EN50131-1:2006+A1:2009 EN50131-3:2009 EN50131-6:2008 EN50131-5-3:2005+A1:2008

Security Grade 2 Environmental Class II

Software Version >10





Installation Reference Manual Wireless Alarm System RINS1708-2

> INTERNAL SIREN WARNING The Enforcer 32-WE control panel contains a 100 dBA siren, please be aware of this during installation









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2. Introduction

The Enforcer is the first two way wireless high security wireless system on the market. It can only be compared to an addressable wired system, but instead of using a wired data bus it uses a wireless one.

The Enforcer 32-WE supports 32 wireless and 34 wired inputs, 2 wireless external sirens, 32 keyfobs, 75 user codes or tags, 19 programmable and automation outputs and a large variety of wireless accessories. All devices can cover a wireless range of open space up to 1.6km.

System Overview	Quantity	Additional Information
Full Areas	4	
Sub Areas (Readers)	3	
Wireless Inputs (max)	32	
Wired Inputs On-board	2	
Wired Inputs (max)	34	4x Wired Input Expanders
Total Inputs Wireless + Wired	66	
On-board outputs	3	
User Automation Outputs	19	
Outputs (max)	34	16 x (1 x Wired Output Exp) 12 x (4 x Wired Input Exp) 3 x (Keypads/Readers)
User Codes and Tags	75	
Wireless Key fobs (max)	32	4294967295 encrypted rolling code
Duress / Guard Codes	10	
Communications modules	DIGI-GPRS, DIGI-	LAN, DIGI-1200 (PSTN)
Wired Arm Devices (max)	3	
Logs	750	Time and Date
Memory Type	EEPROM	
Event Signaling to UDL	✓	
Compliant to EN Grade*	2	
Environmental Class	II	

Default Codes:

Master Manager Code: 1234 Engineer Code: 9999

*EN50131 compliance labeling should be removed if non-compliant configurations are used.

*Please note that technical functions for example fire, gas and flooding are not security graded as they are outside the scope of EN50131-1 and EN50131-3.

NOTE: All messages are given equal priority and are dealt with on a "first in" basis.





3. Initial Power Up

NOTE 1: It is recommended that the Engineer menu is accessed prior to opening a powered Enforcer 32-WE.

NOTE 2: If any new peripheral is installed (i.e. Modem, I/O board, Expander) it is recommended that the Enforcer 32-WE is powered down (mains and battery).



It is important that the electrical earth connection is connected when connecting the 230V mains supply to the Enforcer.

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NOTE 1: Do not locate the mains cables next to internal cabling.

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NOTE 2: Ensure that the Enforcer 32-WE is not mounted on any metal surfaces.

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NOTE 3: Mains cables should not be internally 'looped' or tightly bundled as this may interfere with the wireless antennas. Where possible it is recommended that all mains cables should be installed through the area nearest the mains terminals as shown above.





2. Space for the

3.2 Inside of the Enforcer 32-WE: Rear

1. Terminals for Earth and Mains Supply. See page: 4.

2. If a modem is required (DIGI-GPRS, DIGI-LAN or DIGI-1200/PSTN) then this space is used to install them. See page: 19

3. The transformer is situated in a housing, this shouldn't need to be removed.

4. The rear tamper adjustment screw is used if the tamper from the front of the Enforcer 32-WE isn't sitting flush to the back plate - this may happen if the Enforcer 32-WE is installed on an uneven surface.

5. If an I/O board is installed, then this space is used to install it. See page: 9.



adjustment screw

1. Terminals for Earth

3.3 Inside of the Enforcer 32-WE: Front

1. RS232 connection for Up/downloading to the InSite software. See page: 17

2. The location of the control panel battery. See page 6 for replacement procedure.

3. The power connection for a DIGI-GPRS if connected (Note that this port is labeled 'GSM MODEM'). See page: 19

4. The connection for an I/O board if connected. See page: 9.

5: The connection for the modem installed (DIGI-GPRS, DIGI-LAN or DIGI-1200/PSTN). See page: 19

6: The power connection (+12V DC) for the Enforcer 32-WE.







3.4 Connecting / Replacing the Control Panel Battery

- **1**. Unscrew the battery compartment
- 2. Connect the batteries

3. Close the battery compartment masking sure no battery cable is trapped underneath.



NOTE: The Enforcer 32-WE back up battery must be replaced by the manufacturer's recommendation. The part code for this battery is BATT9V6/2Ah1-WE.

