EXTRONICS®

Operating Manual

iWAP103

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Contents

1 Introduction

The iWAP103 Zone 1 Universal Access Point Enclosure is designed to allow the deployment of wireless networks in hazardous areas. The concept allows installation of equipment from leading WLAN vendors including Aeroscout, Meru, Symbol, Cisco and Firetide. Each type of Access Point or RF transmitting device is rigorously checked and tested by Extronics and/or a Notified Body to ensure conformity to the ATEX requirements. This means that the user may select the vendor of their choice when extending a WLAN to hazardous areas. However equipment not already certified will require assessment to determine its suitability.

To allow ease of installation to the end user the unit can be supplied via a 110/230VAC, or via IEEE802.3af POE providing the access point chosen is compatible. An optional POE supply module allows the iWAP103 to power up to two external devices such as IP cameras or additional access points.

The iWAP103 has two RF outputs on N-type connectors allowing the connection of two antennas for dual radio access points. These antennas must be certified as Ex e increased safety devices (not included) such as the iANT100.

Optional features include surge arrestors for lightning suppression in outdoor installations and fibre optic inputs for the Ethernet. Additionally the IWAP103 has optional single or dual RS232/RS485/RS422 inputs, allowing these interfaces to be transmitted over a WIFI link.

The iWAP103 has the option of adding heating to the enclosure which can be used when the access point is required to be installed in temperatures as low as -20^{o}C. The heaters may be independently configured to shut off above set temperature thresholds. The protection board has two potentiometers fitted, which allow the user to set the temperature at which the heaters will switch off, and the temperature above which power to the access point is switched on. The default setting is to allow the user to select a temperature of between 0^{o}C and 40^{o}C above which the heaters are off, and temperatures between -20^{o}C and 20^{o}C above which the access point turns on. Note: These temperatures can be altered on request when ordering.

The iWAP103 is housed in an Ex d (Flameproof) enclosure rated to IP66, and is certified to;

II 2 G EEx d IIC T5 Ta 55^{o}C Max, T6/Ta 40^{o}C Max

Ex tD A21 IP66 T100^{o}C@Ta55^{o}C Max, T85^{o}C@Ta40^{o}C Max

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2 Safety Information and Notes

2.1 Storage of this Manual

Keep this user manual safe and in the vicinity of the device. All persons who have to work on or with the device should be advised on where the manual is stored.

2.2 List of Notes

The notes supplied in this chapter provide information on the following.

- Danger / Warning.
  - Possible hazard to life or health.
- Caution
  - Possible damage to property.
- Important
  - Possible damage to enclosure, device or associated equipment.
- Information
  - Notes on the optimum use of the device

Warning	**Installation only to be performed by skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in accordance with IEC 79.17 on electrical apparatus for explosive atmospheres.**

Warning!	**The iWAP103 must not be operated in Gas Zone 0, or Dust Zone 20 hazardous areas. Refer to the specification for ATEX certificate information.**

Warning!	**Never open the enclosure in a hazardous area when the unit is energized, never operate the internal electronics without correctly fitting the lid and cable glands.**

Important	**The technical data indicated on the iWAP enclosure must be observed.**

Important	**Changes in the design and modifications to the equipment are not permitted. This includes changing the pre installed Access Point.**

Important	**The iWAP103 shall be operated as intended and only in undamaged condition.**

Important	**Only Ex e antennas which have been approved for use by Extronics may be used with iWAP103**

Important	**Do not exceed the Effective Isotropic Radiated Power (EIRP) limit for the country/region of operation**

Important	**Do not exceed the Effective Isotropic Radiated Power (EIRP) for the gas group in which the iWAP103 will be operating. The RF output of the transceiver will vary depending on the hardware and antenna used.** **IIC – 2W (+33dBm)** **IIB – 3.5W (+35.4dBm)** **IIC – 6W (+37.7dBm)**

Caution	**This assembly may weigh up to 15Kg depending on options fitted, therefore ensure the assembly is mounted using suitable fixtures.**

Caution	**When powering the iWAP103 via POE it is not recommended to also apply an external power supply to the protection board.**

3 Installation and Setting-to-Work

3.1 Installation

The iWAP 103 is simple to install and can be secured directly to a suitable surface using the mounting holes on the Enclosure. Refer to 3.1.15

3.1.1 Removing the cover

Warning!	**Never open the enclosure in a hazardous area when the unit is energized, never operate the internal electronics without correctly fitting the lid and cable glands.**

Unscrew the grub screw and remove the enclosure lid by turning it anti-clockwise.

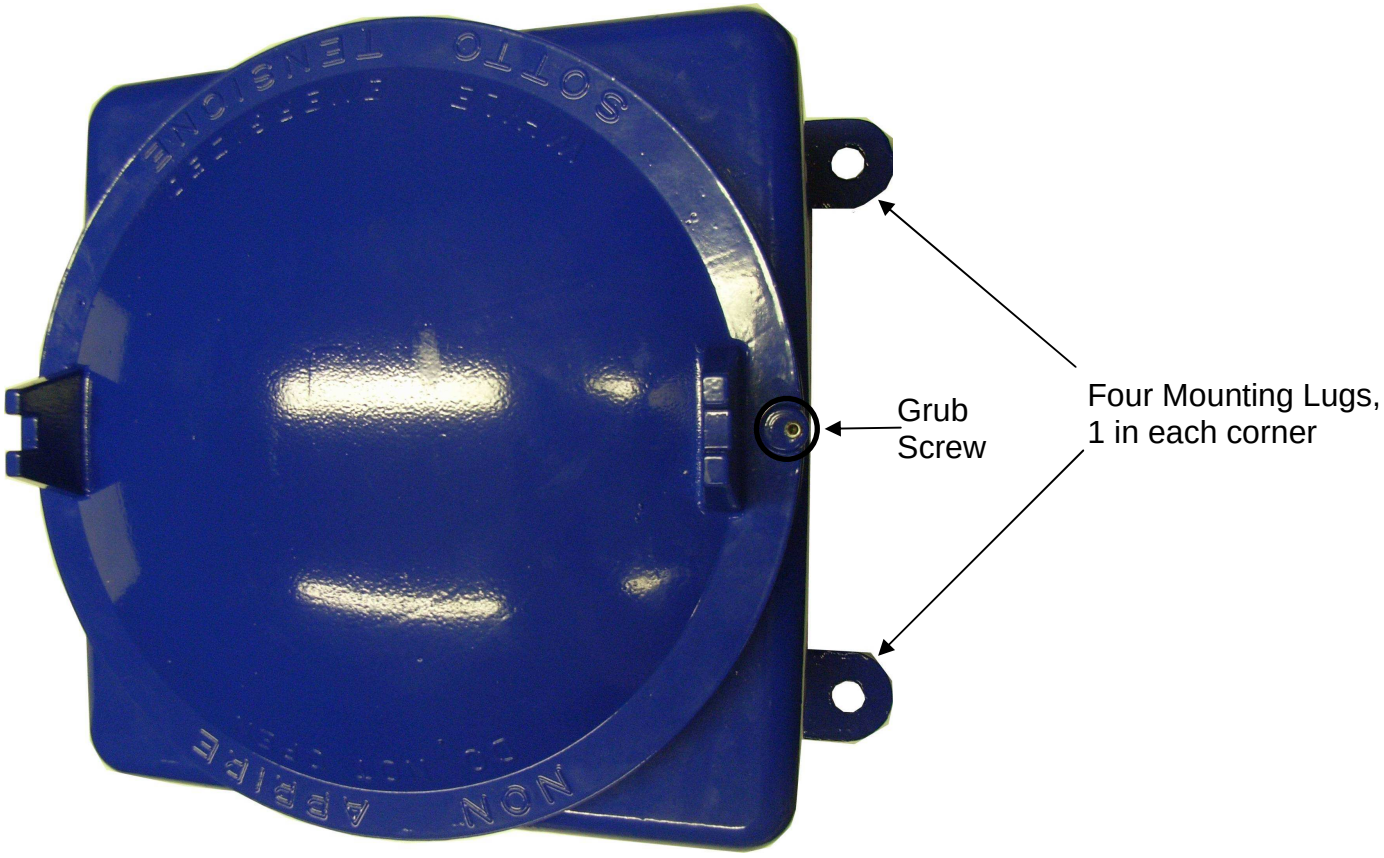


Figure 3.1

3.1.2 Fitting the cables

Depending on the configuration of the iWAP103, the connections for power and communication will need to be terminated into the enclosure via the cable entries shown in figure 3.2 (to be chosen by customer).

