ADDSECURE

IRIS-4
2 Series

Quick Installation and Maintenance Guide

IRIS-4 2 Series

Quick Installation and Maintenance Guide

CONTENTS

1. INTRODUCTION

The IRIS-4 2 Series offers cost effective Alarm over IP (AoIP) for the commercial and residential sectors.

All IRIS-4 2 Series diallers are certified as suitable for all Grade 3 systems with an Alarm Transmission System (ATS) configuration up to SP6 for single path, or ATS configuration DP4 for dual path (IRIS-4 240 only).

The IRIS-4 2 Series is based on the successful IRIS Touch NG range of AoIP diallers with the same hardware and software used in all IRIS diallers; with the same level of security and features provided to military, governments, banks and commercial industry markets.

It has a touch screen fitted as standard to allow configuration, get local alerts, and diagnostic/tests. Polling and alarm transmission are performed via the Ethernet or 2/3/4G communications to the monitoring centre using the IRIS Secure Apps monitoring software.

This manual gives a quick guide to the installation of products from the IRIS-4 2 Series. For the full engineering manual, including multi-lingual versions, please visit our website http://www.addsecure.com.

2. PRODUCT FEATURES

FEATURES	IRIS-4 2 SERIES		
	200	220	240
Fire retardant enclosure	•	•	•
Touch screen	•	•	•
Ethernet	–	1	1
2/3/4G	•	–	•
Dial capture	•	•	•
Relays	3	3	3
Inputs (Pins)	4	4	4
Serial RS485	•	•	•
Serial TTL	•	•	•
RS232 (Basic)		Basic	
Text messaging	•	–	•
Multi language menus	•	•	•
VoIP & SIP services	•	•	•

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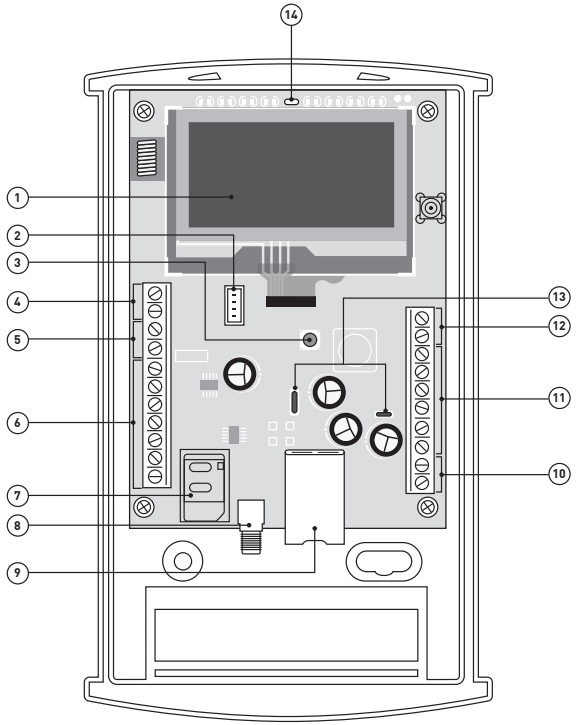
3. PACKAGE CONTENTS

Contents dependent on model type:

- Dialler board in plastic housing
- Ethernet cable (IRIS-4 220 & 240)
- 2/3/4G antenna (IRIS-4 200 & 240)
- Stylus for touch screen navigation
- 18kΩ sense resistor for dial capture tamper detection

4. BOARD CONFIGURATION

① = Touch screen
② = Serial (TTL)
③ = Front tamper
④ = Dial capture port and screw terminals
⑤ = RS485
⑥ = Pin inputs
⑦ = SIM card holder
⑧ = 2/3/4G antenna
⑨ = Ethernet
⑩ = DC power
⑪ = Relays
⑫ = RS232
⑬ = Micro USB
⑭ = SYS LED



LED COLOUR	INDICATION
Yellow flashing	Not currently configured or indicating that there are some current faults outstanding.
Yellow constant	Communicating and no current faults (flickers on every poll).

5. BEFORE YOU START

Monitoring Centre (ARC)

Make sure that the monitoring centre to which the IRIS-4 2 Series device will send alarm signals is equipped with the appropriate IRIS Secure Apps receiving system. The following information should be obtained from the Monitoring Centre.

