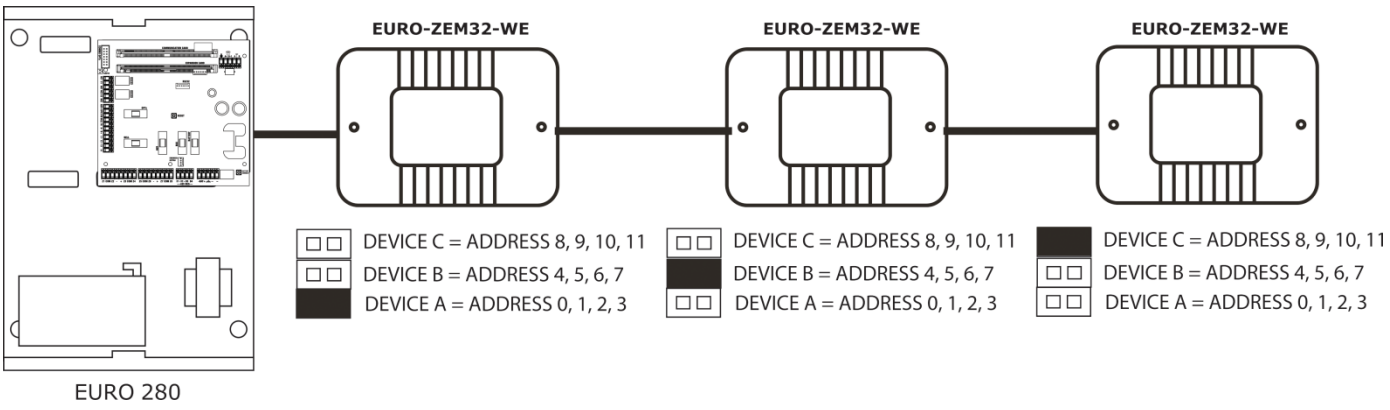
EURO-ZEM32-WE (Two Way Wireless Input Expander)	
Input Voltage	9-14V
Current Consumption	60mA quiescent 115mA during transmission
Radio Frequency	868MHz FM Transceiver Narrow Band. Range: 300m open space
Dimensions (metal box)	173 x 125 x 32mm
Colour and Casing	White plastic casing
Indication	LEDs (Power and Data)
Temperature	Operational: -10°C to +50°C Certified: -10°C to +40°C Storage: -40°C to +80°C
Humidity	85% @ 25°C
Weight	0.24kg

8.7.2 Addressing the EURO-ZEM32-WE (From the Expander)



The EURO 162/280 will support both wired and wireless expanders on the same bus.
Wireless sounders and Keyfobs must be learned to Address 0.
NOTE: Please make sure that you address the EURO-ZEM32-WE while the tamper switch is open. The address will then be assigned when the tamper is closed.

Addressing Example: Having 96 wireless inputs on the EURO 162 and EURO 280



EURO-ZEM32-WE: DEVICE A

This expander will learn all 32 wireless keyfobs and 2 wireless bells (address 0).

- **Address 0** = 8 wireless inputs (Inputs 9-16)
- **Address 1** = 8 wireless inputs (Inputs 17-24)
- **Address 2** = 8 wireless inputs (Inputs 25-32)
- **Address 3** = 8 wireless inputs (Inputs 33-40)

EURO-ZEM32-WE: DEVICE B

- **Address 4** = 8 wireless inputs (Inputs 41-48)
- **Address 5** = 8 wireless inputs (Inputs 49-56)
- **Address 6** = 8 wireless inputs (Inputs 57-64)
- **Address 7** = 8 wireless inputs (Inputs 65-72)

EURO-ZEM32-WE: DEVICE C

- **Address 8** = 8 wireless inputs (Inputs 73-80)
- **Address 9** = 8 wireless inputs (Inputs 81-88)
- **Address 10** = 8 wireless inputs (Inputs 89-96)
- **Address 11** = 8 wireless inputs (Inputs 97-104)

Wired expanders may also be used in conjunction with wireless expanders. For example, if only 48 wireless inputs are needed, wired input expanders can be addressed from Address 6.

8.7.3 Adding the EURO-ZEM32-WE (From the Engineer Menu)

Enter the engineers menu and scroll to 'INSTALL ZEM' and press [YES]. Please see the programming manual for more information.

8.7.4 Learning Wireless Devices

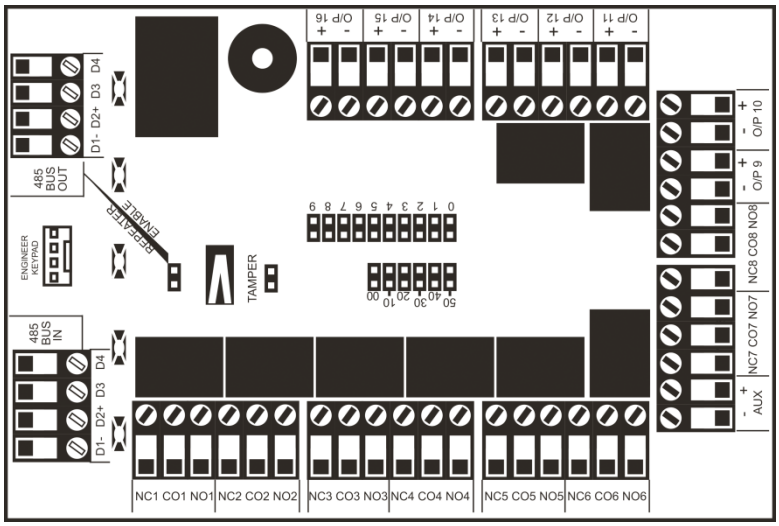
All wireless devices are learnt in the Engineer function 'WIRELESS DEVICE CONTROL'. Please see the programming manual (for inputs and bells) and user manual (for keyfobs) for more information.

8.8 Connecting The Output Expander Module (EURO-OEM8R8T)

EURO-OEM8R8T

The EURO-OEM8R8T is an output expander that supports 8 way relays and 8 transistor outputs.

