iris
touch
IP security to go

IRIS Touch 600
Range Dialler
Installation Manual

Version 1.3

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

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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 that must conform to European standard EN54-21 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addition most PSTN service providers are migrating to VoIP networks, so in the not too distant future PSTN lines may be withdrawn.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 600 series is a PCB format unit intended to be used in the following situations:

- The alarm panel can communicate with the IRIS card via a serial/RS485 interface on the IRIS. This includes panels such as Honeywell Galaxy and Texecom Premier.
- The requirements for alarm signalling is limited to 4 pin inputs, for example, fire systems or cash machines.

There are two diallers in the range:

- IRIS Touch 620 - Ethernet
- IRIS Touch 640 - Ethernet & GPRS

The IRIS Touch dialler should be located within the alarm panel tamper protected enclosure and powered from the alarm panel battery backed power supply.

1.3. System specifications

Feature	IRIS Touch 620 Ethernet	IRIS Touch 640 Ethernet & GPRS
Serial data connection for direct connection to alarm panel	✓	✓
RS485 data connection for direct connection to alarm panel	✓	✓
Alarm transmission and panel upload/download via serial or RS485 connection	✓	✓
Support for SIA (1-3), Contact ID, and Scancom (Fast Format)	✓	✓
Secure polling (monitoring) over Ethernet	✓	✓
Secure alarm transmission over Ethernet	✓	✓
Pin inputs for alarm messages over Ethernet	4	4
Configuration and diagnostics over Ethernet	✓	✓
Secure polling (monitoring) over GPRS		✓
Secure alarm transmission over GPRS		✓
Pin inputs for alarm messages over GPRS		4
Configuration and diagnostics over GPRS		✓
Relay contact outputs	2	2
Pin inputs for alarm messages over SMS		4
USB port for local configuration	✓	✓
9-30V DC power from alarm panel	✓	✓

2. Before you start…

2.1. Package contents

In this package you should have the following components:

- Main dialler PCB with four self-adhesive feet
- Ethernet cable (cream) for connection to IP network.
- Antenna for GSM/GPRS. *(Ethernet & GPRS only.)*
- Installation manual.

2.2. Pre-requisites

Prior to installation, 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. Indicators

The IRIS Touch diallers have LED indicators [1] that have the functions described below:

| Name	Function
ETH	On when Ethernet connected and synchronised
GPRS	On when GSM registered. *(Ethernet & GPRS only.)*
POLL	On when successfully polling with Monitoring Centre. **Note:** Flickers Off to show each poll.
SERIAL	0.2s On, 0.2s Off - to show not communicating with panel. 1.5s On, 1.5s Off - to show dialler not configured. 0.1s On, 0.9s Off - to show normal communications.
SYS	Flashes 0.5s On, 0.5s Off to show dialler operational.

4. Installation for PIN alarms

The IRIS Touch dialler has PIN inputs that can be used to generate alarm messages. These can be:

- Text messages via SMS. (*(Ethernet & GPRS only*.)
- SIA alarm messages over IP to the Monitoring Centre.
- Fast Format alarm messages over IP to the Monitoring Centre.

Note: These pin alarm inputs can also be used when the dialler is directly connected to an alarm panel via the serial or RS485 connections.

Each PIN input [5] 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 [6] available on the IRIS dialler, as shown below:

Reference ground   Pin inputs
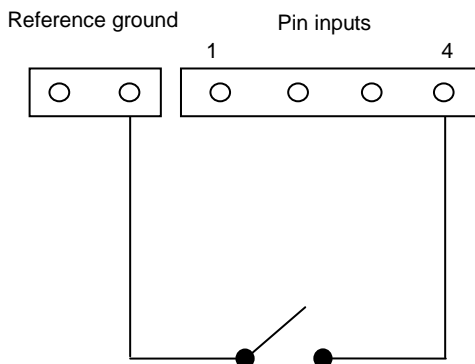
Opening the contact (i.e. loop is open circuit) generates an alarm signal.
Closing the contact generates the equivalent restore signal.

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:

Reference ground   Pin inputs

                 1   4

4K7 Resistor
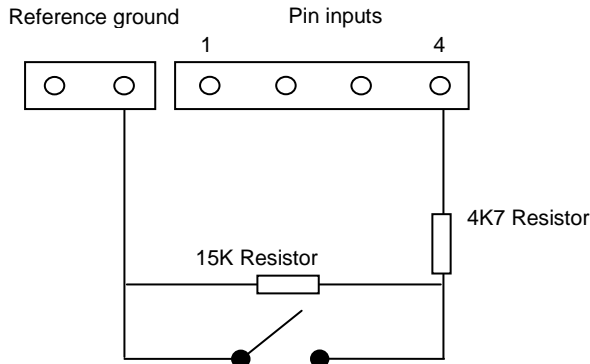
15K Resistor

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. The Monitoring Centre must also enable the monitoring of this facility on the dialler within the IRIS receiving system.