Dialler account number:	
Monitoring centre IP address:	

Ethernet Connection Details

The customer's Ethernet (LAN) network details are required in order to connect the IRIS-4 220 & 240. Obtain the following information from the customer.

Fixed IP address or DHCP: ☐ Fixed ☐ DHCP

If using DHCP then the following information will not be required as it will be assigned by the network.

IP address:	
Gateway address:	
Subnet mask address:	

2/3/4G SIM Card and Access Point Name

If the installation uses 2/3/4G then a SIM card will be required. The IRIS-4 240 will also need to be given a 2/3/4G 'Access Point Name' (APN) and other possible configurations as shown below. Obtain these from the SIM card provider.

Access Point Name (APN):	
User name (USR):	
Password (PWD):	
SIM Pin:	

6. INSTALLING THE IRIS-4 2 SERIES DIALLER

Use the following procedure to install the IRIS-4 2 Series dialler:

6.1. Mounting

Choose a suitable location, taking into consideration the routing of cables: power and panel dialler interface. Remove the two case fixing screws under the slide cover and open the unit, remove the two PCB fixing screws and remove the PCB.

Position the housing on the wall and drill three holes. Feed the cables through the opening at the base of the plate, or via the 'knockouts', and secure the plate to the wall with the three screws supplied.

6.2. Power

The IRIS-4 2 Series dialler can be powered using a separate or Aux 9-28V DC power supply specified to deliver a minimum 1A current using the screw terminals indicated in Section 4 "Board Configuration".

Note:
For Radio Equipment Directive compliance, the power cable must be no longer than 3 meters in length.

Fit the power cable. DO NOT APPLY POWER TO THE DIALLER UNTIL INDICATED.

6.3. Connections

Connect cables to the PCB for the system as shown in Section 4 "Board Configuration".

- Ethernet enabled systems (IRIS-4 220 & 240): Connect the 'ETH' connector using the Ethernet cable to the local IP router/switch or socket that has been allocated for the LAN/WAN network IP connection.
- 2/3/4G enabled systems (IRIS-4 200 & 240): Fit the supplied T-bar 2/3/4G antenna to the 'Cell Ant' connector but do not fix in place until after performing the 2/3/4G network scan.
- Dial capture port (optional and for more information see section below).
- 4 x Pin Inputs (optional and for more information see section below).

Optional serial connection

The following three connections are optional and depend on the panel connection method. By default, the IRIS-4 2 Series RS485 connection is for Honeywell Galaxy panels.

Note: For alternative panel manufacturers' selection, use the touch screen Installers menu - settings to select the option required. Please contact AddSecure for further details or download the full panel installation manual available from http://www.addsecure.com.

- RS485 currently available for Honeywell Galaxy data bus (Alarms and Upload/download) or Risco ProSys bus (Upload/download) connections (optional).
- Serial TTL (optional).
- RS232 screw terminal (optional).

For more details on the cable requirements/connections please see details on next page.

RS485 CONNECTIONS (HONEYWELL GALAXY OR RISCO PROSYS)

IRIS-4 2 Series to Honeywell Galaxy panels

IRIS RS485 Screw terminal	To	Galaxy Data Bus terminal
0V (Power)	← →	Galaxy (-)
VIN (Power)	← →	Galaxy (+)
A	← →	Galaxy (A)
B	← →	Galaxy (B)

IRIS-4 2 Series to Risco ProSys panels

IRIS RS485 screw terminals	To	Risco Bus1 terminal
0V (Power)	← →	COM
VIN (Power)	← →	AUX
A	← →	YEL
B	← →	GRN

6.4. 2/3/4G SIM card (IRIS-4 200 & 240)

DO NOT FIT SIM card until after you have performed the 2/3/4G Network Scan detailed in the Section 6.8 "Configuration". You will be prompted when to insert the SIM card.

6.5. Dial Capture

Dial Capture enabled systems: Connect the two dial screw terminals to the alarm panel dialler telecoms line connection.

Note: Polarity is not important in this instance.

For EN50136-2: 2013 compliance fit the supplied 18kΩ 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 dialler to detect cable faults and/or tampers, the Monitoring Centre will also need to enable the dial port monitoring on the IRIS Secure Apps software to receive alarm notifications.