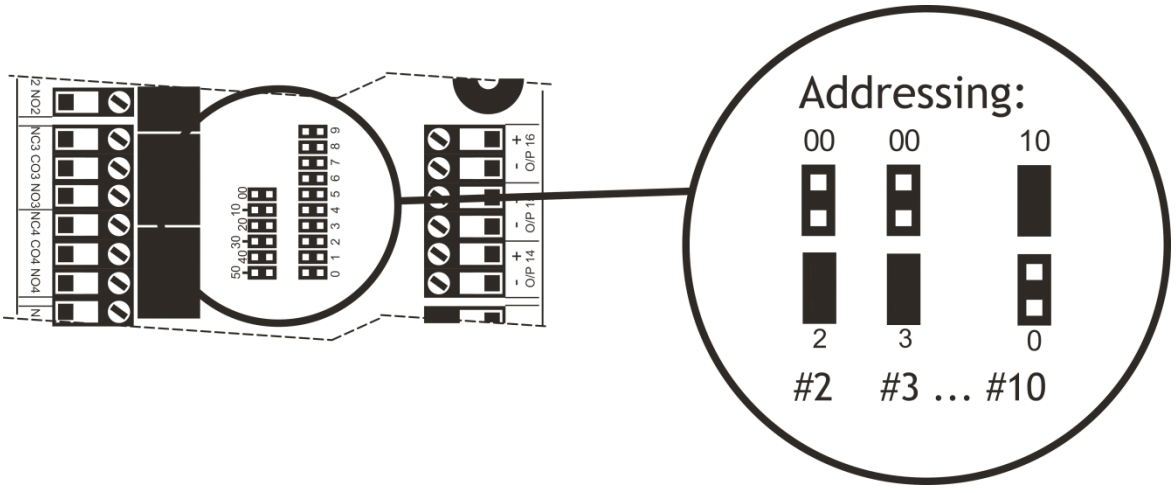
The EURO 162 will support up to 8 x Output Expander Modules and the EURO 280 will support up to 16 output expanders. See page: 4.



8.8.1 EURO-OEM8R8T Technical Specification

EURO-OEM8R8T (Output expander with 16 PGMs)	
Supply Voltage	9-15V DC
Current Consumption	25mA, Max 300mA when all outputs are active
PGM1 to PGM16	Programmable
PGM1 to PGM8 Type	Relay, 3A, max 30V
PGM1 to PGM8 Normal State	Changeover NC & NO
PGM1 to PGM4 Active State	Changeover NC & NO
PGM9 to PGM16 Type	Open Collector
PGM9 to PGM16 Normal State	Floating
PGM9 to PGM16 Active State	0V
Dimensions Plastic Box	173 x 125 x 32mm
Dimensions PCB	135 x 90 x 15mm
EN50131 Certified	Grade 3

8.8.2 Addressing The EURO-OEM8R8T (From the Expander)

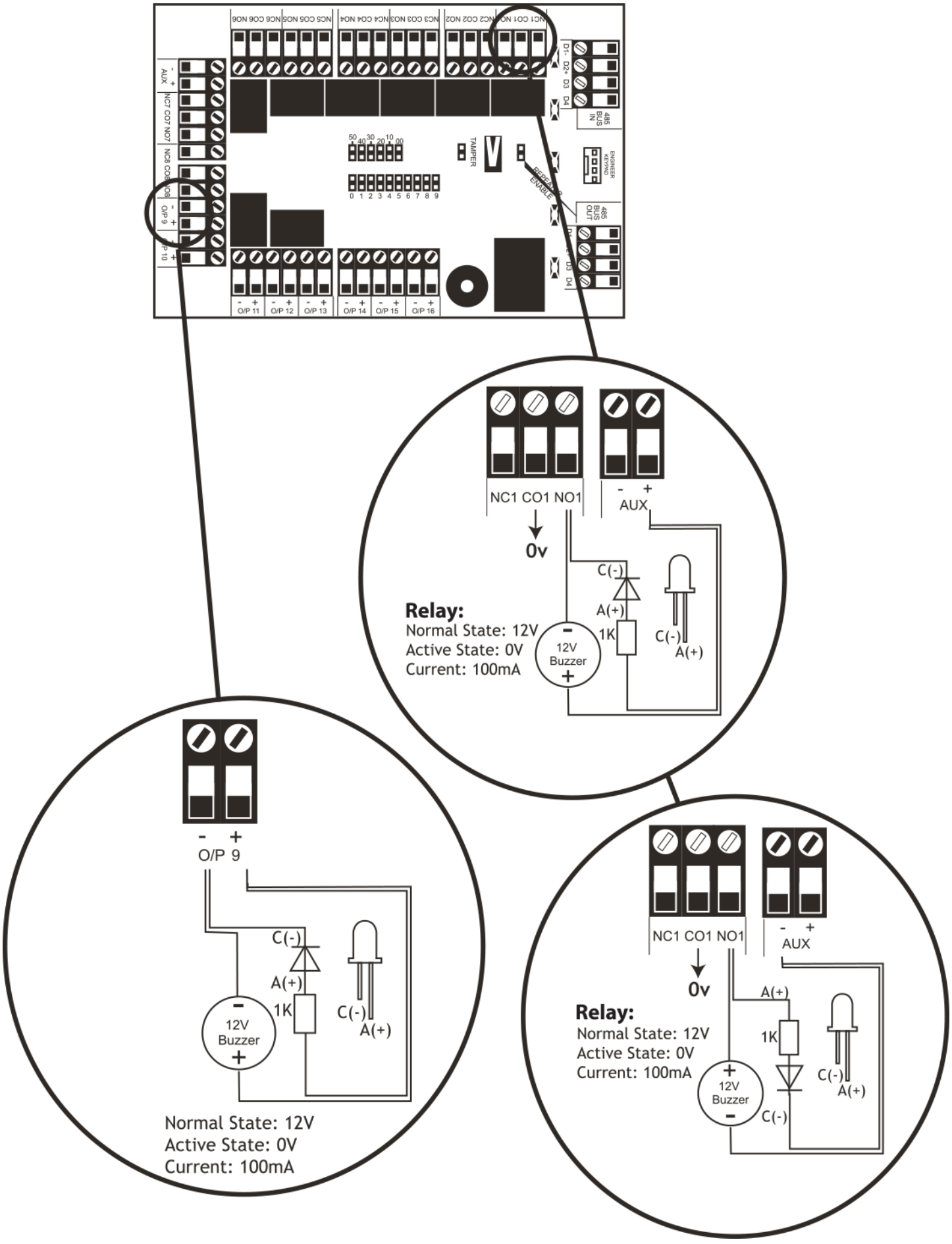


NOTE: The addressing is done by headers that represent the address.
For example: If a header is placed on 00, and 9, the address is 9.
If a header is placed on 20, and 3, the address is 23 etc.

8.8.3 Adding The EURO-OEM8R8T (From the Engineer Menu)

Enter the engineers menu and scroll to 'CHANGE OUTPUTS' and then 'Output Module Outputs' and press YES. Please see the Programming Manual for more information.