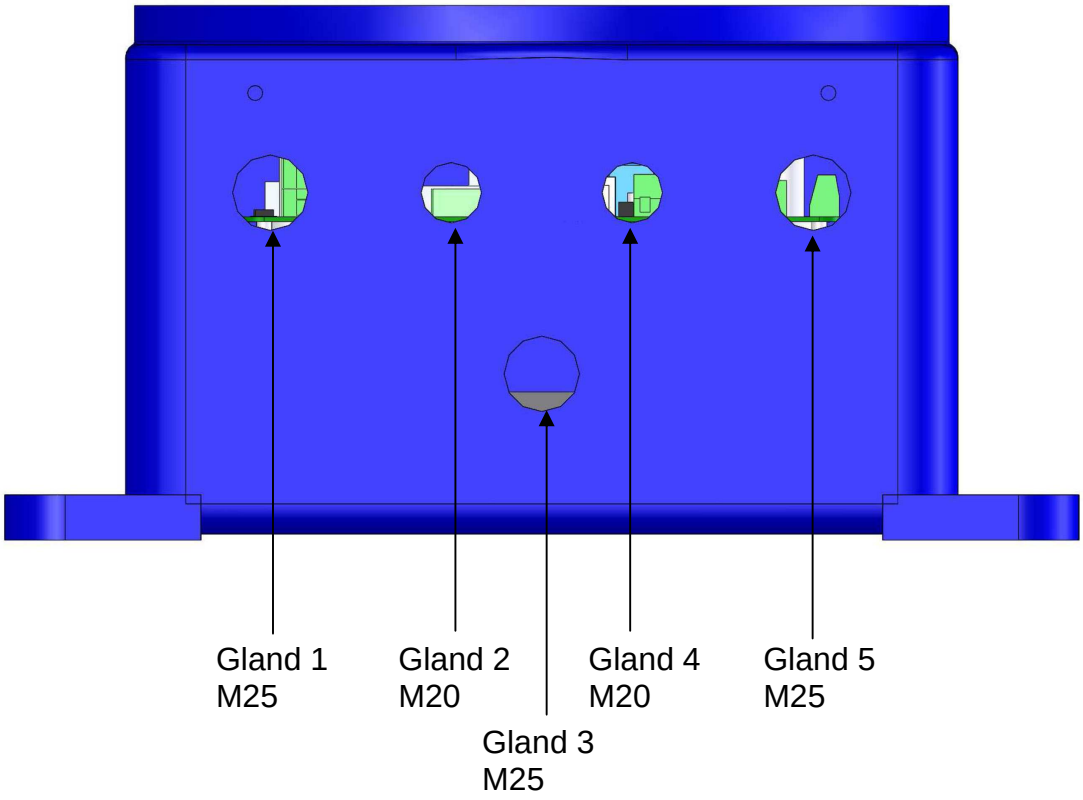


Figure 3.2 – Cable Gland Holes

Cable glands are to be specified by the user when ordering, thread size is as indicated above while the thread pitch of all holes is 1.5mm. Depending on the configuration required these holes may be fitted with stopping plugs.

IMPORTANT!	**All cables should be connected to the iWAP103 via a correct cable gland suited to the cable used, fitted by a competent person. Cable glands should be fitted in accordance with manufacturers instructions. See iANT100 manual for instructions on fitting iANT100 cable gland.**

IMPORTANT!	**Changes in the design and modifications to the equipment are not permitted. This includes changing the factory installed access point.**

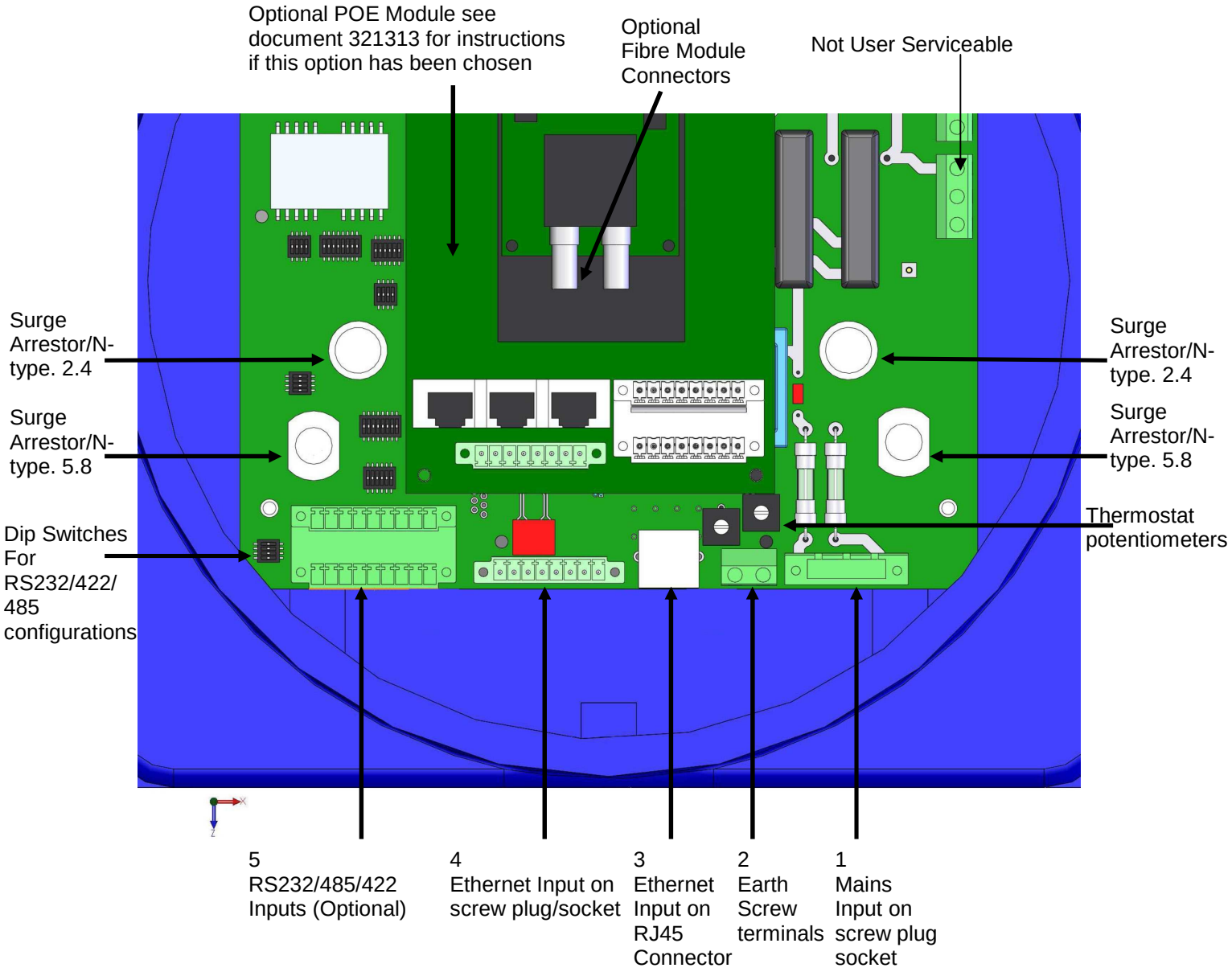


Figure 3.3 – iWAP103 Internal PCB View

Important	**Only the input power connectors, DIP switches, Ethernet input connectors, thermostat controls and N-type/surge arrestors, as indicated in figure 3.3, are user configurable. Do not alter any other connections inside the enclosure. The access point must not be changed or the wiring altered.**