6.6. Pin Inputs

The IRIS-4 2 Series dialler has four pin inputs that can be used to generate messages. These can be:

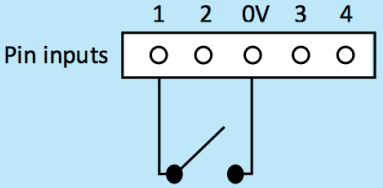
- Text messages via SMS (IRIS-4 200 & 240 2/3/4G).
- SIA, Contact ID or Fast Format alarm messages over IP to the Monitoring Centre.

Note: You can also use the Pin alarm inputs when directly connected to an alarm panel via the dial capture, serial or RS485 connections.

Via Open/Close Contact Source

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 available on the IRIS-4 2 Series dialler, as shown.

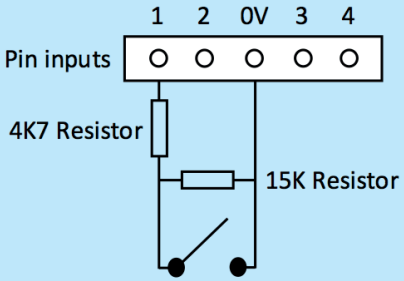
Opening the contact (i.e. loop is open circuit) generates an alarm signal. Closing the contact generates the equivalent restore signal.



Via Sense Resistors

It is also possible to link the contacts to the IRIS-4 2 Series dialler via sense resistors so that an open or short circuit tamper on the loop is detectable and the Monitoring Centre alerted. In this case, the connections made should be.

Note:
For this feature to work correctly it is essential to connect the resistor 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 Secure Apps receiving system.



6.7. Switch On and Calibration

To confirm power is applied, look for the indicator 'SYS LED' flashing yellow light on the IRIS-4 2 Series dialler board. Once powered on you will have a brief window to recalibrate the touch screen if required, press the 'Touch Calibration' box at the top of the screen and follow the onscreen prompts. For more information, see Section 7.5 "Touch Screen Calibration".

6.8. Configuration

To configure the dialler, use any of the following methods:

- Touch screen.
- Alarm panel integration e.g. Honeywell Galaxy (RS485 connection).

Note: Please configure the alarm panel first for connections to Honeywell Galaxy RS485 integration, as these will transmit configuration to the IRIS-4 2 Series dialler.

For more details on the alarm panel integration, download the full panel installation manual from http://www.addsecure.com.

- Connect the board's Micro USB connector to a laptop/PC running the IRIS Toolbox software. Download the IRIS Toolbox user guide from http://www.addsecure.com.

Defaulting

If at any point a complete default of the dialler is required, use the following procedure:

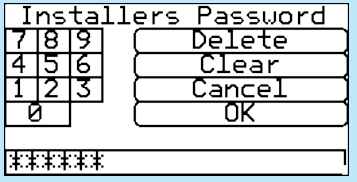
1. Enter the Installer menu on the dialler touch screen and enter the installer password.
2. Go to the 'Settings' option and scroll down with the scroll bar on right until you see option for 'Default All'.
3. Enter the 'Default All' and confirm that the dialler is to be defaulted.

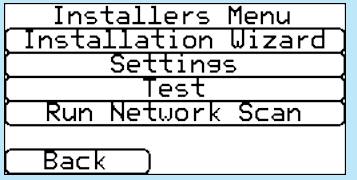
Configuration via Touch Screen

IRIS-4 2 Series can be configured directly using the on board touch screen with the supplied stylus. Enter the default installer code: 111111 and then click 'OK'.

You will be prompted to change the password, please record the new password.
Enter and confirm a new password and press 'Save'.

The Main Menu is displayed.

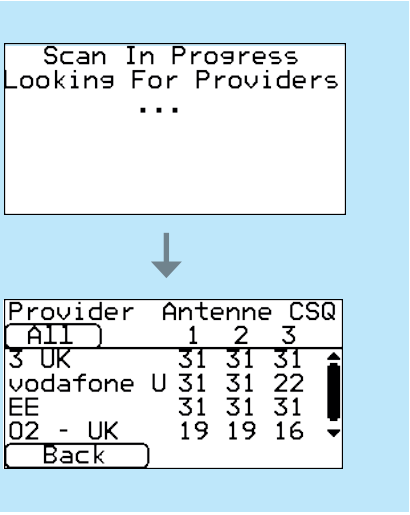




IRIS-4 200 or 240 with 2/3/4G connection:

2/3/4G Network Scan

Select the 'Run Network Scan'. The scan must be carried out without the SIM card fitted. The dialler listens for every base station in range, requests operator name and records the signal strength. This will take a few minutes to complete.



