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touch
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IRIS Touch 200
Range Dialler
Installation Manual

Version 1.4

Now certified
and compliant with
EN50131, EN50136
Security Grade 4
ATS6

Contents

1. Introduction

1.1. About this manual…

This manual is designed to help you, the Installer, with the installation process for the IRIS Touch alarm dialler. We recommend that you read through this manual, in its entirety, before you visit the customer's site and begin the installation.

Please note:

- For fire alarm installations please make sure the installation conforms to the requirements set out in Chiron's installation guide "IRIS Touch Range Dialler Installation Guide for EN54-21 Compliant Fire Applications".
- For installations that must conform to the requirements of the UK specific standard LPS1277 make sure the installation conforms to the requirements set out in Chiron's installation guide "IRIS Touch Range Dialler Installation Guide for LPS 1277 Compliant Applications".

1.2. Overview

The IRIS range of alarm diallers allow users to migrate intruder alarm systems away from traditional PSTN communications to IP based and/or wireless networks, without the need to upgrade or replace the alarm system.

The majority of intruder alarm systems which are configured to make alarm calls to a central monitoring station use the traditional PSTN analogue network as the communications path. However, PSTN is becoming increasingly unsuitable as users move to IP and Voice over IP (VoIP) for their fixed networks or rely purely on mobile (GSM and GPRS) communications. In addition most PSTN service providers are migrating to VoIP networks, so in the not too distant future PSTN lines may be withdrawn.

The IRIS dialler range is unique in offering a quick and cost effective way to interface any existing alarm system to alternative networks such as GSM, Ethernet and GPRS. As a result of the flexibility and power of IRIS it has become the IP transmission system of choice for monitoring centres across Europe.

The IRIS Touch 200 series is intended to be used with alarm panels that do not have sufficient space inside their enclosures for an IRIS dialler. There are three diallers in the range:

- IRIS Touch 200 - GPRS
- IRIS Touch 220 - Ethernet
- IRIS Touch 240 - Ethernet & GPRS

The IRIS Touch dialler should be located next to the alarm panel and powered from the panel's internal battery backed DC supply.

1.3. System specifications

Feature	IRIS Touch 200 GPRS	IRIS Touch 220 Ethernet	IRIS Touch 240 Ethernet & GPRS
Stylish, tamper proof enclosure	✓	✓	✓
Easy to install and test with touch screen interface	✓	✓	✓
2-wire (POTS) analogue interface to standard alarm diallers	✓	✓	✓
Support for SIA (1-3), Contact ID, Scancom (Fast Format) and Robofon protocols	✓	✓	✓
Pin inputs for alarm messages over SMS	4	4	4
Relay contact outputs	2	2	2
9-30V DC power from alarm panel	✓	✓	✓
USB port for local configuration	✓	✓	✓
Secure polling (monitoring) over Ethernet		✓	✓
Secure alarm transmission over Ethernet		✓	✓
Pin inputs for alarm messages over Ethernet or GPRS	4	4	4
Configuration and diagnostics over Ethernet		✓	✓
Secure polling (monitoring) over GPRS	✓		✓
Secure alarm transmission over GPRS	✓		✓
Configuration and diagnostics over GPRS	✓		✓
Alarm transmission over GSM	✓		✓

2. Before you start…

2.1. Package contents

In this package you should have the following components:

- Main dialler unit comprising:
    - PCB with 3 part plastic enclosure (back, front and slider).
    - 4 x assembly screws.
    - 2 x tamper switch springs.
- Power cable (black) for connection to DC supply.
- Ethernet cable (cream) for connection to IP network. (*Ethernet / Ethernet & GPRS only.*)
- Antenna for GSM/GPRS. (*GSM / Ethernet & GPRS only.*)
- Dialler cable (grey) for connection to dialler output of alarm panel.
- Screws and plugs (3 of each) for wall mounting.
- Sense resistor (18K ohm) for alarm dialler cable fault/tamper detection.
- Installation manual.

2.2. Pre-requisites

For installations using IP (Ethernet) or GPRS you **must** ensure you have the following:

- If the installation is in a residential environment, you will need to fit inductors to the input cables of the dialler in order to ensure compliance with EMC Class B emissions requirements. Suitable inductors can be obtained from Chiron.
- The IP address for the monitoring centre.
- Confirmation that the monitoring centre is set up and ready for the account number or name to be used for this IRIS dialler.
- The type of IP address (either automatic or fixed) for the installation site. If the site has a fixed IP address, you should get this information from the customer in advance, together with the Gateway Address and the Subnet Mask for the IRIS dialler.
- An additional long Ethernet CAT5 cable, in case the installation site requires one longer than that supplied with the IRIS dialler. Cable lengths up to 100m are allowable.
- A SIM card enabled for GPRS with the PIN code clear. (*Ethernet & GPRS only).*

- The GPRS Access Point Name (APN) of the SIM card provider. Some networks also require a User Name and Password which can also be obtained from the SIM card provider. (*Ethernet & GPRS only*).