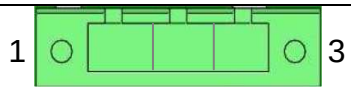
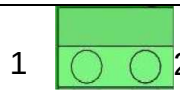
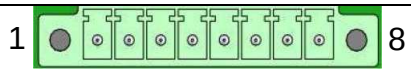
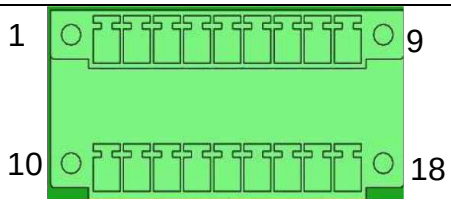
Ref	Connector	Pinout	Description
1	Mains Input		Pin 1 = Live Pin 2 = Earth Pin 3 = Neutral
2	Earth Screw Terminals		Both screw terminals are connected to earth, one of the terminals should be used to earth the enclosure, the other connector is a spare
3	Ethernet input on RJ45		This RJ45 socket accepts a standard 8P8C plug for Ethernet connection Pin 1 = Tx + Pin 2 = Tx - Pin 3 = Rx + Pin 4= POE in - Pin 5= POE in - Pin 6= Rx - Pin 7 = POE + Pin 8 = POE in +
4	Ethernet input on screw terminals		Pin 1 = Tx + Pin 2 = Tx - Pin 3 = Rx + Pin 4= POE in - Pin 5= POE in - Pin 6= Rx - Pin 7 = POE + Pin 8 = POE in +
5	RS232/422/485 Inputs		Pins 1-9 are used for RS232/422/485 module 1 Pins 10-18 are used for RS232/422/485 module 2 See table 3.2 for connections depending on the configuration required

Table 3.1 – Input Connector Pin Outs

Power can be supplied to the access point via a mains supply or a POE supply. The POE supply is obtained directly from a POE enabled Ethernet input with the spare wires of an 8 pin input used for the power supply.

Caution	**When powering the iWAP103 via POE it is not recommended to also apply an external power supply to the protection board.**

3.1.3 Mains Power

To connect the mains power, feed in a suitable cable through a suitable cable gland. The PCB will be shipped with a socket fixed the PCB and a removable plug with screw terminals screwed into it (Ref 1). Remove the plug from the socket by unscrewing the screws at the two ends of the plug. Strip back the power cable and ensure suitable crimps are used for each core of the cable; the cables core must have a cross sectional area of at least 0.25mm^2 and a maximum cross sectional area of 2.5mm^2. Place the crimped wire into the correct screw terminal as indicated in table 3.1, and ensure the cable is securely screwed in place, then push the plug into the socket and securely screw the two together.

3.1.4 POE/Ethernet Connection

Caution	**Only make one Ethernet/POE connection, i.e. do not make a connection to both the screw terminals and RJ45 connector!**

To power the unit via POE a suitable POE supply is needed along with the Ethernet input on (preferably) a cat-5 cable. The power is supplied on the spare pins of a standard 8-way twisted pair wire - on pins 4,5,7 and 8, with the other pins used for data transfer. The power can be supplied via the screw terminals (Ref 4) or the RJ45 connector (Ref 3) depending on the installer's requirements and preferences.

To power the access point via POE using the RJ45 connector (Ref 3) ensure that an 8P8C connector is wired as stated in table 3.1. Feed the cable through a suitable cable gland and then simply plug the cable into the socket and ensure the cable is securely fastened.

To power the access point via POE using the screw terminals (Ref 4), feed the cable through a suitable cable gland. Remove the plug from the socket by unscrewing the screws at the two ends of the plug. Strip back the cable and ensure suitable crimps are used for each core of the cable; the cables core must have a cross sectional area of at least 0.14mm^2 and a maximum cross sectional area of 1.5mm^2. Place the crimped wire into the correct screw terminal as indicated in table 3.1, and ensure the cable is securely screwed in place, then push the plug into the socket and securely screw the two together.

3.1.5 Fibre Ethernet Input

Important	**When connecting the access point via a fibre connection do not use the any of two Ethernet inputs of connectors Ref 3 or Ref 4.**

To obtain greater wired link distances the iWAP103 can be shipped with an optional fibre module. The fibre module will be connected directly to the access point, the user should attach the fibre cable directly to the fibre module using a multimode fibre cable on an ST connector.

3.1.6 Earth Connection

The earth screw terminals allow the user to connect the enclosure to earth, this would usually be done in the Extronics factory prior to shipping. There is also one spare earth terminal. To connect to this earth terminal strip back the cable and ensure suitable crimps are used; the cable's core must have a cross sectional area of at least 0.25mm^2 and a maximum cross sectional area of 2.5mm^2.

3.1.7 RS232/422/485 Wiring

If the optional RS232/422/485 module has been selected the serial input will need to be connected to the screw terminals correctly. The pin out wiring connections will depend on the interface you wish to use and is summarized below in table 3.2.

To make a connection to for the serial interface feed the cable through a suitable cable gland. Remove the plug from the socket (Ref 5) by unscrewing the screws at the two ends of the plug Strip back the serial cable and ensure suitable crimps are used for each core of the cable; the cables core must have a cross sectional area of at least 0.14mm^2 and a maximum cross sectional area of 1.5mm^2.

Pin (Module1/Module2)	RS232	RS422/RS485
1/10	TxD	TxD B +
2/11	DTR	TxD A -
3/12	RTS	RTS B +
4/13	RI	RTS A -
5/14	CTS	RxD B +
6/15	RxD	RxD A -
7/16	GND	GND
8/17	DSR	CTS B +
9/18	DCD	CTS A -

Table 3.2 Serial Pin Out Connections

3.1.8 RS232/422/485 Dip Switch Configuration

To correctly configure the iWAP103's optional serial interface the dip switches on the PCB need to be set correctly. Figure 3.x below shows an exploded view of the dip switches. Use table 3.3 to correctly set the dip switches for the serial interface required by the user.