8.8.4 EURO-OEM8R8T Output Connections



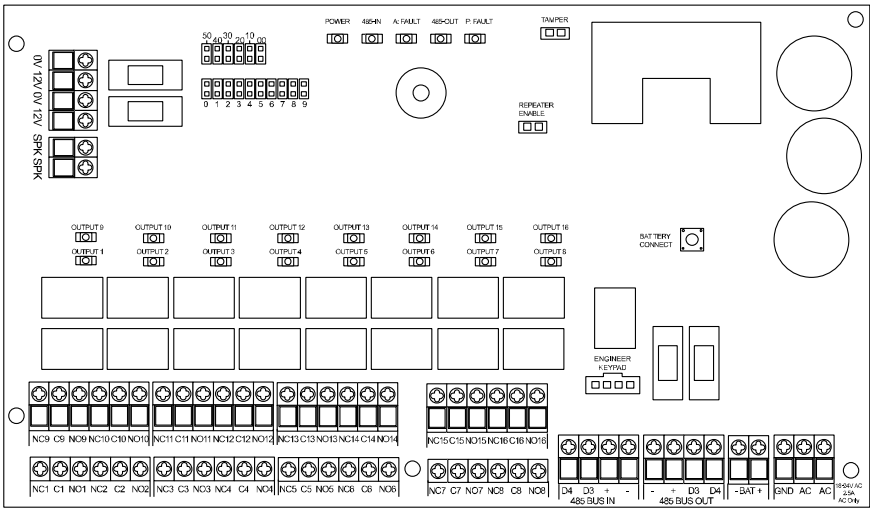
8.9 Connecting The Output Expander Module with PSU (EURO-OEM16R+PSU)

EURO-OEM16R+PSU

The EURO-OEM16R+PSU is an output expander that supports 16 relays and has a built in 2.5A power supply.

The EURO 162 will support up to 8 x Output Expander Modules and the EURO 280 will support up to 16 output expanders. See page: 4.

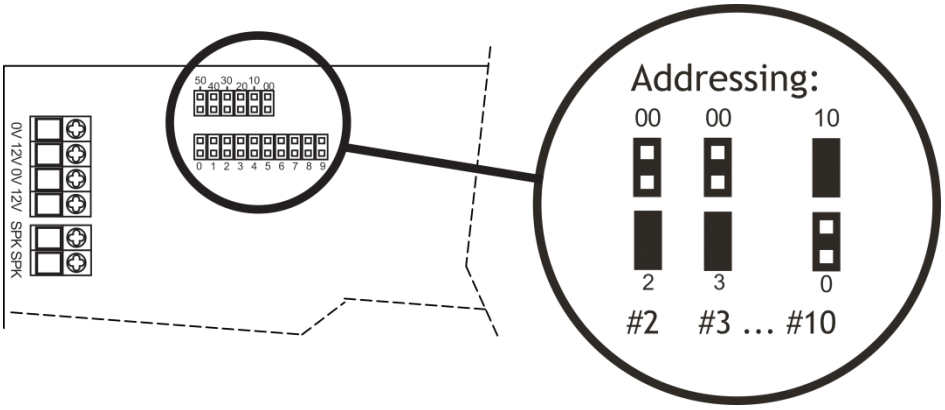
NOTE: The D2+ terminal must not be connected.



8.9.1 EURO-OEM16R+PSU Technical Specification

EURO-OEM16R/PSU (Output expander with 16 PGMs and Power Supply)	
Supply Voltage	9-15V DC
Current Consumption	25mA, Max 340mA when all outputs are active
PGM1 to PGM16	Programmable
PGM1 to PGM16 Type	Relay, 3A, max 30V
PGM1 to PGM16 Normal State	Changeover NC & NO
PGM1 to PGM16 Active State	Changeover NC & NO
Power Supply Rating	2.0A Continuous and 2.5A in peak when charging battery
Transformer Rating	44VA
Dimensions Metal Box	390 x 205 x 100mm
Dimensions PCB	215 x 125 x 65mm
Front and rear tamper protected with one tamper switch	
Front and rear tamper protected with one tamper switch A 17Ah battery, will support a maximum load of 1350mA for a period of 12 hours. EN50131-1:2006+A1:2009 Installations - Back up battery time = 30hrs providing that a mains fail signal is reported to the ARC. A 17Ah battery, will support a maximum load of 497mA for a period of 30 hours. Installations which are not supported by an ARC mains fail reported signal = 60 hours. A 17Ah battery, will support a maximum load of 248mA for a period of 60 hours.	
EN50131 Certified	Grade 3