3. Alarm dialler interface

IRIS diallers carry alarm signals from the alarm panel over IP completely transparently so when they arrive at the monitoring centre it is as though they had come over a traditional PSTN connection. IRIS diallers support SIA (Levels 1 to 3), Contact ID, Scancom (Fast Format) and Robofon protocols, one of which virtually all alarm panels will support.

Apart from the following, no reconfiguration of the alarm panel is required for use with IRIS diallers:

1. If alarm signalling over Ethernet or GPRS is required, change the setting in the alarm panel for the telephone number to be dialled for alarm signalling. This number should be changed to the IP address of the monitoring centre, entered as 12 digits. Each of the four IP address numbers separated by a '.' should be entered as a 3 digit number, with leading '0's as required, and the '.'s should be excluded. For example:

    IP address **10.1.146.22** is entered as **010001146022**.

    If the monitoring centre requires a backup IP address to be entered, this is done in the same way.

2. If alarm signalling over GSM is required, add a leading digit '7' to the normal PSTN telephone number of the monitoring centre.

3. If the panel is required to make outgoing calls over IP for upload/download or remote configuration, then where the telephone number for this would normally be entered, put in the digit '8' followed by the destination IP address in 12 digit format, as above.

4. Installing the IRIS Touch Dialler

Use the following procedure to install the IRIS Touch dialler.

Note: For installations using PIN alarm inputs see the *PIN alarms* section for additional information and for wiring to relay outputs see the *Relay outputs* section.

ⓘ Do not apply power to the dialler until indicated.

1. Decide where to run the cables

Decide the best way to run the cables to the PCB. This can be either:

- Behind the unit (through the wall).
- Through the bottom of the back plate of the unit (via the 'knock outs').

2. Disassemble the unit

Remove the two case fixing screws [1] and open the unit [2]. Remove the two PCB fixing screws [3] and remove the PCB.

3. Mount the unit on the wall

Position the back plate on the wall, drill 3 holes, put the cables through the opening at the base of the plate [4], or via the 'knockouts' [5], and secure the plate to the wall with the 3 screws supplied [6].

4. Plug in the connectors

Connect the relevant cables to the PCB:

- Ethernet cable (cream). [7] (*Ethernet / Ethernet & GPRS only.*)
- Dialler cable (grey). [8]
- Power cable (black). [9]

5. Install the antenna (*GSM / Ethernet & GPRS only*)

Position the antenna in the groove in the back plate of the unit [10] and connect the antenna to the PCB. [11]

Note: Alternatively you can use an external antenna if the location of the internal antenna does not give sufficient signal.

6. Fit the tamper switch springs

The IRIS dialler is protected against tampering (e.g. removal from the wall or opening of the case) by two tamper switches [12] – one either side of the

PCB. These switches are held by springs that press against the wall and the top cover.

Before fitting the PCB, make sure the springs that come with the unit are fitted correctly to the tamper switches.

7. Fit the PCB to the back plate

Fit the PCB to the back plate, aligning the corners of the plate with the edgings on the back plate and the two bottom screw fittings. [13] Screw in the 2 top screws only. [14]

8. Fit the SIM card (*GSM / Ethernet & GPRS only*)

Fit the SIM card. [15]

ℹ️ Power must not be applied to the PCB while the SIM card is being fitted or removed or it may be damaged.

9. Plug in the external cables

- Plug the dialler cable into the alarm panel dialler. If the alarm panel has screw connections, cut the connector off the cable and strip the cable using the 2 inner wires. Polarity is not important.
- Plug the Ethernet cable into the local IP router or socket that has been allocated for the IP connection.

10. Plug in the sense resistors

Fit the 18K sense resistor in parallel with the dialler output of the alarm panel, at the alarm panel end of the cable.

Note: This resistor enables the IRIS dialler to detect cable faults and/or tampers and *must* be fitted at the alarm panel end of the cable to function correctly.

11. Fit the front cover

Slot the top of the front cover into the top of the back plate and click the bottom of the front cover to the bottom of the back plate.

Fix in place with the 2 screws provided. [16]

Pull down the slider to reveal the touch screen.