4.1.   Installation

Use the following procedure to install the IRIS Touch dialler for PIN alarms:

1.   Install the IRIS Touch dialler inside the existing alarm panel enclosure and fix with the self-adhesive feet.

2.   Plug the Ethernet cable (cream) between the socket [2] on the IRIS Touch dialler and the local IP router or socket that has been allocated for the IP connection.

3.   Connect the antenna to the PCB [3]. (*Ethernet & GPRS only.*)

4.   Fit the SIM card [4]. (*Ethernet & GPRS only.*)

🛈 Power must <u>not</u> be applied to the PCB while the SIM card is being fitted or removed or it may be damaged.

5.   Connect the power from the panel's battery backed supply to the IRIS Touch power connection terminals [7].

Check the following:

- The Ethernet LED is on steady to show that the Ethernet is connected.
- The GPRS LED goes steady to show that the GSM is registered. (*Ethernet & GPRS only.*)

4.2. Configuration

Configuration is performed by using the virtual touch screen within Chiron's IRIS dialler configuration software running on a PC or Laptop which is connected to the dialler via the USB interface. This screen gives access to the Installation Wizard that guides you through the setup process. 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.

If monitoring of tamper is required, this must be 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 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

These can be changed from Dialler Configuration software if required.

4.3. Post configuration tests

Carry out tests on all the alarm inputs to make sure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

5.   Installation for use with Galaxy panels

5.1.   Installation

Use the following procedure to install the IRIS Touch dialler for use with Galaxy panels:

1. Install the IRIS Touch dialler inside the existing alarm panel enclosure and fix with the self-adhesive feet.

2. Plug the Ethernet cable (cream) between the socket [2] on the IRIS Touch dialler and the local IP router or socket that has been allocated for the IP connection.

3. Connect the antenna to the PCB [3]. (*Ethernet & GPRS only.*)

4. Fit the SIM card [4]. (*Ethernet & GPRS only.*)

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

5. Connect to the Galaxy bus using either a standard Galaxy jumper cable to the 4 pin header connector [8] or wires to the connector block [7].

6. Turn on the power to the panel.

Check the following:

- The SERIAL LED shows 'Not Configured' (1.5s on, 1.5s off) or Normal (.1s on, .9s off) to confirm that the dialler is communicating with the panel.

- The Ethernet LED is on steady to show that the Ethernet is connected.

- The GPRS LED goes steady to show that the GSM is registered. (*Ethernet & GPRS only.*)

5.2.   Configuration

The IRIS Touch dialler can be configured from that Galaxy keypad.

Note: For GPRS it is not possible to configure the settings (e.g. APN) from the Galaxy keypad as the Galaxy has no entry method.

The APN can be configured via an SMS message from any mobile phone or by running Chiron's IRIS dialler configuration software on a PC or Laptop connected to the dialler via the USB interface.

The configuration menu on the Galaxy panel for the Ethernet card is found at location 56 (Communications) entry 4 (Ethernet).

If the IRIS dialler is not set to the defaults, default it by clearing the Primary IP address on the Galaxy (menu 02, entry 2). Check that the SERIAL LED is showing 'Not Configured'.

If GPRS is used, set the GPRS APN. This cannot be done from the Galaxy keypad as there is no APN menu entry. As an alternative, send a text message to the phone number of the SIM card being used. The text should be in the format:

AT%G10='apn'

Where 'apn' is the APN name, e.g. 'orangeinternet'.

Alternatively, the information can be set via the virtual touch screen within Chiron's IRIS Dialler Configuration software. 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.

For a fixed IP address only, set the IP address, Subnet Mask and Gateway address on the Galaxy keypad menu 01 (Module Configuration). The Site Name parameter is not required.

In the Alarm Report menu (02) set the following:

- Alarm format required (e.g. SIA) (entry 1).
- IP address of Monitoring Centre in Primary IP (entry 2). Note that the Port Number is not required.
- Account number (entry 4).
- Other menu entries are not used and need not be set.

Make an Engineer Test call (menu 05). The parameters entered will be sent from the panel to the dialler and polling to the Monitoring Centre will start.

Check that the POLL LED comes on.

5.3. Post configuration tests

Carry out alarm signaling tests to make sure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

5.4. Trouble reporting

The IRIS dialler may report the following trouble conditions to the Galaxy panel:

- Line Fail - if polling via Ethernet or GPRS is not successful.
- Fail to communicate - if an alarm is not transmitted successfully after ten attempts.

5.5. Alarm panel management

The IRIS adapter acts as a conduit for remote configuration of the Galaxy panel and remote keypad operation using Honeywell's RSS software running with direct IP connection on the PC.

Incoming and outgoing calls are supported:

- Incoming calls (from RSS) are initiated using the fixed IP address set for the adapter and the default Galaxy port number '10001'.
- Outgoing calls are initiated from the IRIS Polling Engine using the IRIS Remote Data Call function to the IP address of the PC running the RSS software.