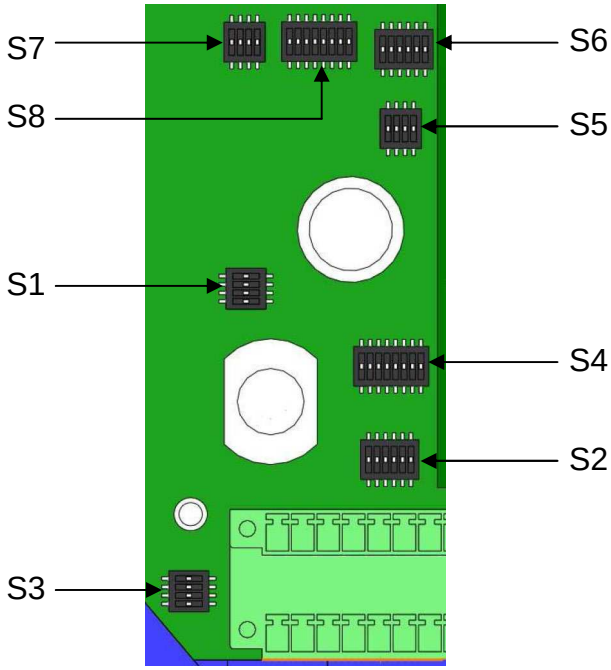


Figure 3.4 – iWAP103 Dip Switch Connections

Switch Module1/Module2	**Description**	**Mode**
S1/S5	Select clock timing	***2.5ms*** 1=on 2=off 3=on ***4.5ms*** 1=off 2=on 3=on ***115/230Kbit/s mode*** 1=on 2=off 3=off
S2/S6	Select RS232/422/485 mode	***RS232 mode*** 1=on 2=off 3=off 4=off 5=off 6=on ***R422 mode*** 1=on 2=off 3=off 5=off 6=on ***RS485 4-wire mode*** 1=on 2=off 3=off 5=off 6=on ***RS485 2-wire auto control mode*** 1=off 2=on 3=off 4=on 5=off 6=on ***RS485 2-wire DTR control mode*** 1=off 2=off 3=on 4=off 5=on 6=off
S3/S7	Mode Select	***RS232 mode*** 1=off 2=off 3 =off on 4=off ***RS485 2-wire mode*** 1=off 2=on 3=off 4=off ***RS485 4-wire mode*** 1=off 2=off 3=off 4=off ***RS422 mode*** 1=off 2=on 3=off 4=off
S4/S8	Line Termination	***RS232 mode*** All off ***RS485 2-wire mode*** All on ***RS485 4-wire mode*** All on ***RS422 mode*** All on

3.1.9 Thermostat Controls

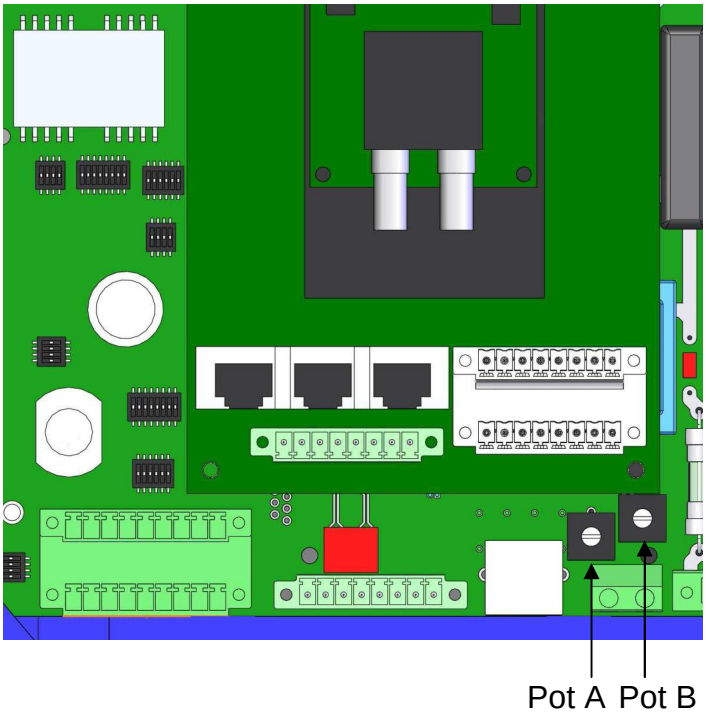


Figure 3.5 – Thermostat Potentiometers

If the optional heaters have been fitted, there are two potentiometers on the iWAP103 protection board which allow the user to alter the temperature set points. Pot A is used to set the access point switch on temperature, Pot B is used to control the heater turn off temperature

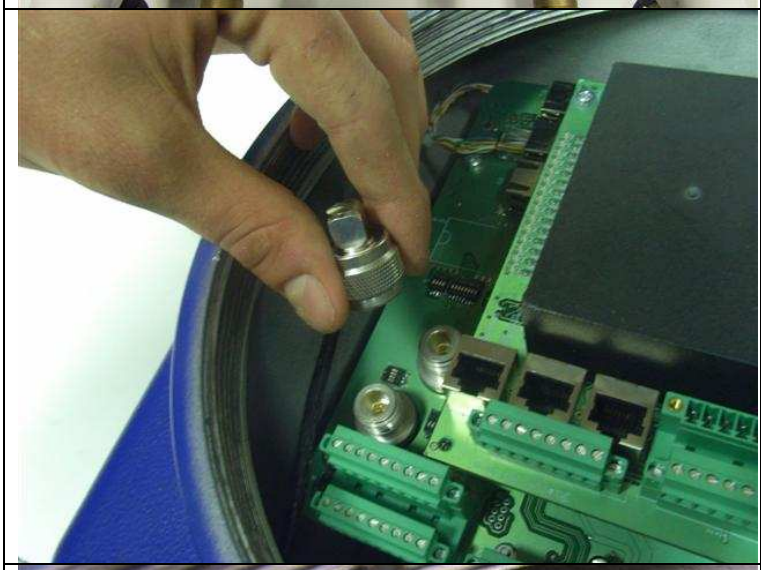
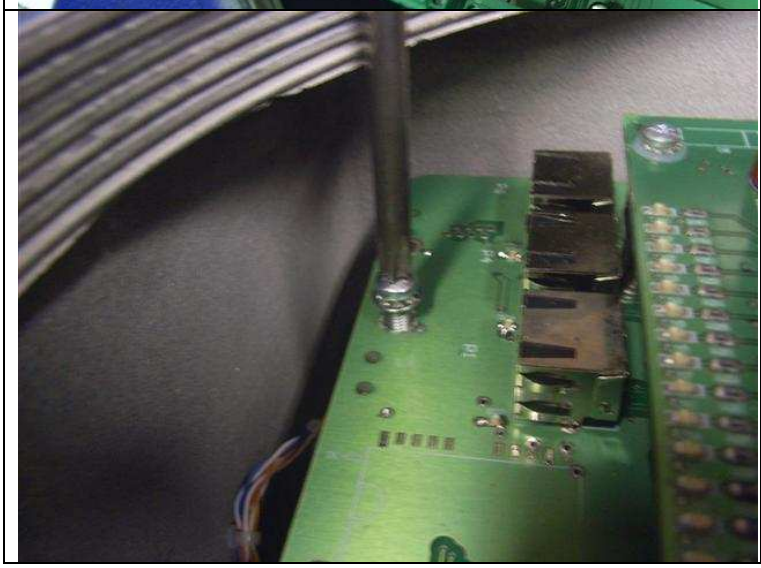
If this option is fitted, the potentiometers will be factory set to;
Pot A = -20℃ (Fully Left)
Pot B = 30℃ (Fully Right)

The potentiometers have a turn radius of 270^{o} when the potentiometer is turned fully left the temperature will be set to a minimum. When the potentiometer is turned fully right, the temperature is set to its maximum

By turning potentiometer A fully left the Access point will not turn on until the temperature reaches -20^{o}C. By turning Pot A fully right the AP will not turn on until the temperature reaches 10^{o}C

By turning potentiometer B fully left the heaters will not turn off until the temperature reaches 0^{o}C. By turning potentiometer B fully right the heaters will not turn off until the temperature reaches 30^{o}C.