The battery is a NiMH 8 cell 2200mAh rechargeable.

Install the batteries in the space provided and connect the battery connector to the two pins as shown above. Reinstall the battery holder cover Dispose of the batteries in accordance with the local regulations.

3.5 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 qualified local electrician.
- Ensure that a readily accessible disconnect device is incorporated in the premises installation wiring and is provided external to the equipment with a contact separation of at least 3,0mm and connected as closely as possible to the supply.
- Ensure that the Input and Output Board (I/O Board) used to connect wired keypads, readers, inputs and outputs to the Enforcer 32-WE, is only connected to circuits operating at SELV voltage.
- When securing external wires, ensure that means are provided in the installation to prevent the SELV or signal circuits from coming into contact with live parts of the power supply circuit. Wires should be fixed near their terminal blocks.
- The end of the stranded conductor shall not be consolidated by soft soldering at places where the conductor is subjected to contact pressure.
- On completion of wiring use tie-wraps to prevent any loose wires causing a safety hazard (material of cables ties shall be rated at least HB or better).
- Cables ties and hoses shall be separate for power supply cable and SELV wirings.
- Size of protective bonding conductors: minimum section 1.5mm².





4. Technical Specification

Enforcer 32-WE Mains Inputs	
European rated	230V AC -15/+10%
voltage	
European rated	63mA
current	
Capable operating	90 - 264V AC
voltage	
Current	22 - 75 mA
Rated Frequency	50 / 60Hz
Input Fuse Rating	T 2A (non replaceable)
PSU	Туре А
Radio Frequency	868MHz, FM Transceiver
	Narrow Band

1005	
Weight 1025g	

Environmental	
Operating Temp	-10°C to +40°C
Storage Temp	-20°C to +60°C

I/O Board (If Connected)

Belgium installations: To guarantee compliance		
with the standard T014A no load shall be		
connected to the I/O board.		
Output Voltage	9-16VDC (12V nom.)	
Max Current Output	0.07A allowed	
PGM/BELL/STB	250mA Continuous	
Outputs	Load	
BELL / Aux Fuses	350mA, Self-Resetting	

Electrical (Keyfob, PIR & Contact)		
Operating Voltage	3.0V nominal	
Current	Consumption:	
(Communicating)		
40-80-mA	250mA Continuous	
	Load	
Comms Time	40mS + 40ms	
Battery Type (KF)	BATT-CR1/3N(KF4	
	MK2)	
Battery Type (PIR)	BATT-CR123A	
Battery Type (UT)	BATT-CR2	

Environment: All Devi	ces
Nominal operating	-10°C to +50°C
temperature	
Certified operating	-10°C to +40°C
temperature	
Storage temp.	-40°C to +80°C
Enforcer Battery	
Output instant voltage	12.71V (with no mains
	and battery fully
	charged)
Peak to peak ripple	10mVpk
voltage	
Battery low voltage	8.9V
value	
Туре	NiMH 8 cell 2200mAh
	rechargeable battery
CIE current when	90mA
operating on battery	
backup	

Systems Analysis: Inputs		
On Board	32 Wireless	
I/O Board	2 Wired	
If wired connection is used one zone shall be		
program as "Fault".		

Systems Analysis: Outputs	
I/O Board	3 Wired
Bells	2 Wireless
Output Module	1 x 16 Relays

System Analysis: Additional Devices		
Keypads	Up to 3	
Readers	Up to 3	
Bell Boxes	1	

EN 50131 Grade 2: Certified devices		
Enforcer 32-WE with input/output board		
KX10DP-WE	KX12DQ-WE	
MC1-WE	MC2-WE	
KF4-WE	DELTABELL-WE	
KX12DT-WE	DIGI-1200	
KX10DTP-WE	KX25LR-WE	
KX15DC-WE	MC1MINI-WE	



appropriate.



5. Installation Guide



NOTE: For greater than 1000m range a standard isolated RS485 repeater is required.

IMPORTANT NOTE: If an expansion module with a power supply on board is connected, the D2+ terminal <u>MUST NOT</u> be connected between the main bus and module.

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5.1 Wiring Peripherals to the RS485 Bus

5.1.1 Input / Output Board

The Input/output (I/O) board contains the RS485 terminals that are used to connect additional wired keypads, readers, input expanders and output expanders.