8.9.2 Addressing The EURO-OEM16R+PSU (From the Expander)

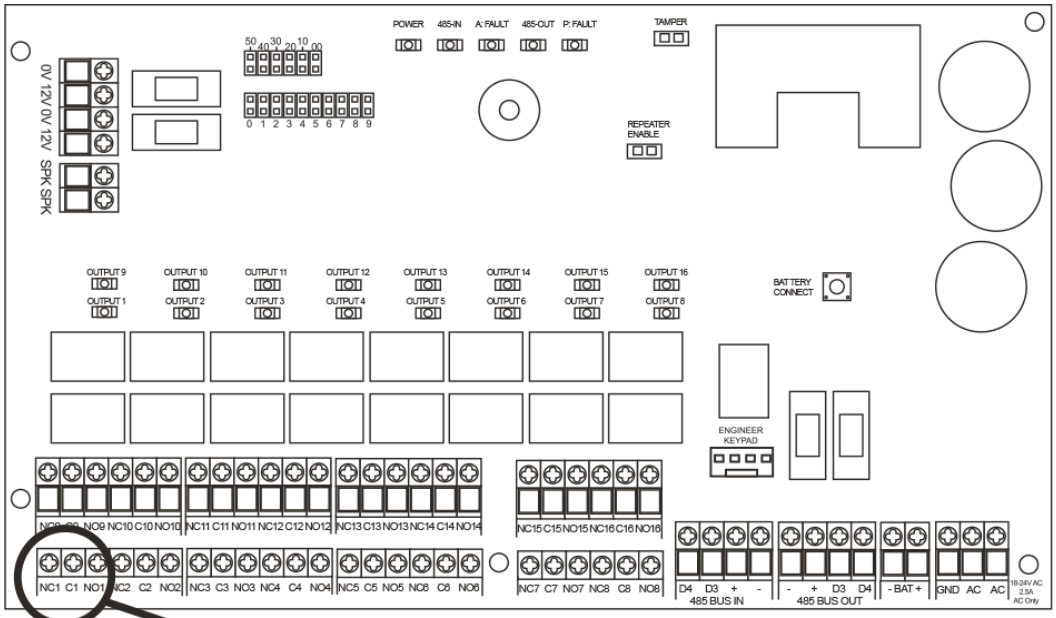


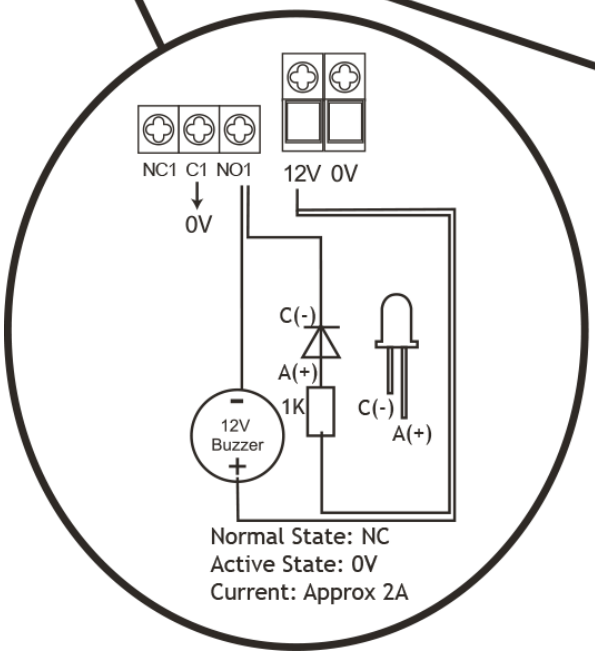
NOTE: The addressing is done by headers that represent the address.
For example: If a header is placed on 00, and 9, the address is 9.
If a header is placed on 20, and 3, the address is 23 etc.

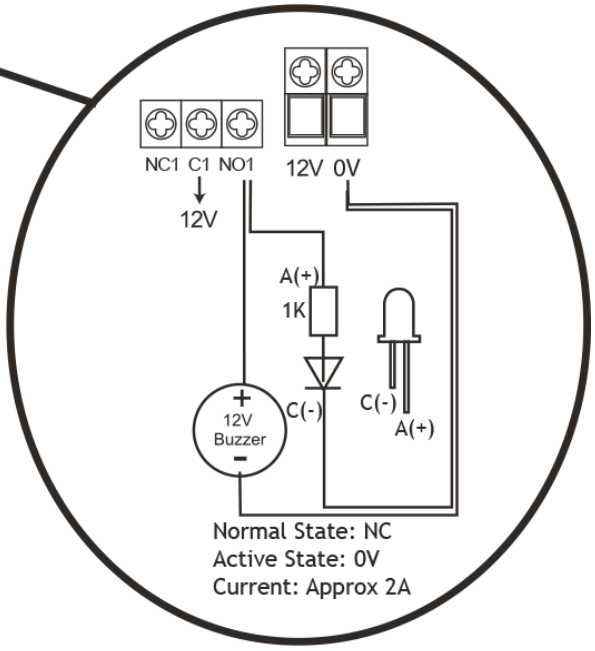
8.9.3 Adding The EURO-OEM16R+PSU (From the Engineer Menu)

Enter the engineers menu and scroll to 'CHANGE OUTPUTS' and then 'Output Module Outputs' and press [YES]. Please see the Programming Manual for more information.

8.9.4 EURO-OEM16R+PSU PGM Connections (Negative and Positive Applied Wiring)







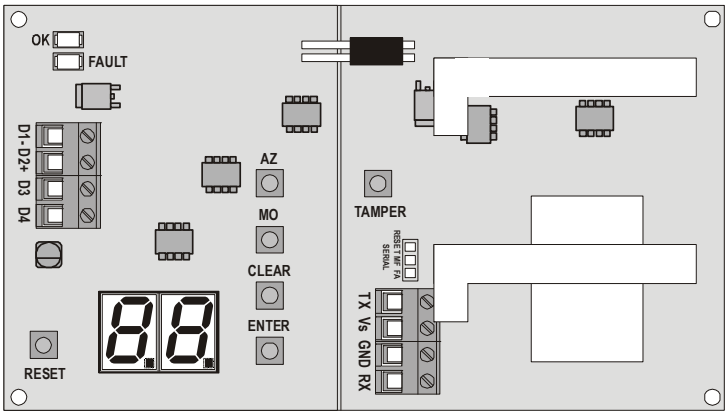
9. The Inovonics Radio Expander

This radio expander is a 868 inovonics receiver and programming PCB. It will connect to the EURO 46 via the D1, D2, D3, and D4 terminals. NOTE: This expander will not work with the Enforcer wireless technology.

9.1 The Inovonics Radio Expander

The display is 2 x 7 segments and there are 4 control buttons:

'AZ' = Assign zones/repeaters
'MO' = EOL mode or iD mode
'CLEAR' = Clear Information
'ENTER' = Accept Information



A total of 7 detectors can be programmed using the End of Line mode on a radio expander, and 29 can be programmed using the iD mode.

The '**OK**' and '**FAULT**' LEDs relate to the RS485 connection to the EURO system.

NOTE*:* The last input on the expander should be programmed as 'Fault' with the name 'RF Low Battery' to indicate a detector low battery problem. If an RF Low Battery is reported then the radio expander will show on the display the number of the detector with the low battery: e.g. Lb…21.

Supervision failure will be reported as 'tamper' on the relevant input.

9.2 The Inovonics Radio PIR

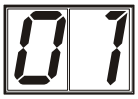
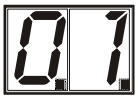
Once the Radio PIR has seen an activation, it will then be inactive for four minutes. If the Radio PIR hasn't seen any activation within the four minutes, it will then be active again. This is to save the battery life of the detector.

9.3 Addressing the Radio Expander

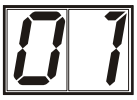
Once a radio expander is installed on the system it must be enabled at the radio expander and the EURO control panel. To perform this at the system you will need to go to 'Install ZEM', see the programming manual. To enable this at the radio expander, follow the instructions below:

➢ Hold down the '**ENTER**' button until the mode and address are displayed. *"E0"* = means End of Line mode, Address 0. *"I0"* = means iD mode, Address 0. ➢ Press the **'MO'** button on the detector to toggle between End of Line and iD modes.	ENTER	E0
➢ Press the **'AZ'** button to select the Wireless Input Expander address number. ➢ Press the **'ENTER'** to confirm your selection.	AZ	E1

9.4 Assigning Radio Detectors

➢ Press the '**AZ**' and scroll to the input number you wish to assign a wireless detector to:	AZ 	
➢ Press the ''**RESET**' button on the detector you wish to assign to that particular input. *Ensure that the jumper on the detector PCB is placed in the "EU" position.* When the detector is assigned, the two dots on the display with flash.		