3.1.10 Disassembly - Removing the PCB

Image	Description
	Unscrew the enclosure lid.
	Unscrew and disconnect the RF connectors from the surge arrestors or bulkheads. Unplug all other connections to the PCB. Make note of the location of the connections you remove to aid reassembly
	Unscrew the 4 fixing screws from the spacers below

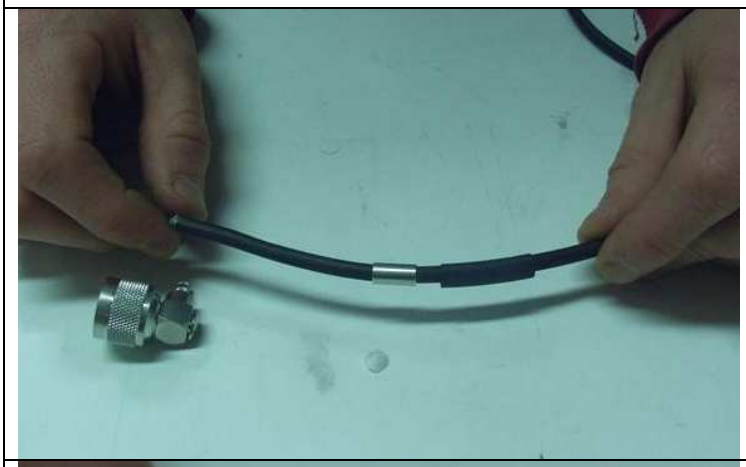
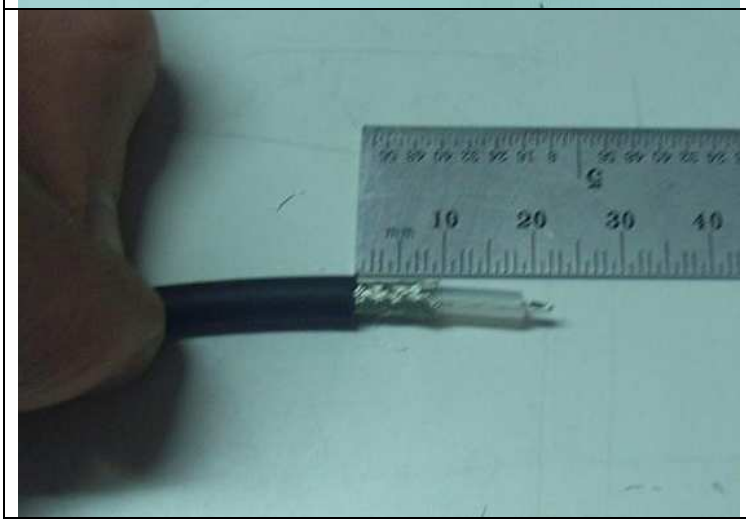
	Tilt the front of the PCB upwards and pull towards you. Be careful when removing the PCB from the enclosure as the RF cables fitted under the PCB may get damaged. Be sure to take all necessary ESD precautions to avoid damaging sensitive components on the PCB
	Unscrew and disconnect the RF connectors from the surge arrestors or bulkheads on the under side of the PCB. Be careful not to bend the RF cables too tightly, especially by the connector, as this may damage the cable. Minimum bend radius of cable = 3.18mm

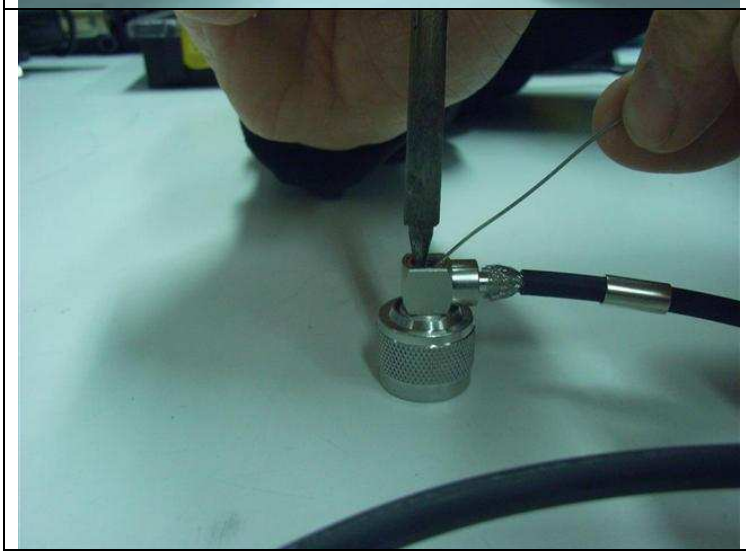
3.1.11 Assembly – Fitting the PCB

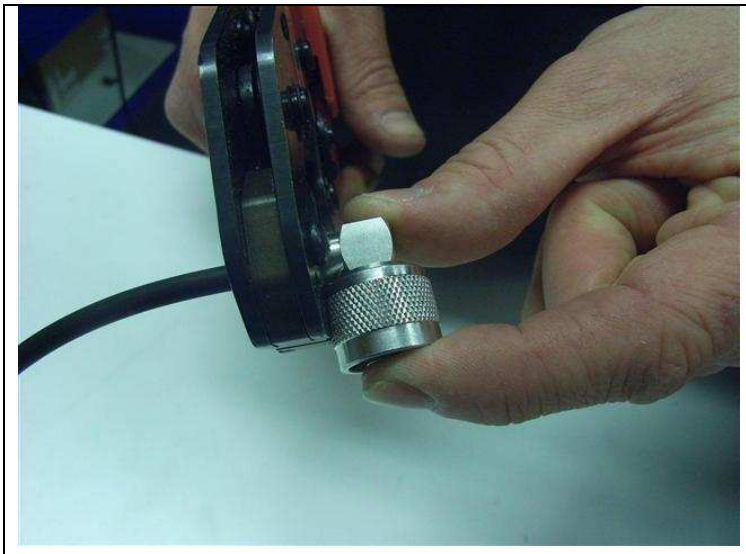
To fit the PCB, follow the instructions found in section 3.1.10 of this manual in reverse order;

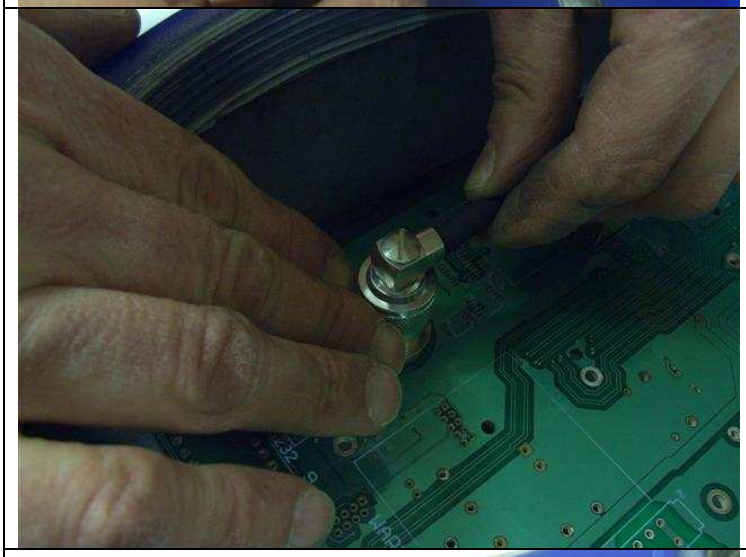
- Connect RF connectors to surge arrestors or bulkheads on under side of the PCB
- Carefully place the PCB inside the enclosure to sit on top of the spacers
- Screw the 4 fixing screws through the mounting holes on the PCB to the spacers below
- Fit all necessary connections
- Screw in the enclosure lid securely