Terminals:

D1-:	RS485 0V
D2+:	RS485 +12V
D3:	RS485 'A' Bus
D4:	RS485 'B' Bus
PGM1:	Programmable Output
BELL:	Bell output for a wired external
	sounder
STRB:	Strobe output for a wired external
Z33:	Wired Input 33
COM:	Common terminal for Z33 and Z34
+12V:	+12V auxiliary supply
Z34:	Wired Input 34



the Enforcer

The maximum devices the I/O board can have on the RS485 bus are as follows:

4 x Input Expanders: PCX-RIX8i, PCX-RIX8+, PCX-RIX8+PSU

- 1 x Output Expander: PCX-ROX8R8T or PCX-ROX16R+PSU
- 4 x Keypads/Readers (same bus): PCX-LCD/EX, PCX-PROX/INT, and PCX-PROX/E

5.1.2 Wiring Keypads



Up to 3 additional keypads can be connected to the Enforcer 32-WE. These will be addressed individually and also addressed in the Engineer function "Assign Keypads / Readers'.

Addressing at the keypad

Each keypad will also need to be addressed individually, press and hold D until

'SECURITY CODE' is displayed. Enter '2000' and select the desired address (the first keypad that is connected should be addressed as '1'. Press \blacksquare to save the data and exit.





5.1.3 Wiring Internal Readers



Up to 3 readers can be connected to the Enforcer 32-WE. Each reader needs to be addressed as described below. These will also need assigning in the Engineer function "Assign Keypads / Readers'.

Addressing at the Reader

Address 1 = SWITCH 1 ON.

Address 2 = SWITCH 2 ON.

Address 3 = SWITCH 1: ON, SWITCH 2: ON.

NOTE: If using the PCX-PROX/INT as access control/entry control please refer to page: 13.





If an additional external reader is connected, this will need to be assigned in the programming of 'Assign Keypads/ Readers'. Each reader will also need to be addressed individually via connecting certain wires to ground.

Addressing at the Reader

Address 1: Brown, Orange to D1- (Ground)

Address 2: Brown, Green to D1- (Ground)

Address 3: Brown to D1- (Ground)

NOTE: If using the PCX-PROX/E as access control/entry control please refer to page: 15.



5.1.5 Wiring a Wired External Sounder

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I/O Board



To create the bell tamper circuit, a resistor is required across 0V supply and tamper circuit of the bell box. Note that the input must be programmed as 'tamper'. The resistor value is 1K as shown in the diagram above.

IMPORTANT NOTE: THE BELL BOX CONNECTED WILL NEED TO BE IN SCB (self-contained bell) MODE. Unless the bell box is a Pyronix Deltabell.

5.1.6 Wiring Wired Inputs

I/O Board



The resistor values are 1K for Alarm and 1K for tamper.





5.1.7 Connecting an Input Expander

Up to 4 x Remote Input Expanders can be connected to the Enforcer 32-WE.



NOTE: The above shows the I/O board connected to a PCX-RIX8+, the connections for a PCX-RIX8I are done in the same way. NOTE: If using a PCX-RIX8+PSU, the D2+ MUST NOT be connected.

RIX Address 0 (Inputs 35-42), RIX Address 1 (Inputs 43-50),

RIX Address 2 (Inputs 51-58), RIX Address 3 (Inputs 59-66).

5.1.8 Connecting an Output Expander

 $1 \ x$ Remote Output Expander can be connected to the Enforcer 32-WE. Each output expander allows 16 additional outputs



NOTE: The above shows the I/O board connected to a PCX-ROX8R8T. If using a PCX-ROX16R+PSU+ PSU, the D2+ MUST NOT be connected.



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5.2 Entry Control with the Internal Tag Reader

5.2.1 Connecting the Push to Exit Button (Entry Control)



5.2.2 Connecting the Mag Lock Control (Entry Control)







5.2.3 Arming with Entry Control

Action	Visual	Sequence	
Present a valid tag to the reader and then remove it.		The door lock will open	
Present the same tag to the reader within 10 seconds, and then remove it. The exit time will start on the control panel and the door will lock.		The system will set after the final door is closed/exit time expires.	

5.2.4 Disarming with Entry Control

Action	ction Visual	
Present a valid tag to the reader and then remove it.		The bell symbol will be illuminated if the system is set, or the unset symbol will be illuminated if the system is unset.
Present the same tag to the reader, and then remove it.		The doors will unlock and the system will be unset.