9.5 Deleting Radio Detectors

➢ Press the '**AZ**' and scroll to the input number you wish to delete.	AZ 	
➢ Press the ''**CLEAR**' button. The dots should have cleared, indicating the detector has been deleted.	CLEAR 	

9.6 Display the Signal Strength

The radio expander can monitor the signal of the detectors connected onto the system:

➢ Press the '**AZ**' and scroll to the input number you wish to check. The display will show the input number and two dots.	AZ 	
➢ Activate the detector and the signal strength will be displayed (0-99). If it is below 14, use a REPEATER to boost the signal.		

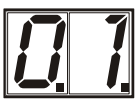
9.7 Assigning Repeaters to the Expander

The radio repeaters act as a 'Range Expander' and helps a system scale from smaller commercial sites to large campuses with several buildings. **NOTE**: Repeaters will use an input from the radio expander.

➢ Press the '**AZ**' and scroll to the input number you wish to assign a repeater. To assign the REPEATER to that input, power the repeater when the input number is displayed, and one dot will flash to confirm. To remove a repeater from that input, press **'CLEAR'**	AZ 	

9.8 Supervision Time

The supervision time is the time of monitoring each detector on the radio expander.

➢ Press the '**AZ**' and scroll to the input number you wish to check. The display will show the input number and two dots.	AZ 	
➢ With the input number displayed, press the **'MO'** button to change the supervision time to (a number will be displayed, ignore this, just follow the dots). 30 minutes (no dots) / 30 hours (1 dot) / 30 days (2 dots)	MO 	

9.9 Problem Solving

One of the most frequent problems in not being able to assign the detectors to the Radio Expander is that the jumper on the detector PCB has not been put in place on the 'EU' pins. This makes sure the transmitter transmits at the correct 868MHz frequency which the input expander uses.

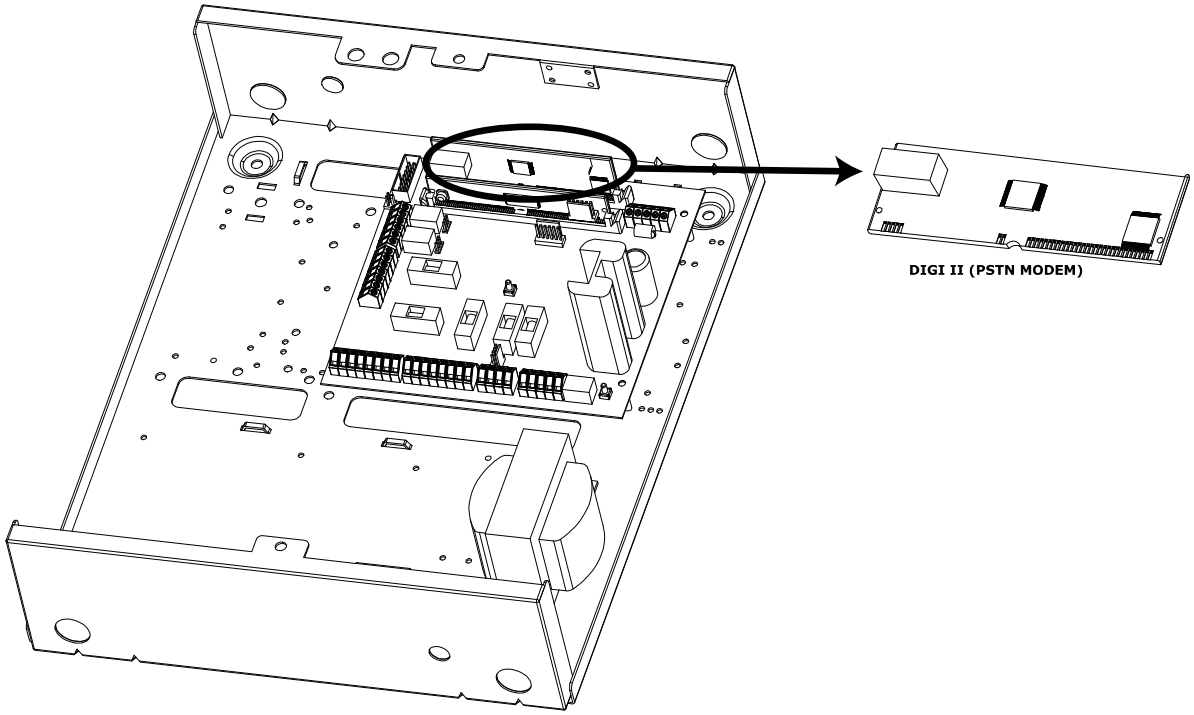
Make sure that the 'serial' jumper on the radio expander is in the 'MF' position.

If there is "33" displayed on the screen and can't be cleared, it is because the expander has been selected for "A0" not "E0". You will need to power down the expander and address it again.

9.10 Technical Specification

THE RADIO EXPANDER	
Radio:	Inovonics Wireless EchoStream using Pan-European 868MHz
Housing Material:	ABS
Closure:	Latching with optional screws for high security installs
Dimensions:	162.0 x 91.4 x 27.9 mm
Weight:	204 grammes
Power Requirements:	12-24V AC or DC
Battery Capacity:	1800mAH at 3.7V
Back-up Battery Life:	24 hours typical
Operating Environment:	0° - 60° C up to 90% relative humidity (non-condensing)
Batt. Charger Operating Environment:	0° - 40° C
Conformity:	Meets or exceeds EN50131-5-3 at grade 2

10. The EURO-073-ARM Modem



The EURO-073-ARM card is a 2400bps modem and enables communication via PSTN line using Fast Format or SMS as well as remote uploading/downloading. This works through the telephone terminals on the EURO 162/280. The connections are as follows:

A = Telephone line input for connection to analogue PSTN telephone line

B = Telephone line input for connection to analogue PSTN telephone line

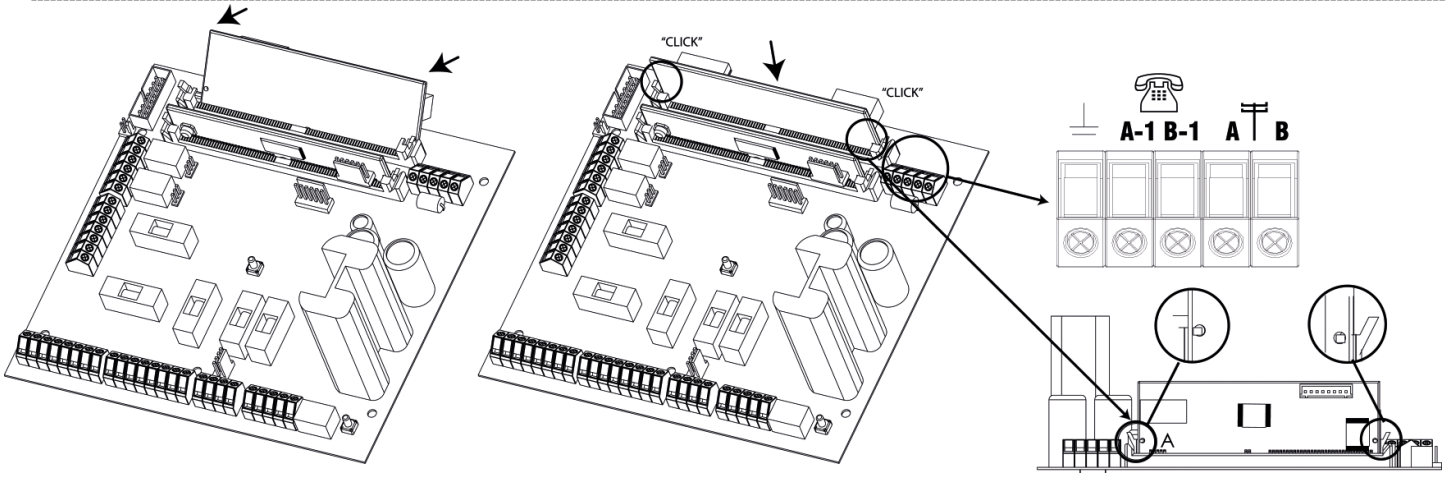
A-1 = Telephone line output for connection to internal telecom equipment

B-1 = Telephone line output for connection to internal telecom equipment

Before making these connections, all power must be disconnected from the system.

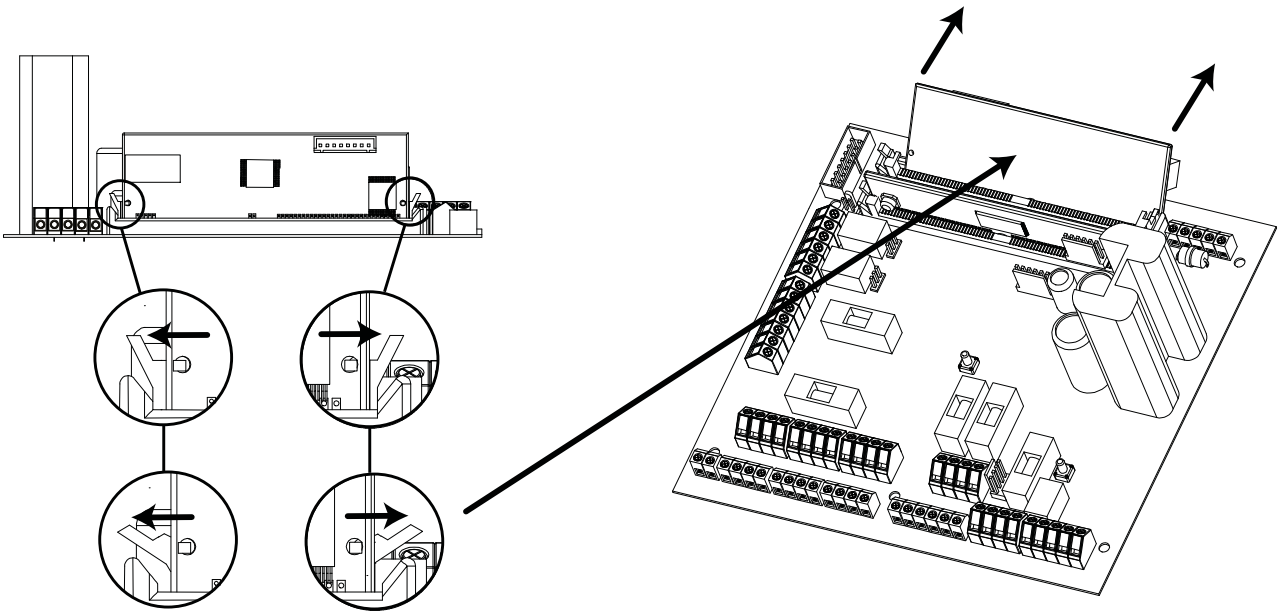
NOTE: The ground terminal should ALWAYS be connected to earth in order to increase the effectiveness of the transient voltage protection on the unit.