3.1.12 Fitting the 90° N-Type Connector

Image	Description
	If using the Extronics iANT100 series of antenna's, please follow the procedure for making the CR-UB-NP-16-M20 gland* as instructed in the iANT100 manual. If using another antenna, be sure to follow the manufacturer's instruction as to fitting the cable gland. *CR-UB-NP-16-M20 is the recommended cable gland for use with the iANT100 antenna
	In order to fit an N-Type connector, cut off the connector and slide onto cable approximately 30mm of heat-shrink sleeving and the ferulle supplied with the connector.
	Strip the cable as shown leaving; • 8mm of exposed shielding • 7mm of exposed dielectric insulator • 4mm of exposed core

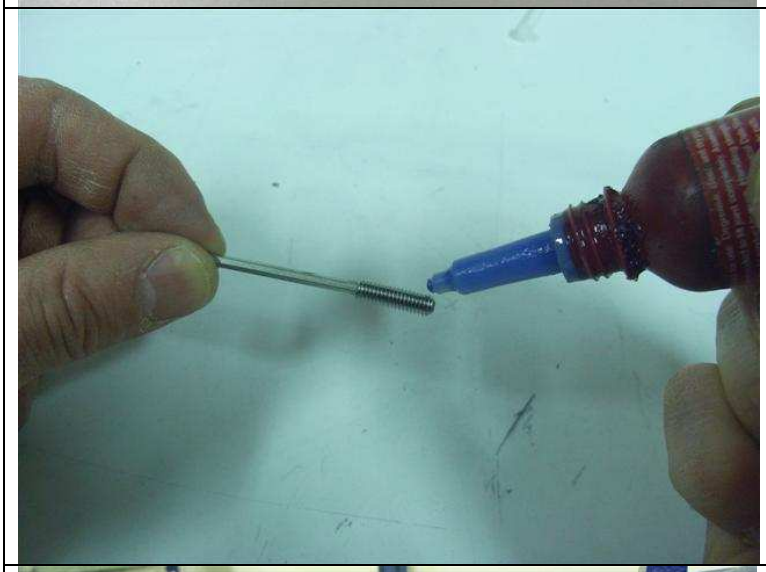
	Using a soldering iron, tin the core of the cable
	Place the 90°N-Type connector on the end of the connector such that the dielectric and core sit inside the connector and the shield is outside of the connector
	Remove the cap from the top of the connector. Apply solder such that the centre pin of the connector and the core of the cable are bonded.

	Slide the ferrule to the base of the N-Type connector and using the appropriate tooling, crimp the cable in place. Make sure that the cable and the connector are firmly secured. Universal frame crimp tool RS Stock No. 848-391 Universal frame die set-RG58/59 cables RS Stock No. 848-436
	Slide the sleeving to the base of the connector so that it covers the crimp. Apply heat to the sleeving until it has fully taken shape of the components it surrounds. Must be done in accordance to heat-shrink manufacturer's instruction
	Re-fit cap to connector

	Push the connector through the appropriate M25 cable entry on the iWAP103 enclosure. Be careful when doing this as not to damage the threads.
	Fit the connector to the N-Type bulkhead fitted to the PCB
	Thread the M25 to M20 reducer to the enclosure. Hand tighten and using a wrench, tighten by another quarter turn.

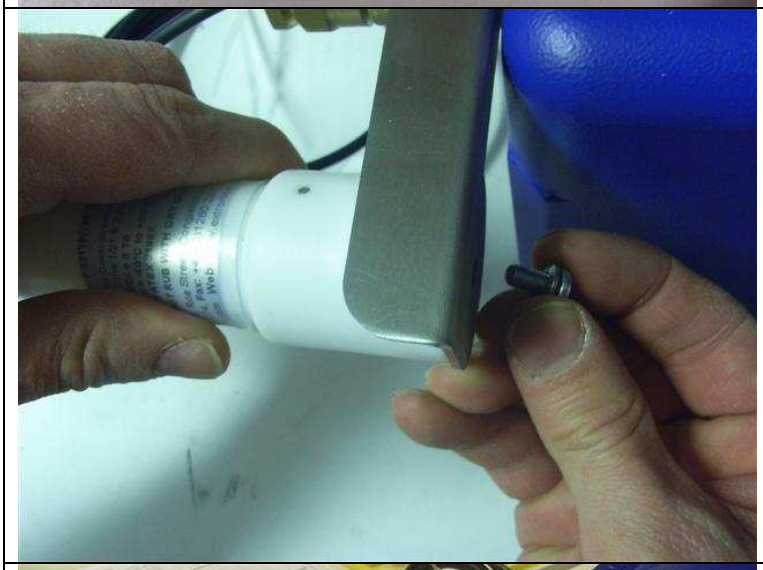
	Fit entry body into the reducer previously fitted. Hand-tighten, then using a wrench tighten a further ½ turn
	Fit the remainder of the gland to the entry body using the union nut of the cable gland. Hand-tighten, then using a wrench tighten a further ½ turn
	Ensure all components are fitted securely

3.1.13 Fitting the antenna mounting bracket

Image	Description
	Supplied fixings; 2 off M5 nyloc nut 2 off M5 x 16mm grub screw 2 off M5 plain washer 2 off M5 nylon washer
	Apply Loctite along the thread of the grub screw (243 – Thread lock or 270 - stud lock)
	Using an allen key (2.5 ATF), thread the grub screws into the entries shown until they bottom

	Once the grub screws are fitted, place the nylon washers onto the grub screws
	Place the antenna bracket (iANTMB02) onto the grub screws
	Using the plain washer and nyloc nut, fit the bracket securely

3.1.14 Fitting the antennas to the bracket

Image	Description
	Fixing kit supplied with each antenna; 1 off M6 x 12mm pozi pan-head screw 1 off M6 spring washer
	Using the screw and washer, fit the antenna to the bracket using the appropriate hole
	Tighten screws so the antennas are fitted securely

IMPORTANT!	**Only connect antenna cables to the N-Type or Surge Arrestor. Never connect the antennas to the access point directly.**

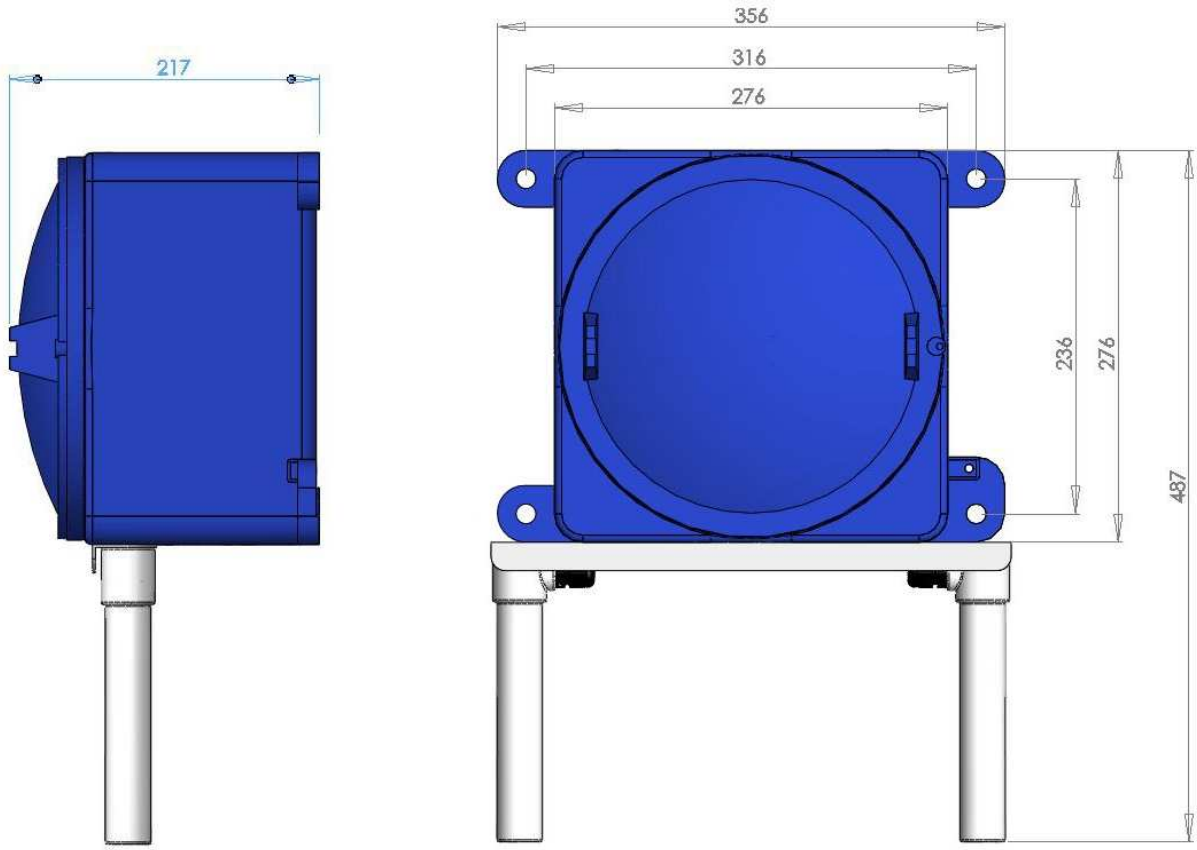
IMPORTANT!	**All cables should be connected to the iWAP103 via a correct cable gland, fitted by a competent person.**