5.3 Entry Control with the External Tag Reader

5.3.1 Connecting the Push to Exit Button (Entry Control)



5.3.2 Connecting the Mag Lock Control (Entry Control)







5.3.3 Arming with Entry Control

Action	Visual	Sequence
Present a valid tag to the reader and then remove it.		The GREEN LED will illuminate and if programmed, the door will unlock.
Present the same tag to the reader, and then remove it. The exit time will start on the control panel.		The RED LED will illuminate when the system has armed, and after a few seconds, the LED will extinguish

5.3.4 Disarming with Entry Control

Action	Visual	Sequence	
Present a valid tag to the reader and then remove it.		The RED LED will illuminate to show the system is armed.	
Present the same tag to the reader, and then remove it.		The RED LED will extinguish, and the system will disarm. If programmed, the door release will also open.	





5.4 Connecting to Insite Software

Enforcer 32-WE control panel can be programmed by the LCD menu or the UDL InSite Software provided free of charge. It can be downloaded from <u>http://www.pyronix.com/pyronix-downloads.php</u>. The connection between control panel and UDL software can be done in the following ways:

5.4.1 GPRS Connection (DIGI-GPRS)

On the Panel

- 1) Enter the Engineer Menu (code 9999)
- 2) Scroll the menu (button) until on "Options Up/Downloading" Press '
- 3) Choose 'Cloud' (option 6) in the "Download by" options Press ' \checkmark '
- 4) Make a note of your System ID (to enter in the Insite Software later) Press $\Box \Box'$
- 5) Select security type for initial connections we recommend [0] (Standard) Press '
- 6) Create/enter a system password and take note of it Press ' \checkmark '
- 7) Now on the 'Poll Server?' screen select 'Yes' [1] and press '
- 8) Now on the 'UDL Password' screen **DO NOT USE** leave blank and press '
- 9) Now on the 'Site Name' screen this is optional if you enter a site name make sure you take a note of it for use later in the Insite software or leave blank then Press '
- 10) Now on the 'UDL Priority' screen we recommend setting this to 'High' [0] for initial Connections Press '
- 11) **IMPORTANT:** Make sure that the SIM card in use is enabled for GPRS data and that the correct APN settings have been entered for your network (see Network Setup page 26).

On InSite UDL software from a PC

First of all once the software has opened, go to the 'configuration' tab and then select 'modem settings'. Look in the table at the top of the window that appears and on the entries has the serial mode listed as 'cloud' click on this line to select it and then click the 'load default string' button at the bottom of the window. Once this has been checked:

- 12) Click on 'UDL/ARC Otions' and select 'Force Dial customer'.
- 13) Select 'Cloud' in the 'Dial Mode' field.
- 14) Enter the 'System ID' of your Panel (See 'Options Up/Downloading' in the Engineer menu on panel) into the field titled 'Serial Number'.
- 15) Enter 'system password' (as entered in 'Options Up/Downloading' on the panel into the field titled 'System password'.
- 16) Leave the UDL security level at 'low' for initial connection test (in 'System UDL Security Level' field)
- 17) Enter the engineer code as used on the panel you are trying to connect.
- 18) Enter 'Site Name' as entered in panel ONLY if it was entered on the panel otherwise, leave this blank.
- 19) In the 'Enter Customer In Database As' field simply give the panel you are connecting to an appropriate name.
- 20) Click 'Dial'. If connection is successful, the Cloud Icon will become blue, a dialogue box will appear asking if you would like to create a customer click 'yes' to continue.
- 21) The Enforcer 32-WE control panel is now successfully connected to the Insite UDL software.

5.4.2 Serial Connection (RS232)

The control panel is set up by the factory with RS232 port enabled as a method of connection to the UDL software.

NOTE: For this connection it's required to use a special cable that is supplied by Pyronix or can be created by using the diagram on the right.

NOTE: If your PC does not have a serial port, you may require a standard RS-232 to USB converter.

Unscrew and open the Enforcer Casing, plug the RS-232 cable into the dedicated connector as shown on the image to the right.

On the Panel

1) Enter the Engineer menu (code 9999)

2) Scroll the menu (X button) until the "Options Up/Downloading"

3) Choose RS-232 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 "RS-232" option
- 2) Make sure that the serial COM used by UDL is the
- same set in PC-> Device manager ->Ports

3) Make sure that the UDL Graphic user interface RS-232 icon has turned green.