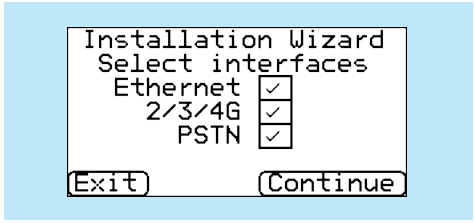
For a reliable 2/3/4G connection it is recommended that for the chosen network (SIM card) used there should be at least two base stations with signal strength (CSQ) of 10 or more.

If the signal strength is below or close to minimum then try to reposition the antenna or IRIS-4 2 Series dialler in different location or you can use an external building or high gain antenna (if necessary), and rerun the network scan to check signal strength. Once you have the required 2/3/4G signal strength power down the dialler and insert the SIM card into the SIM card holder, then power the dialler back up. Go back into the 'Installers Menu' and enter in the installer code that you had setup beforehand and then select the Installation Wizard as indicated next.

IRIS-4 220 or 240 without 2/3/4G or after network scan completed:

Installation Wizard

Select the Installation Wizard and follow the on screen prompts.



Once Installation Wizard is completed and any additional panel interface configuration via the settings menu you will need to check/configure the panel for the connection method you are using:

6.9. Panel Configuration

Panel configuration for dial capture

If connecting the IRIS-4 2 Series dialler via the dial capture method which is connecting the Telecoms module of the panel to the dial port of the IRIS-4 2 Series, the following options will need to be configured:

Telephone Number = the 12 digit format of the Monitoring Centre IP address
(e.g. 192.168.0.34 would become 192168000034).

Account Number: 4 – 6 digit account number allocated by the Monitoring Centre.

Note: If the 'Alarm override' mode is selected, the IRIS-4 2 Series 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 panel.

Alarm panel integration
e.g. Honeywell Galaxy (RS485 connection).

If you have not already made the changes to the relevant configurations in the panel for the integration, and require further details on these configurations then please download the full panel installation manual from http://www.addsecure.com.

6.10. Testing

Once all configurations are complete, perform a full commissioning test with the Monitoring Centre. This will normally involve testing normal alarm transmissions from the alarm panel over all communication paths to the Monitoring Centre. Verifying acknowledgement of these alarms with the operators at the Monitoring Centre.

7. MAINTENANCE

There is no requirement for any onsite maintenance on the IRIS-4 2 Series.

If engineers want to carry out a maintenance inspection, please perform the following:

- Confirm the status of the IRIS-4 2 Series unit.
- Clear any faults on the dialler.
- Reflash IRIS-4 2 Series software to latest version.
- Test the configured communication paths (Ethernet and/or 2/3/4G).
- Perform full test of alarms from the alarm panel and confirm acknowledgement of these by the operators at the Monitoring Centre.

The IRIS-4 2 Series dialler will give a visual indication of the current system status via the 'SYS LED'. If this is yellow constant light the current setup of the dialler is reporting OK, yellow flashing light means the dialler is reporting some trouble events.

SYS LED:

Yellow Constant = OK

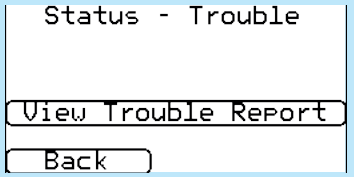
Yellow Flashing = Dialler is reporting some trouble events

To investigate any faults or to perform checks, the IRIS-4 2 Series dialler gives engineers the option via the touch screen, to see the current faults, reflash to latest software and perform communication path checks. Engineers will need to touch the screen to exit the screen saver mode and should now be presented with the welcome screen. Engineers will now see the option indicating status and the option to enter the installer menu. The engineer will now be able to perform the following checks:

7.1. Confirm Current Status

The IRIS-4 2 Series dialler will indicate "Status - ok" if the current dialler setup is all working correctly, and if the status is showing "Status - Trouble" the dialler has a trouble reported. To view the reported trouble click on the "Status - Trouble" option then "View Trouble Report".

Check the reported system troubles via the "Trouble report" menu. Please refer to the IRIS-4 2 Series Series Engineering Manual for more details available from http://www.addsecure.com.