5. Configuring the IRIS Touch Dialler

The majority of configurations can be carried out via the touch screen interface display on the IRIS dialler. For more complex systems, for example where the data port is used, additional configuration is available via the USB connector using a laptop / PC and IRIS dialler configuration software (www.chironsc.com). The touch screen display on the IRIS dialler provides an Installation Wizard which guides you through a set of instructions for configuring the dialler. It is recommended that you use this Wizard as it automatically carries out tests as you proceed through the configuration.

Note: To select an option on the screen, touch the screen display.

Use the following procedure to configure the IRIS Touch Dialler:

1. Plug the power cable into the battery backed supply of the alarm panel. The cable with the white stripe is the –ve connection. Ensure that the display on the dialler becomes active.

   The dialler carries out a self test and the Welcome screen then displays.
   Note: If the power has been connected for the first time the Language menu displays. Select the appropriate language from the list of languages available.

2. Select the *Installer Menu* or *Touch to Configure* option from the Welcome screen. It is necessary to enter a pin number, which is set by default to "111111". It is strongly recommended that this pin number is changed from the default, which is an option available in the *Settings* menu.

3. Select the *Installation Wizard* option from the Installation Menu.

4. Follow the remaining instructions on the screen.

   Note: During the installation procedure the Wizard shows the GSM/GPRS signal strength. At this time the antenna position can be adjusted for optimum signal. (*GSM / Ethernet & GPRS only*).

   Once the installation is completed successfully the message *Status - System OK* is displayed on the Welcome screen and the LED Indicator on the top of the unit [17] is on steady.

Note: If the 'Alarm Override' mode is selected, the IRIS Touch Dialler replaces the phone number and the account number used by the alarm dialler with the IP address of the monitoring centre and Account Number entered during configuration, so there is no need to change any settings on the alarm dialler. If this is not appropriate (e.g. if the alarm dialler uses more than one account number) then the telephone number dialed by the alarm dialler should be set to the IP address of the monitoring centre in 12 digit format (e.g. 192.168.0.34 becomes 192168000034).

5. Carry out all the standard alarm signaling tests appropriate for the alarm system.

6. Push up the slider to cover the touch screen.

6. Post installation

Once you have completed the installation you must:

- Ensure the system is running correctly, the LED light on top of the unit is on steady and alarms are being signaled to the monitoring centre correctly.
- After a short period of inactivity the display will switch off. To switch it back on, touch the display anywhere.
- If a fault should develop, then the LED light on the top of the unit will start flashing and the display will show a system fault message. This message can be touched to gain access to more information. Ensure the user is aware of this and what action they need to take should a fault occur.

7. PIN alarms

The IRIS Touch series have PIN inputs [18] that can be used to generate alarm messages. These can be:

- Text messages via SMS. (*GSM / Ethernet & GPRS only.*)
- SIA alarm messages over IP to the monitoring centre.
- Contact ID (CID) alarm messages over IP to the monitoring centre.
- Fast Format alarm messages over IP to the monitoring centre.

The messages for each PIN can be configured via the Settings Menu on the touch screen display. See *Appendix A* for more details.
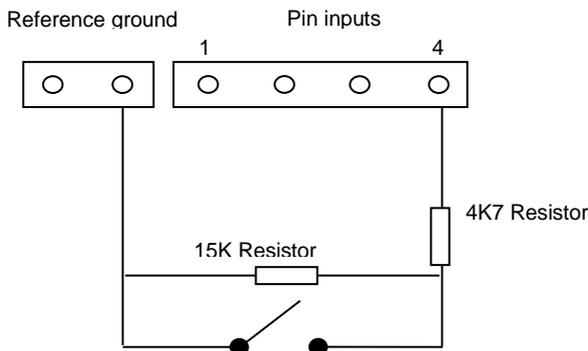
7.1. Installation

Each PIN input is designed to be connected in a loop via an open/close contact source from an alarm panel, or other device, to a reference ground PIN [19] available on the IRIS dialler, as shown below:
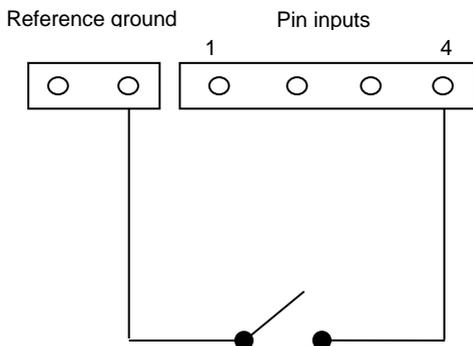
Opening the contact (i.e. loop is open circuit) generates an alarm signal.

Closing the contact generates the equivalent restore signal.