IMPORTANT!	**Only Ex e antennas which have been approved for use by Extronics may be used with iWAP103**

IMPORTANT!	**Do not exceed the Effective Isotropic Radiated Power (EIRP) for the country/region of operation**

IMPORTANT!	**Do not exceed the Effective Isotropic Radiated Power (EIRP) for gas group the iWAP103 will be operating in. The RF output of the transceiver will vary depending on the hardware used.** **IIC – 2W (+33dBm)** **IIB – 3.5W (+35.4dBm)** **IIC – 6W (+37.7dBm)**

3.1.15 General dimensions



3.2 Setting to work

- Once all cables are connected, refit the enclosure lid by rotating clockwise 700N/mm^2, once the lid is closed ensure the grub screw is tightened.
- Refer to the original manufacturer's instructions for detailed information on setting the hardware to work correctly in software. The RS232/422/485 com server uses a W&T 58631 device.

Note!	**Ensure the lid is secure, correct cable glands are fitted and the unit device correctly wired and earthed for the particular application**

Note!	**Ensure that the threaded sections of the enclosure lid and body assembly are clean and undamaged. Also check the IP O'ring is clean and undamaged before fitting the lid.**

4 Intended Purpose Usage

Important	**Before setting the units to work, read the technical documentation carefully.**

Important	**The latest version of the technical documentation or the corresponding technical supplements is valid in each case.**

The iWAP103 is built using modern components and is extremely reliable in operation; however it must only be used for its intended purpose. Please note that the intended purpose also includes compliance with the instructions issued by the manufacturer for installation, setting up and service.
Any other use is regarded as conflicting with the intended purpose. The manufacturer is not liable for any subsequent damage resulting from such inadmissible use. The user bears the sole risk in such cases.

4.1 Transportation and Storage

All iWAP103 devices must be so transported and stored that they are not subjected to any excessive mechanical stresses.

4.2 Authorized Persons

Only persons trained for the purpose are authorized to handle the iWAP103; they must be familiar with the unit and must be aware of the regulation and provisions required for explosion protection as well as the relevant accident prevention regulations.

4.3 Cleaning and Maintenance

The iWAP103 and all its components require no maintenance. All work on the iWAP103 by personnel who are not expressly qualified for such activities will cause the Ex approval and the guarantee to become void.

4.4 Safety Precautions

Important	**For the installation, maintenance and cleaning of the units, it is absolutely necessary to observe the applicable regulations and provisions concerned with explosion protection (EN 50014, EN 60079-14:2003) as well as the Accident Prevention Regulations.**

4.5 Cleaning and Maintenance Intervals

The cleaning intervals depend on the environment where the system is installed.

4.6 Aggressive substances and environments

The iWAP103 is not designed to come into contact with aggressive substances or environments, please be aware that additional protection may be required.

4.7 Exposure to external stresses

The iWAP103 is not designed to be subjected to excessive stresses e.g. vibration, heat, impact. Additional protection is required to protect against these external stresses.

The iWAP103 will require additional protection if it is installed in a location where it may be subjected to damage.

5 Technical Data

5.1 iWAP103

Power Supply	Universal 90-264VAC or IEEE802.11af POE
Maximum Power Consumption	Basic configuration 19W With RS485 modules 24W With POE output module 55W With heating 155W
Enclosure Material	LM6 marine grade alloy with epoxy paint coat
Ingress Protection	IP66
Weight	Approx 15Kg, hardware dependent
Dimensions	300 x 280 x 200 mm (w x h x d)
Environmental	Ambient temperature (T5/T6); -20ºC/-10ºC to 40ºC/55ºC (note this depends on the internal hardware used) Relative humidity; 0 to 95%, non condensing
Input Connections	10/100BaseT Ethernet on RJ45 socket and screw terminals 115V/230VAC input option on screw terminals Multimode fibre input option on ST connectors POE output option on screw terminals and RJ45 sockets RS232/485/422 IO on screw terminals Note that connectors may be specified as an option in the ordering data
Output Connections	Up to four RF outputs on Ex d cable glands with optional lightning arrestors
Antennas	To be used with up to four Ex e antennas (not included) e.g. Extronics iANT100 series
ATEX Certification	II 2 G EEx d IIC T5 Ta 55°C Max T6/Ta 40°C Max Ex tD A21 IP66 T100°C@Ta55°C Max T85°C@Ta40°C Max

6 Type Codes

iWAP103 - Universal Zone 1 Access Point iWAP103-[#1]-[#2]-[#4]-[#5]-[#6]-[#7]-[#8]-[#9]-[#11]-[#12]

Specify option [#1] - Wireless Network Hardware

Hardware supplied by customer*	0
Hardware supplied by Extronics	1

*Extronics can supply the certified wireless network hardware ,alternatively you may wish to "free issue" one of the already certified solutions so that we can factory fit it (see option #2 for certified hardware list).

Specify option [#2] - Type Of Wireless Network Hardware *(Max operating temperature listed in brackets, POE/Mains only is the iWAP103 with no additional modules attached, Mains + modules is the maximum temperature with additional modules included. The minimum temperature range is also listed, the heater option will allow the temperature range of the AP's stated as 0°C, to be operated to a temperature of –20°C.)*

Cisco AP1231 Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	3
Cisco AP1242 Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	6
Cisco AP1242 LAP Light Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	7
Symbol AP300 Access Port Single Radio	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = -20°C)	8
Symbol AP5131 Access Point Single Radio	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = -20°C)	9
Symbol AP300 Access Port Dual Radio	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = -20°C)	10
Symbol AP5131 Access Point Dual Radio	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = -20°C)	11
Meru AP200	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	13
Meru AP150	*(POE/Mains Only = 55°C, Mains + Modules = 50°C)* (Min. = 0°C)	14
Cisco AP1232 Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	15
Cisco AP1231 LWAPP Light Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	16
Cisco AP1232 LWAPP Light Access Point	*(POE/Mains Only = 45°C, Mains + Modules = 40°C)* (Min. = -20°C)	18
AirMagnet A5020 Sensor	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	19
Firetide Hotport 4500 Access Point	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	22
Aruba AP60	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	*23*
Aruba AP61	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	*24*
Aruba AP70	*(POE/Mains Only = 40°C, Mains + Modules = 35°C)* (Min. = 0°C)	*25*
Acksys WLG-LINK-OEM-RJ-EVAL Access Point	*(Mains Only = 55°C, Mains + Modules = 55°C)* (Min. = -20°C)	*26*