7.2. Check Software Version/Reflash

Enter the 'Installer Menu', which will prompt for the installer code, check installation documentation to see what this is set to. Once in go to the settings menu and then scroll down and select the 'Reflash' option. On first entry to the reflash option, which could be during installation or maintenance, the engineer will be required to change the password as required for EN50136-2 compliance. Please record the password on the installation documentation.
Enter the correct reflash password and you will then have the following options.

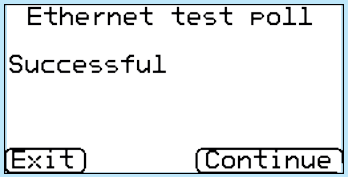
The AddSecure Reflash server IP address will already be setup under the 'Reflash IP Address' but if using an alternative Reflash IP address then change the IP address. Once you have the correct reflash IP address entered press the 'Reflash Now' to connect to the server and check if there is a later version, and if there is, it will start to reflash.

The reflash will take up to 15 minutes if via 2/3/4G and approximately 2 minutes with the Ethernet connection. Once completed the dialler will reboot and switch to the new software.

Note: All configurations for the IRIS-4 2 Series dialler are stored and there is no need to reconfigure. During the reflash process, do not remove power until dialler has completed and reset.

7.3. Communication Paths Checks

The engineers can test the communication paths for both polling and alarm communications using the 'Test' option in the Main Menu. This will perform communication path checks for each path configured.



Please refer to the IRIS-4 2 Series Engineering Manual for more details available from http://www.addsecure.com.

7.4. Test Alarm Panel Alarms and Communication to Monitoring Centre

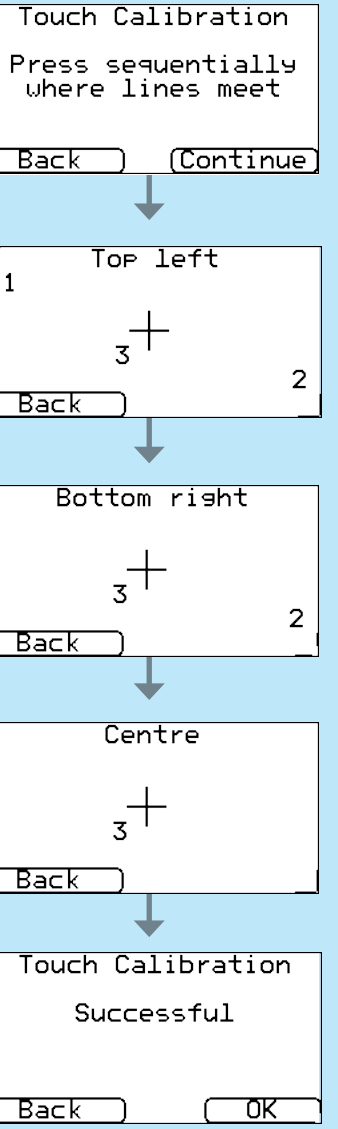
Depending on the Monitoring Centre engineers will now be required to perform alarm test and possibly other tests to the Monitoring Centre. Before the engineer leaves site get confirmation from the Monitoring Centre that all is working correctly.

7.5. Touch Screen Calibration

The IRIS-4 2 Series dialler allows Engineers to recalibrate the touch screen if required. To perform this you have two options as detailed below:

- On initial power on: 'Touch Calibration' box in the top part of the screen for a few seconds.
- In the Installer Menu > Settings > Display > Touch Calibration.

Press the 'Touch Calibration' box and follow the on screen prompts to calibrate the screen, as shown below:



8. SPECIFICATIONS

Transmission paths		200	220	240
Ethernet				
	Standard	-	UTP 10/100 Base T with auto-negotiation	
	Connection	-	RJ45 socket for CAT5 cabling	
	IP addressing	-	Dynamic (DHCP) or fixed	
	Fault detection	-	Loss of Ethernet synchronisation	
2/3/4G				
	Frequencies	Penta band LTE (4G)	-	Penta band LTE (4G)
		800/900/1800 MHz	-	800/900/1800 MHz
		2100/2600 MHz	-	2100/2600 MHz
		Dual band UMTS (3G)	-	Dual band UMTS (3G)
		900/2100 MHz	-	900/2100 MHz
		Dual band GSM (2G)	-	Dual band GSM (2G)
		900/1800 MHz	-	900/1800 MHz
	Connection	SMA socket for antenna	-	SMA socket for antenna
	Fault detection	Loss of registration with network	-	Loss of registration with network
IP				
TCP ports (outbound)		53165 (Alarms & Polling), 51292 (Diagnostic & Reflashing), 10001 (Upload/Download)		
Alarm transmission				
Interface to Monitoring Centre		IRIS Secure Apps or IRIS Management Suite via EN 50136-2 pass-through mode		
Dial capture interface to alarm panel		Two wire interface via terminal block		
Serial interface to alarm panel		RS485, TTL, RS232 **Note: RS232 cabling must not exceed 30 meters**		
PIN Inputs interface to alarm panel		Maximum input voltage range 0V to +24V Input 'low' (alarm) threshold < 1V Input 'high' (restore) threshold > 2V Internal pull-up impedance 10K to 3.3V supply		**Note: Cabling must not exceed 3 meters**

Transmission paths	200	220	240
Fault reporting to the alarm panel.	If the dialler is unable to poll to the monitoring centre it reports this to the alarm panel using a method dependent on the panel interface mechanism: ***Dial capture:*** The line voltage is dropped to simulate loss of a PSTN connection. ***Serial***: Either regular polls to the interface are ignored or an explicit message is sent to the panel, depending on the serial protocol in use. ***Pin inputs***: A relay output can be set open to indicate fault.		
Alarm protocols	SIA (level 1 to 3) reference SIA DC-03-1990.01(R2003.10), Contact ID reference SIA DC-05-1999.09, Fast format (Scancom), Robofon (Dial capture only), Telim (Dial capture only), CESA (Dial capture only)		
Tamper detection reporting to Monitoring Centre	Dial capture interface, Lid & back tamper, Serial Interface, Pin inputs		
Fault reporting to Monitoring Centre	Transmission interface/path fault The IRIS dialler constantly 'polls' the monitoring centre to report it is operational and to report any interface or transmission faults it has identified. If the dialler has more than one transmission path then all paths are monitored and faults are reported by an operational path. If all paths or the dialler fail this is identified by the loss of polls. This allows the monitoring centre to monitor and calculate the dialler's availability.		
Substitution protection and information security	All transmissions are authenticated and encrypted using a unique 256 bit security key. This key is automatically updated every day.		
Relay outputs			
Maximum operating voltage	24V DC		
Maximum current rating	100mA DC		
Power supply			
Supply voltage	9V to 28V DC		
Typical current	124mA @ 12V DC	138mA @ 12V DC	140mA @ 12V DC
Maximum current	1A @ 12V DC		
Recommended external PSU	⎓ 12V DC 1A 12 Watt **Note: For Radio Equipment Directive the power cable needs to be no longer than 3 meters in length**		
Environmental			
Operating temperature range	-10°C to 55°C		
Operating humidity range	95% max., non-condensing		
Weights and dimensions			
Physical dimensions	19 cm x 13 cm x 4 cm		
PCB weight	550 grams		
Fully packaged weight	750 grams		

SAFETY

Care should be taken when connecting telecommunications equipment to ensure only like interfaces are connected 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-4 2 Series have the following safety classifications:

- Dial capture interface: SELV suitable for connection to the TNV interface of single line telecommunications equipment such as telephones, alarm panels, etc.
- Power Interface: SELV for connection to a DC supply
- Inputs: SELV for connection to alarm output pin.

CONFORMANCE

European Directives

The IRIS-4 2 Series complies with the following European Directives:

- 2014/53/EU (Radio Equipment Directive)
- 2013/35/EU (Electromagnetic Fields)
- 2004/108/EC (CE directive)
- 2002/96/EC (WEEE)
- 2011/65/EC (ROHS)

CONTACT AND SUPPORT

Installation and Service Engineer Support Telephone: +44 871 977 1133
(Calls are charged 13 pence per minute plus your phone company's access charge)
Sales enquiries: +41 435 080 870
Email: iris.support@addsecure.com
www.addsecure.com

EN50131, EN50136 (VdS Certified)
The dialler is compliant with the requirements of European Standards:
EN 50131-1: 2006+A2:2017 & EN 50131-10:2014
EN 50136-1: 2012 & EN 50136-2: 2013
Security Grade 3
ATS-SP6 over Ethernet, ATS-SP5 over 2/3/4G, ATS-DP4 (IRIS-4 240)
Environmental Class II