It is also possible to link the contacts to the IRIS dialler via sense resistors so that an open or short circuit tamper on the loop can be detected and the monitoring centre alerted. In this case the connections should be made as shown below:

Note: For this feature to work correctly it is essential that the resistors are connected at the contact end of the loop and not the dialler end **and** that this monitoring is enabled on the dialler, which can either be done in the **Installation Wizard** for all inputs in use, or for each input individually in the **Settings** menu. The monitoring centre must also enable the monitoring of this facility on the dialler within the IRIS receiving system.

7.2. Default alarm messages

The default SIA messages for each PIN are shown below:

Pin	'Set' message	'Restore' message	Meaning
1	NBA01	NBR01	Burglary alarm/restore
2	NFA02	NFR02	Fire alarm/restore
3	NQA03	NQR03	Emergency alarm/restore
4	NOP04	NCL04	Open/close

8. Relay outputs

The IRIS dialler has two relay outputs [20] that can be used in a number of ways:

- To indicate communications path failure.
- Activation by incoming SMS Message.
- Setting by the monitoring centre.

The relay contacts are normally open and closed when activated.

Wire to these contacts as required and define how they are to be used using the configuration options on the Settings Menu. See *Appendix A* for more details.
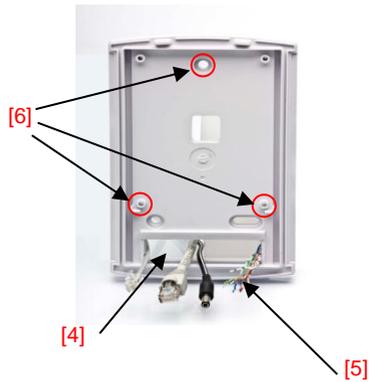
9. Troubleshooting

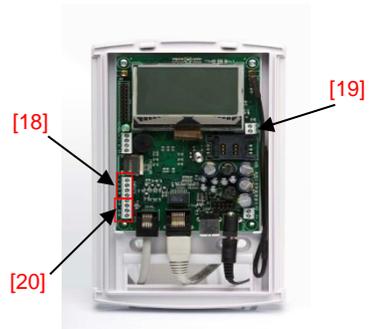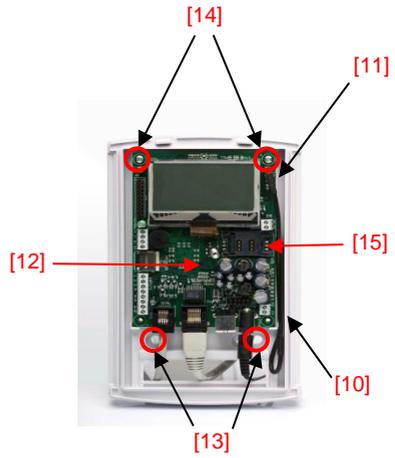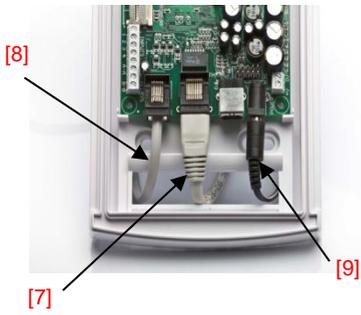| Problem	Resolution
No screen display when IRIS dialler is connected to the power.	Check that there is power to the system and that the wiring is the correct polarity.
A fault develops and is indicated by the LED on the top of the unit flashing.	Touch the display and the instructions will guide you through identification of the problem. Go to the Installers menu and select *Test* to use the integrated test function.

Appendix A – Settings menu

Setting	Purpose
Network Interfaces	Selects which network interfaces are going to be used (i.e. Ethernet and/or Ethernet/GPRS). Stops dialler reporting trouble on interfaces not being used.
Account Name/Number	The IRIS account number/name, as allocated by the monitoring centre.
ARC IP Address	IP address of the receiver at the monitoring centre.
Dialler IP Address	IP address of the dialler, i.e. either automatic (DHCP) or fixed.
GPRS Settings	Diagnostic tools for viewing signal strength and running network scan. Setting of GPRS Access Point Name (APN), user name and password, SIM PIN, GSM Call Barring and Roaming SIM.
Alarm Panel Interface	Selects whether or not the 2-wire cable to the dialler is monitored for short and open circuit. **Note:** For monitoring to function correctly a sense resistor must be fitted as described earlier in this manual. Sets reporting of poll failure (by dropping line voltage), simulation of dial tone and cadence of incoming ring signal. Setting for use with GSM/PSTN only (i.e. no IP) operation. Setting for serial port emulations.
Alarm Override	⠿ If enabled, alarm panel dialled number and account number overridden by IRIS settings.
Extra Features	Settings for EN54-21, VdS and ILKA operation.
Incoming IP Address	Up to 3 source IP addresses against which incoming TCP/IP calls can be validated. There will be no validation if all 3 are clear.
Pin Inputs	Selects whether or not pin inputs are monitored (using sense resistors) and selects input function: ⠿ Send SMS message. Send SIA, Contact ID and Fast Format alarms over IP.
Trouble Reporting	Selects how local communications problems are reported, via: ⠿ Relay outputs. ⠿ SMS. Sets IP address of support centre for remote diagnostics.
Relay sma activation	Activation of relay outputs by incoming SMS messages.
Language	Selects language.
Installer Password	Sets a password to the Installer menus, if required.
Contrast	Sets display contrast.