10.1.1 Inserting the EURO-073-ARM modem



NOTE: Power down the EURO control panel before inserting the EURO-073-ARM modem

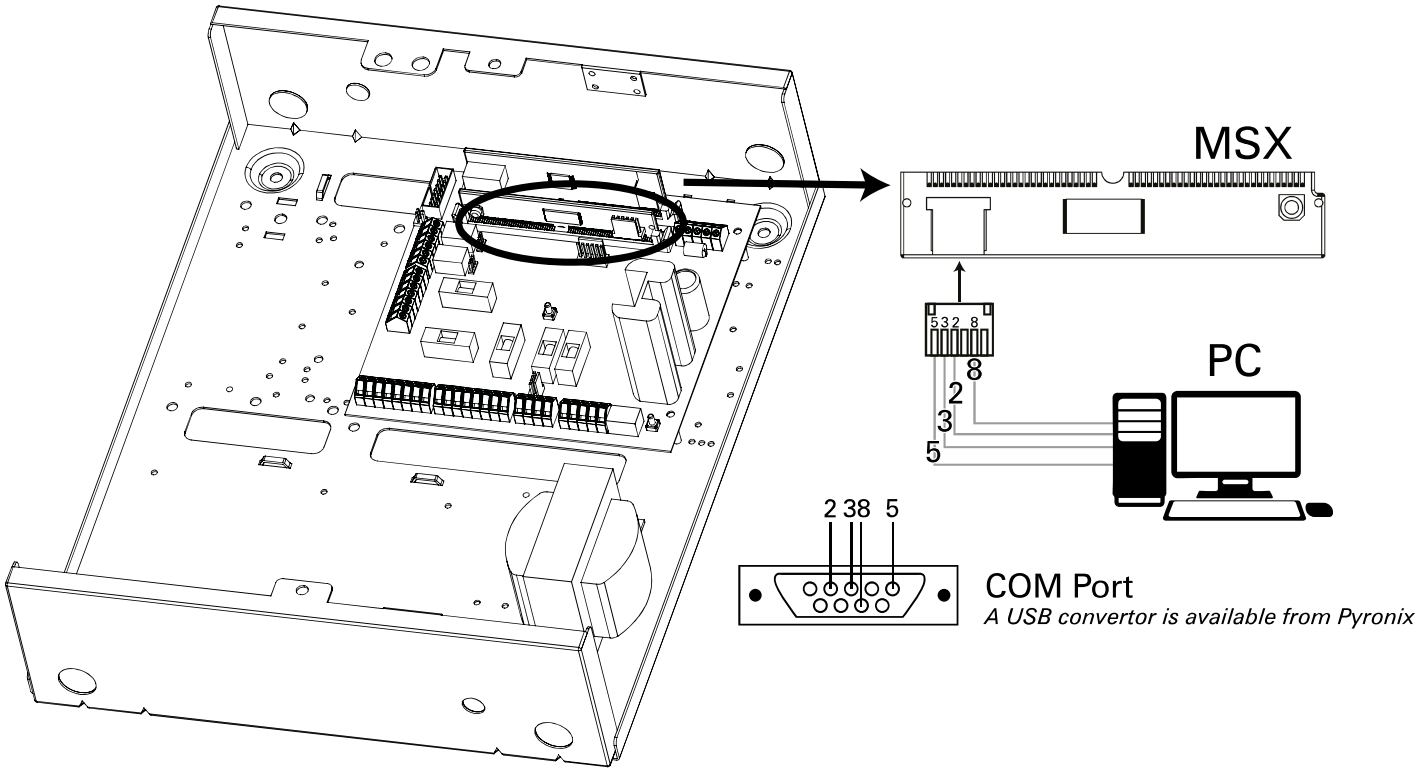
10.1.2 Removing the EURO-073-ARM modem



NOTE: Power down the EURO control panel before removing the EURO-073-ARM modem

10.2 Connecting to the Upload/Download Software

The EURO control panel can be programmed by the LCD menu or the UDL 'InSite' Software provided free of charge. It can be downloaded from http://www.pyronix.com/pyronix-downloads.php. The connection between control panel and UDL software can be done in the following ways:



10.2.1 Serial Connection (RS232)

1. Enter the Engineer menu (code 1111)
2. Scroll the menu until the "SET UP DOWNLOADING"
3. Choose RS-232 in the "Download by" option

10.2.2 On InSite UDL software from a PC

1. To setup the COM port associated to "modem" open the software, click on "Configuration", - choose "Modem Settings" and select "RS-232" option
2. Make sure that the serial COM used by UDL is the same set in the PC
3. Make sure that the UDL Graphic User Interface has the RS-232 icon green colored and glowing
4. Click on "Roving Dial Customer"
5. Set "Dial Mode" field to "RS-232"
6. Enter the Engineer code in the "Engineer Code" field
7. Click on "Dial"
8. If connection is successful, the RS-232 icon will become blue

NOTE: If a Site Name is set up on the panel the UDL Site Name must be the same otherwise the connection will not be possible.

10.2.3 Modem Connection (EURO-073-ARM)

Make sure that the panel and the modem on the PC where UDL is installed are connected to a suitable PSTN line.

On the Panel

Enter the Engineer Menu (code 1111)

Scroll the menu until the "SET UP DOWNLOADING"

Choose Modem in the "Download by" option

On InSite UDL software from a PC

1. To setup the COM port associated to "modem" open the software, click on "Configuration", choose "Modem Settings" and select "MODEM" option

2. Verify that COM port associated to "Modem" in the UDL is the same set in the PC
3. Verify that the modem Icon is green and glowing in the software Graphic User Interface
4. In the "Configurations" menu choose the "Modem Type" from the drop down menu. This is the modem connected to the PC and used to call the panel
5. Press "Load Default String" to program the right initialization string for the selected modem
6. Click on "Force Dial customer"
7. Set "Dial Mode" field to "MODEM"
8. Insert the telephone number in "Telephone Number" field
9. Enter the Engineer code in the "Engineer Code" field
10. Click on "Dial"
11. If connection is successful, the modem Icon will become blue.

NOTE: If a Site Name is set up on the panel the UDL Site Name must be the same otherwise the connection will not be possible.

The PSTN modem card (EURO-073-ARM) fits inside the EURO control panel and is used for the following operations:

Send Alarms to the ARC: It is possible to send alarm events to the monitoring station via Fast Format.

Programming the panel remotely via the telephone line: It is possible to program the EURO control panel remotely via the telephone line. In order to be able to use this feature it is necessary that the telephone line used is analogue conventional telephone line.

Receive Automatic Remote Service calls and alarms: It is possible to receive the remote maintenance service and alarm calls received by the UDL software installed on a PC and modem.

10.2.4 Certification

This product complies with all requirements of the European 'R&TTE Directive' 1999/5/EC for connection to the PSTN. It is approved for use throughout the EU, see 'Declaration of Conformity' on this page.

CE 168

This equipment is thus suitable for single terminal connection to the public switched telephone network (PSTN) throughout Europe. However, due to the differences between the individual PSTNs provided in different countries - and even within a country - the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network, or compatibility with every possible ring cadence.

When using the EURO-073-ARM on ADSL lines, ADSL filters must be fitted. If ADSL filters are used they should be fitted at the telephone line socket.

Should any difficulties be experienced, or it is required to use the unit on another network, please contact your supplier in the first instance.

10.2.5 IMPORTANT NOTICE

The Declaration of Conformity to European R&TTE Directive for this product is valid ONLY when it is correctly installed as described in these instructions.

These instructions are designed to ensure that SAFETY regulations are met, as well as functional and programming aspects. It is therefore essential that these are followed exactly; in particular the telephone cable must be routed and connected correctly.

The product declaration is for use with the following services ONLY:

Multi-Frequency signalling
Auto-Calling
Auto-Clearing

The declaration will be void if used for any other purpose.

The Declaration of Conformity for this product for attachment to the PSTN is void if it is subject to any unauthorised modification, or if used with, or connected to:

Internal software which has not been approved.

External control software or control equipment which causes the unit to contravene the requirements of telecommunications standards.