- 4) Click on "Force 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 exactly the same (verbatim) otherwise the connection will not be possible.

5.4.3 Modem Connection (DIGI 1200, PSTN)

Ensure the panel / modem on the PC where UDL is installed are connected to a suitable PSTN line. **On the Panel**

1) Enter the Engineer Menu (code 9999)

2) Scroll the menu (X button) until the "Options Up/Downloading"

3) 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 Insite is the same set in 'Device manager /Ports'.

3) Verify that the modem Icon has turned green 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 exactly the same (verbatim) otherwise the connection will not be possible.

The PSTN card (**DIGI-1200**) fits inside the Enforcer 32WE and is used for the following operations: <u>Send Alarms to the ARC</u>: It is possible to send alarm events to the monitoring station via the Contact ID and SIA Level 1 and Level 3.

<u>Programming the panel remotely via the telephone line</u>: It is possible to program the Enforcer remotely via the telephone line. In order to be able to use this feature it is necessary that the telephone line used is a conventional analogue telephone line.

<u>Receive Automatic Remote Service calls and alarms:</u> It is possible to receive the RM service and alarm calls received by the UDL software installed on a PC and modem.











5.5 DIGI-GPRS (GPRS Modem)

IMPORTANT NOTE: TURN OFF THE MAINS & BATTERY BEFORE DISCONNECTING GPRS MODEM The GPRS modem card is used to enable the Enforcer 32-WE to communicate either via Contact ID or SMS texts via a SIM card. It will also enable remote uploading/downloading.

5.5.1 Antenna

The supplied antenna will need to be connected to the Enforcer 32-WE GPRS and placed in a suitable area where the signal strength at its maximum.

5.5.2 GPRS Modem Information

NOTE: When SMS messages are sent, the GPRS module uses the 'voice channel'. However, when the panel needs to be programmed remotely using the UDL software and modem, a data channel must be used. We advise you to find out from your network provider whether they offer data service or not, as listed below:

• Some networks provide the data channel as a standard service with pay as you go and contract SIM cards.

• Some networks have to enable the data channel separately.

• Some networks use a different phone number for the data channel from the GPRS number of the SIM card.

• Some networks automatically recognise the data call from the voice call.

Example: At the time of writing, some networks use a separate data number from the voice number -while others automatically recognise a data call from voice call. However some do not offer any data number or channel and therefore cannot currently be used for remote upload/downloading.

5.5.3 DIGI-GPRS (GPRS Modem) connection







5.1 DIGI-LAN (LAN Module)

The DIGI-LAN Module is used to communicate over a Local Area Network to either InSite, Pyronix Cloud, or to an ARC.



NOTE: The product has been approved as supplied. If the communications module is replaced with a different model (besides our GSM or PSTN modem), then the certification will be void.





5.2 DIGI-1200 (PSTN Modem)

IMPORTANT NOTE: TURN OFF THE MAINS BEFORE DISCONNECTING THE PSTN MODEM

The PSTN modem card is used to enable the Enforcer 32-WE to communicate either via contact ID, Fast Format, SIA or SMS texts via a telephone line. It will also enable remote uploading/downloading.

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

NOTE 1: The telecom ground terminal (TE) should ALWAYS be connected to earth in order to maximise the effectiveness of the transient voltage protection on the unit.







5.3 Replacing The Battery of Enforcer 32 WE

To ensure meeting the specification the Enforcer 32WE backup battery should be replaced by a Pyronix battery. The code for this battery is BATT9V6/2.1Ah-WE.

Open the battery holder cover. Install the batteries in the space provided and connect the battery connector to the two pins as shown beside.



Reinstall the battery holder/ cover.

Dispose of the batteries in accordance with the local regulations.



6. EN 50131 Terminology

Enforcer 32-WE Language	EN50131 Language
ARM	Set
Disarm	Unset
Day or Disarmed Mode	Unset State (may be relevant to a specific area)
Personal Attack (PA)	Hold Up (HU)
Bypass	Inhibit
Unused	Isolated
Bell / External Sounder / SAB	External Warning Device (self-powered is assumed)
Internal Sounder / Speaker	Device combining internal warning device with audible
	indicator (using different tones and volumes)
Prox card, Tag, or wireless	Digital Key
keyfob	

7. 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.





8. NOTES			



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