Dial Port Speaker	The dialler has a diagnostic tool with integral speaker to allow the audio signal to and from the alarm dialler to be heard. The audio can be switched on and off.
Default all	Sets all settings back to factory defaults.
Build Information	Indicates when current software (note – not the physical hardware) was built.
Reflash	Allows dialler software to be updated to latest version from Chiron's Reflash Servcer.

![iris touch logo]

Appendix B – Installation photos

Appendix C – Specification

Alarm Dialler Interface
Two wire interface via RJ11 socket
40V feed at 12mA
Ringing voltage 40V P-P to REN4 for incoming calls
Off hook detection with dial-tone presented to alarm dialler
DTMF tone recognition for dialing outgoing calls and alarm signaling

Ethernet Interface
10Mbps and 100Mbps (10/100BaseT) with auto-negotiation
UTP with standard RJ45 socket for CAT-5 cabling
Dynamic IP addressing (DHCP) or fixed

GSM/GPRS Interface
Dual band GSM 900 MHz and DCS 1800 MHz
MMCX socket for antenna connection

IP
TCP ports (outbound): 10001 (remote service), 51292 (diagnostics), 53165 (alarms and polling).

PIN Inputs	
Maximum input voltage range	0V to +24V
Input 'low' threshold	< 2V
Input 'high' threshold	> 3V
Input pull-up impedance	Internal 10K to 5V supply

Relay Outputs	
Maximum operating voltage	24V DC
Maximum current rating	100mA DC

Power Supply	
Supply voltage	9 - 30V DC
Ethernet only (typical current) dial capture port on hook	145mA (supply at 12v)
Ethernet only (typical current) dial capture port off hook	175mA (supply ay 12V)
With GSM/GPRS (typical current) dial capture port on hook	185mA (supply at 12V)
With GSM/GPRS (typical current) dial capture port off hook	215mA (supply at 12V)

Note: These figures are based upon the Ethernet link being connected. With GSM/GPRS there will also be additional transient peak current of up to 250mA required as GSM and GPRS transmissions (e.g. for network registration and calls) are made.

Weights	
Dialler unit	550g
Fully packaged	750g

Conformance

The IRIS range of alarm diallers comply with the following European Directives:

- 1999/5/EC (Radio & Telecoms Terminal Equipment Directive).
- 2006/95/EC (Low Voltage Directive).
- 2004/108/EC (Electromagnetic Compatibility Directive).

Conformance to EN50131 and EN50136

The IRIS diallers are compatible with the requirements of European standards EN50131-1 (Alarm Systems – Intrusion and hold-up systems Part 1: System Requirements) (dated 2006) and EN50136-1-1 (Alarm Systems – Alarm transmission systems and equipment) (January 1998 with Amendment 1 August 2001) as follows:

- The IRIS diallers conform to Environmental Class II.
- The IRIS diallers are compliant to ATS 6 compatible with Security Grade 4.

Safety

Care should be taken when interconnecting telecommunications equipment that only like interfaces are interconnected to avoid safety hazards.

SELV: SELV (Safety Extra-Low Voltage) is defined as a secondary circuit which is so designed and protected that under normal and single fault conditions the voltage between any two accessible parts does not exceed a safe value (42.4V peak or 60V dc maximum).

The interfaces on the IRIS dialler have the following safety classifications:

- Dialler Interface: SELV suitable for connection to the TNV interface of a single line telecommunications equipment such as telephones, faxes, etc.
- Data Interface: SELV suitable for connection to the SELV interface on a data terminal such as a PC COM port.
- Power Interface: SELV for connection to a DC supply.
- Inputs and Outputs: SELV for connection to alarm output and input pins.

For conformance to the requirements of EN60950, the dialler *must* be powered from a Limited Power Source as defined in EN60950. The output of the power supply should be fused at 3.0A (slow blow).

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