6. Installation with Texecom panels

6.1. Installation

Use the following procedure to install the IRIS Touch dialler with Texecom panels:

1. Install the IRIS Touch dialler inside the existing alarm panel enclosure and fix with the self-adhesive feet.
2. Plug the Ethernet cable (cream) between the socket [2] on the IRIS Touch dialler and the local IP router or socket that has been allocated for the IP connection.
3. Connect the antenna to the PCB [3]. (*Ethernet & GPRS only.*)
4. Fit the SIM card [4]. (*Ethernet & GPRS only.*)

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

5. Connect to a panel serial port bus using a straight-through one-one jumper cable.
6. Turn on the power to the panel.

Check the following:

- The SERIAL LED shows 'Not Configured' (1.5s on, 1.5s off) or Normal (.1s on, .9s off) to confirm that the dialler is communicating with the panel. This may take a few minutes after power up.
- The Ethernet LED is on steady to show that the Ethernet is connected.
- The GPRS LED goes steady to show that the GSM is registered. (*Ethernet & GPRS only.*)

6.2. Configuration

Configuration is through the panel keypad under the UDL/Digi options menu, according to Texecom's instructions.

If GPRS is used, first set the GPRS APN. This cannot be done from the Texecom keypad as there is no APN menu entry. As an alternative, send a text message to the phone number of the SIM card being used. The text should be in the format:

AT%G10='apn'

Where 'apn' is the APN name, e.g. 'orangeinternet'.

Alternatively, the information can be set via the virtual touch screen within Chiron's IRIS Dialler Configuration software. 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.

In the Setup Modules sub menu, select **Setup IP Data** and define:

- IP address, Gateway address and Net Mask of the dialler (if fixed IP address used).
- Port number to be used for communications with Wintex.
- Polling IP address of the Monitoring Centre.
- Dialler name.
- Modem speed is set to '19200'.

In the Com Port Setup sub menu, make sure the com port used to connect to the dialler is set as 'IRIS IP Module'.

6.3. Post configuration tests

Carry out the usual alarm signaling tests to ensure the Monitoring Centre receives the signals correctly.

If using GPRS backup, disconnect the Ethernet cable and check that the signals are still received correctly.

6.4. Alarm panel management

The IRIS adapter acts as a conduit for remote configuration of the panel and remote keypad operation using Texecom's Wintex software running with direct IP connection on the PC.

Incoming and outgoing calls are supported:

- the IP address of the PC running the Wintex software. Incoming calls are initiated using the fixed IP address set for the adapter and the port number set on the panel and in Wintex.
- Outgoing calls are initiated from the IRIS Polling Engine using the IRIS Remote Data Call function to

7. Relay outputs

The IRIS dialler has two relay outputs [10] that can be used in a number of ways:

- To indicate communications path failure.
- Activation by incoming SMS Message.
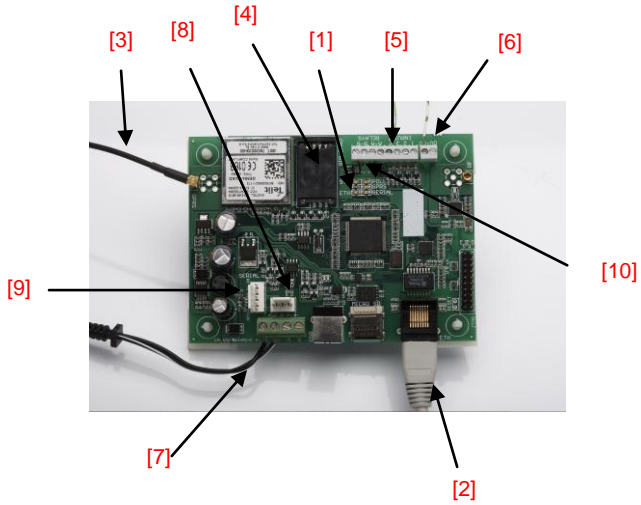- Setting by the Monitoring Centre.

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 software [16].

8. Troubleshooting

Problem	Resolution
No LED activity 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.
Serial LED flash pattern indicates no connection to the panel.	Alarm panel serial/RS485 interconnect fault.

Appendix A – Installation photo/screen shots

Appendix B – Specification

Alarm Dialler Interface	

Direct connection to various panel types:
        Honeywell Galaxy (V4.00 onwards) (via RS485)
        Texecom Premier (V7.60 onwards) (via serial)	

RS485 2 wire half duplex	
Serial data – 3V logic levels (5V tolerant), Tx, Rx, Ground	
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	
SMA 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	1A DC
Power Supply	
Supply voltage	9 - 30V DC
Ethernet only (typical current)	145mA (supply at 12v)
With GSM/GPRS (typical current)	185mA (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	60g
Fully packaged	160g

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:

- 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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