10.2.6 PRODUCT DECLARATION OF CONFORMITY

Manufacturer	Pyronix Ltd, Secure House, Braithwell Way, Hellaby, Rotherham, S66 8QY
Details of Equipment	EURO-073-ARM Security Communicator/Modem
Declaration	Under our sole responsibility, we hereby declare that the product detailed above conforms with the essential requirements of the directives identified below, having been tested in accordance with the standards mentioned:
EMC Directive 2004/108/EC	EN.50130-4 for Immunity, EN.50081 Part 1 for Emissions
Low Voltage Directive 2006/95/EC	EN.60950
R&TTE Directive 1995/5/EC	CTR.21

The conformity assessment procedure referred to in article 10(3) and Annex II of Directive 1995/5/EC have been followed, with the involvement of the following notified body:
BABT product services, 34 Molesey Road, Walton-on-Thames, Surrey, KT12 4RQ, UK.
Identification Mark: 168

10.2.7 Communication

The EURO-073-ARM is suitable for use in systems designed for use with ATS levels 1 or 2 (as defined in EN50131-1:2006+A1:2009) and environmental class 1 or 2. With the PSTN functioning normally, the ATS will comply with the required performance levels subject to the ARC being suitably equipped.

REMEMBER

The Telecom Ground terminal (TE) should ALWAYS be connected to earth in order to maximise the effectiveness of the transient voltage protection of the unit. Failure to do so will leave the device vulnerable to damage during electrical storms, etc.

DISCLAIMER

EURO panels includes the facility to send electronic signals to an Alarm Receiving Centre (ARC), and also to send SMS text messages to mobile 'phones.

Alarm, etc. signals may be transmitted via a PSTN link, using a variety of formats, to suitable receiving equipment located at the premises of an independently operated Alarm Receiving Centre.

The SMS facility uses a PSTN connection to a special SMS Centre, where the information is transferred to the GSM network for delivery to the client's designated mobile telephone(s).

The SMSC services are provided by GSM network operators or other reputable companies, whose operation is outside of the control or influence of Castle.

Castle Control Panels have an embedded premium rate telephone number that is used to contact a Castle host computer prior to commissioning, in order to download the SMSC details and appropriate call routing authorisation. The control panel will continue to contact this CHC at regular intervals, to verify the operation and update and confirm the routing information and authorisation as appropriate. The charge for this service is raised by the use of the "premium rate" telephone number (the bill-payer must be informed of this).

Whilst we will use our best endeavours to resolve any issues relating to these uses of equipment manufactured by us, Castle Care-Tech are in no way responsible for the operation of the PSTN, the Alarm Receiving Centre or the SMSC - or for the end-to-end security and delivery of information and messages involved.

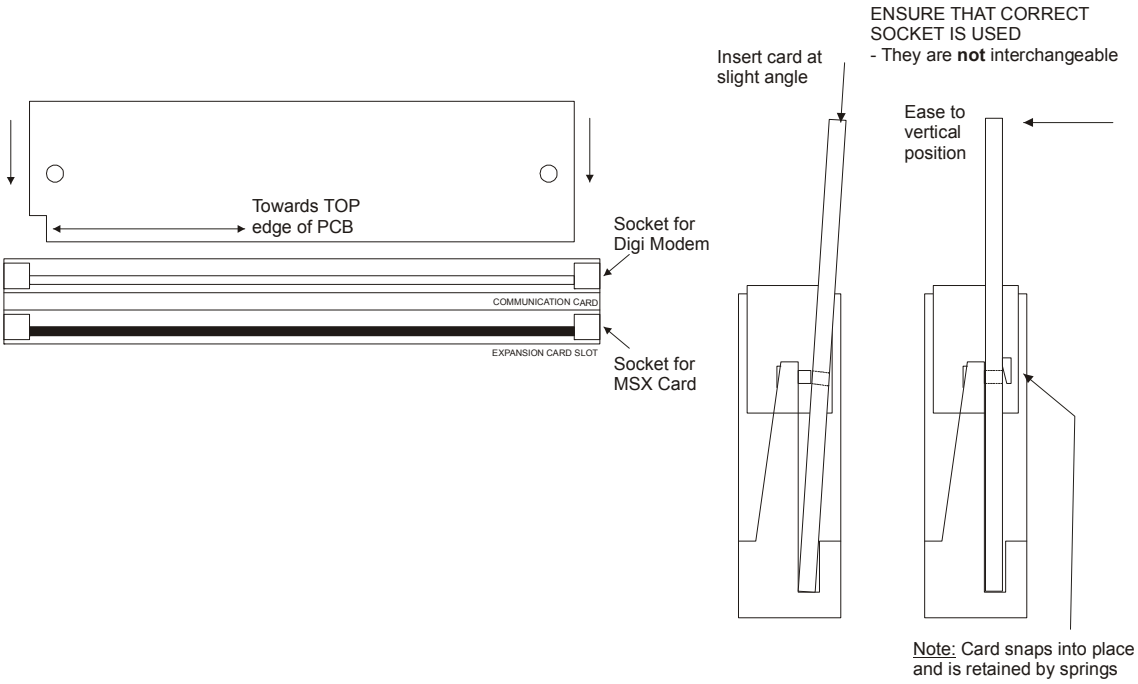
11. System expansion and enhancement

This chapter highlights the means of providing additional and expanded facilities.

Expansion of the system is by means of 'MSX' cards that slot into the end station to provide enhanced specifications. If a EURO 162 is being used, this may be upgraded to a EURO 280 by means of installing a EURO 280 MSX card.

11.1 Inserting the MSX Card

The MSX card must be fitted into the correct slot on the end station PCB, as shown:



12. Access Levels

Level 1: Access by any person; for example the general public.

Level 2: User access by an operator; for example customers (systems users).

Level 3: User access by an engineer; for example an alarm company professional.

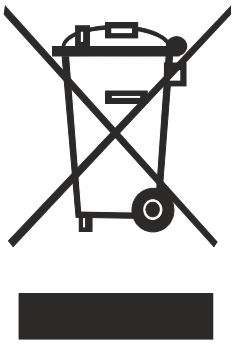
Level 4: User access by the manufacturer of the equipment.

NOTE: Alarm, tamper and fault indications will automatically be cleared within 3 minutes. If a user has finished viewing the information they can terminate the display instantly by pressing the [YES] key

Pyronix Ltd
Secure House
Braithwell Way
Hellaby
Rotherham
S66 8QY

Customer Support line (UK Only):
+44(0)845 6434 999 (local rate) or
+44(0)1709 535225

Hours: 8:00am - 6:30pm, Monday to Friday
Email: customer.support@pyronix.com
Website: www.pyronix.com



The symbol shown here and on the product, means that the product is classed as Electrical or Electronic Equipment and should not be disposed of with other household or commercial waste at the end of its working life. The Waste Electrical and Electronic Equipment (WEEE) Directive (2006/96/EC) has been put in place to recycle products using the best available recovery and recycling techniques to minimise the impact on the environment, treat any hazardous substances and avoid the increasing landfill.

bsia
british security industry association
FM 20899