Specify option [#4] - Power Supply

Universal 90-264VAC (If heater option [#8] selected the unit is not universal voltage, either 115VAC or 230VAC)	AC
IEEE802.3af compliant Power-Over-Ethernet	POE

Specify option [#5] - Ethernet Connection

10/100BaseT Ethernet on CAT5 copper	C
Multimode 10/100BaseFX fibre with ST connector	F

Specify option [#6] - 2 x Antenna Lightning Protection For Option [#2]

No Lightning Protection Fitted, 2xN-Type Bulkheads fitted for antenna connection	N
Lightning Protection Fitted	S

Specify option [#7] - 2 x Additional Antenna Lightning Protection For Option [#2]

No Lightning Protection Fitted, 2xN-Type Bulkheads fitted for antenna connection	N
Lightning Protection Fitted	S
Nothing Fitted	B

Specify option [#8] - Enclosure Heating (not compatible with universal 90-264VAC or POE supplies)

No enclosure heating	N
115VAC enclosure heating	H1
230VAC enclosure heating	H2

Specify option [#11] - RS232/RS485/RS442 interface

No RS232/RS485/RS422 interface fitted	N
1 x RS232/RS485/RS422 interface fitted	1
2 x RS232/RS485/RS422 interfaces fitted	2

Specify option [#12] - Dual IEEE802.3af POE outputs (not compatible with POE supply)

No POE outputs	N
Two POE outputs fitted	P

7 Certification

Specialists for intrinsically safe & explosion proof equipment

EC Declaration of Conformity

Extronics Ltd, Meridian House, Roe street, Congleton, CW12 1PG UK

Declare under sole responsibility that the product;

iWAP103

To which this declaration relates is in accordance with the provision of the following directives

94/9/EC Equipment and protective systems intended for use in potentially explosive atmospheres.

89/336/EEC CE Marking for Electromagnetic Compatibility Directive

73/23/EEC Low Votlage Directive

And is in conformity with the following standards or other nominative documents

EN60079-0:2006	Electrical apparatus for explosive gas atmospheres - General requirements
EN60079-1:2007	Electrical apparatus for explosive gas atmospheres - Flameproof enclosures 'd'
EN61241-0:2006	Electrical apparatus for use in the presence of combustible dust - General requirements
EN61241-1:2004	Electrical apparatus for use in the presence of combustible dust - Protection by enclosures "tD"
EN61010-1:2001	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements
EN55022:1998	(+A1:2007) Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN55024:1998	(+A2:2003) Information technology equipment - Immunity characteristics - Limits and methods of measurement

Signed Date : 10/12/08

Nick Saunders
Technical Services Manager

Extronics Ltd · Meridian House · Roe Street · Congleton · CW12 1PG · Tel +44 (0)1260 297274 Fax +44 (0)1260 297280 E-mail info@extronics.com Web www.extronics.com
Incorporated in England and Wales. Registration No. 3074287

Epsilon Compliance Services
Drury Lane, Drury, Buckley
CH7 3DU

Tel: +44 (0)1244 541551
Fax: +44 (0)1244 543888
www.epsilonex.com

EPSILON

1 **EC - Type Examination Certificate**

2 Equipment intended for use in potentially explosive atmospheres

3 Certificate Number: EPSILON 06 ATEX 2083

4 Equipment: iWAP101

5 Manufacturer: Extronics Limited

6 Address: Meridian House,
Roe Street
Congleton CW12 1PG. UK.

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Epsilon, Notified Body number 1712 in accordance with Article 9 of the Council directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the directive

The examination and test results are recorded in confidential report no; RETS(A)1775/A/1

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 incl A1 + A2
EN 50018:2000 incl A1

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

12 The marking of the equipment shall include the following:

Ex II 2 G EEx d IIB + H_2 T5 (Ta 55°C)
or T6 (Ta 40°C)

On behalf of Epsilon

S L Clarke MSc.
Director

Date: 23 September 2006

This certificate may only be reproduced in its entirety and without any change, schedule included.
The certificate is only valid when it carries an original signature and holographic security label.
For help or assistance relating to this certificate, contact cs@epsilon-ltd.com.

Epsilon Compliance Services Limited is a trading name of Epsilon Technical Services Limited

UKAS
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Epsilon Compliance Services
Drury Lane, Drury, Buckley
CH7 3DU

Tel: +44 (0)1244 541551
Fax: +44 (0)1244 543888
www.epsilonex.com

13 **Schedule**

14 Certificate Number: EPSILON 06 ATEX 2083

15 Description of Equipment or protective system

The iWAP101 is a universal EEx d wireless LAN solution. The wireless LAN equipment is house in a metal component approved flameproof enclosure (CESI 01 ATEX 034U) suitable for gas environments. Other equipment can also be housed in the EEx d enclosure such as power supplies, media converters and PCB's(see drawing number 314546 for details).

16 Descriptive Documents

16.1 Report No: RETS(A)1775/A/1

16.2 Drawings:

Number	Date	Issue	Description
314596	10/08/06	01	iWAP101 ATEX Label Drawings
314546	10/08/06	REL01	Generic iWAP101
311980	09/03/06	REL01	iWAP101LR Generic

17 Conditions of Certification

17.1 Special Conditions for Safe Use
None.

17.2 Conditions for Use
None

18 Essential Health and Safety Requirements
Essential Health and Safety Requirements not covered by section 9: covered by manufacturer's instructions.

The manufacturer shall inform the notified body of any modifications to the design of the product described by this schedule

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Epsilon Compliance Services Limited is a trading name of Epsilon Technical Services Limited

Epsilon Compliance Services
Deeside Lane, Chester
CH1 6DD

Tel: +44 (0)1244 882590
Fax: +44 (0)1244 882599
www.epsilonex.com

Epsilon

Supplement to EC – Type Examination Certificate

Certificate Number: 06 ATEX 2083 Dated: 23rd January 2008

Variation Number: 04

Variation Detail:

To Permit:

1. Change of name to become the iWAP103.
2. Addition of gas group IIC and upgrade to EN60079-0:2006 and EN60079-1:2007 with the coding becoming

II 2 G Ex d IIC T6 at T_{amb} +40°C
T5 at T_{amb} +55°C

3. Addition of dust standards EN61241-0:2006 and EN61241-1:2004 with the coding becoming

Ex tD A21 IP66 T85°C at T_{amb} +40°C
T100°C at T_{amb} +55°C

Descriptive Documents:

Report No: RETS(A) 2335/A/1, 2335/A/2, 2335/A/3 and 2335/A/4

Drawings:

Only the drawings that have changed from the original schedule are listed.

Number	Sheets	Date	Issue	Description
314548	1 of 1	10/12/07	REL02	Typical iWAP103 General Arrangement
314596	1 of 1	10/12/07	02	iWAP103 ATEX Label Drawing

Additional Conditions of Certification:

None

Additional Special Conditions for Safe Use:

None

On behalf of Epsilon

S D'Henin
Certification Manager

Date: 15 April 2008

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For help or assistance relating to this variation, contact cs@epsilonex.com.

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8 Manual Revision

Revision	Description	Date	By
01	Initial Release	7/04/2008	AJR
02	Added Compliance Information	15/10/2008	AJR
03	Added Dis-Assembly Instructions / Updated Thermostat Controls / RS485 Pins Descriptions / Added complete ATEX certificate / added EC declaration of conformity	10/12/08	JE / AJR
04	Added additional installation instructions	16/02/09	JE