iWAP107

Zone 1 Universal Access Point Enclosure

- Wireless access point enclosure system
- Intrinsically safe RF outputs
- Explosion proof
- ATEX / IECEx Zone 1 certified
- US & Canada Class I Div 1 / Zone 1 certified

The iWAP107 is an ATEX / IECEx Zone 1 and Class I Div 1 / Zone 1 approved Access Point Enclosure system with intrinsically safe RF outputs, specifically designed to allow the deployment of wireless networks in hazardous areas. The concept allows installation of equipment from leading WLAN vendors such as Cisco, Aruba, and Siemens, meaning that the user may select the vendor of their choice when extending a WLAN to hazardous areas.

Galvanically isolated RF outputs

The RF outputs of the iWAP107 are galvanically isolated to make them intrinsically safe, allowing users to choose non-certified antennas for use with their wireless hardware – such as the Extronics iANT2xx range of high quality rugged outdoor antennas. Any antennas not listed in the Extronics range must be assessed by the user to ensure they meet the requirements for installation of non-electrical equipment in hazardous areas.

Gigabit Ethernet

The iWAP107 supports 100/1000Base-T, offering a significant increase in speed over the older fast Ethernet standard.

Optional surge arrestor

Protects equipment by providing lightning suppression in outdoor installations.

Choice of infrastructure

New hardware is fully assessed by Extronics to ensure it is fully compliant with the certification, giving you a choice of infrastructure vendor and making the solution future-proof.

MIMO Radio

Up to eight antennas can be utilized, allowing the MIMO functionality of the latest 802.11n/ac compatible wireless access points to be implemented, providing optimum coverage and maximum data throughput. This also gives higher immunity to signal interference, for better performance in industrial environments.

Extended temperatures

Certified temperature range of -40°C to +60°C (-40°F to +140°F) for the most extreme environments (depending on variant ordered).

Optional single or multimode fibre optic inputs

1000BaseFX/LX10 fibre options, enabling extended Ethernet link distances.

Extronics Limited
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Specification

Certification	Ⓔx II 2 (1) GD Ex d [ia IIC Ga] IIB+H2 T5 Gb Ⓔx II 2 (1) GD Ex tb [ia Da] IIIC T100°C Db MET Class I, II, Div 1, Groups B-G MET Class I, II, Zone 1/21 Groups IIB+H2, III
Power supply	120VAC or 230VAC (+/- 10%) IEEE802.3at PoE
Maximum power consumption	Basic configuration: 25W With heaters: 125W
Enclosure material	Marine grade copper-free aluminium light alloy, epoxy powder coated 316L Stainless Steel (optional)
Ingress protection	IP66
Weight	Aluminium - c. 26.5kg (POE version) 316L Stainless Steel - c. 70kg (hardware dependant)
Dimensions	Aluminium - 415 x 315 x 250mm (16.34 x 12.4 x 9.84in) 316L Stainless Steel - 415 x 315 x 253mm (16.34 x 12.4 x 9.96in)
Temperature	Ambient temperature depends on variant, see order information
Relative humidity	0 to 95%, non-condensing
Input connections	1 x AC power cable entry with screw terminals 1 x PoE power / data 10/100/1000Base-T Ethernet on RJ45 socket **or** 1 x Single or Multi mode fibre input on LC connector & Splice Tray **Note: MET enclosure entries are via 1/2" NPT drilled entries** **all other variants are via M20 x 1.5-6H drilled entries**
Ethernet link distance	**10/100/1000BASE-T** Ethernet on CAT6: up to 100m **1000BASE-FX** Multi Mode fibre : up to 2km, wavelength 1310nm **1000BASE-LX10** Single mode fibre: up to 10km, wavelength 1310nm
Output connection	Up to eight galvanically isolated N-Type RF outputs. Please note it is the customer's responsibility to ensure the maximum values for RF Threshold power as per Table 4.0 of IEC 60079-0: 2011 are not exceeded. The maximum RF output of the wireless transmitter and antenna gain must be taken into account when installing equipment.

Typical internal RF loss (between output of access point and external N-type connector)

Frequency band	Insertion loss (dB)	Loss including surge arrestor (dB)
150MHz – 1GHz	0.3	0.45
1GHz – 3.5GHz	0.46	0.61
3.5GHz – 6GHz	1.09	1.24
6GHz – 8GHz	1.41	1.66

Spot frequency	Insertion loss (dB)	Loss including surge arrestor (dB)
400MHz	0.12	0.24
900MHz	0.16	0.31
2.45GHz	0.48	0.61
5.5GHz	1.28	1.43

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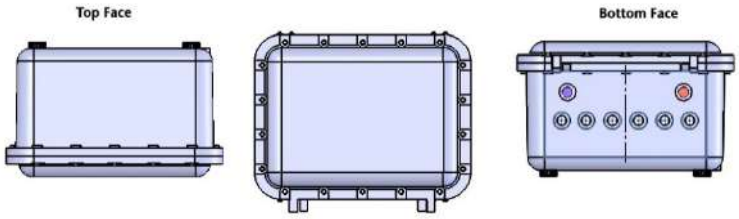
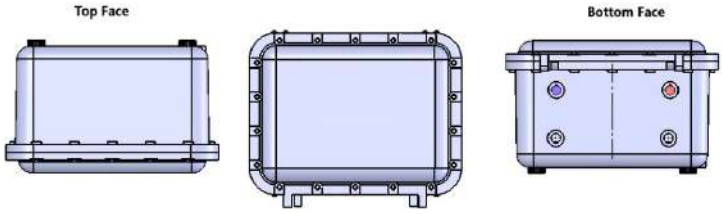
Antenna locations

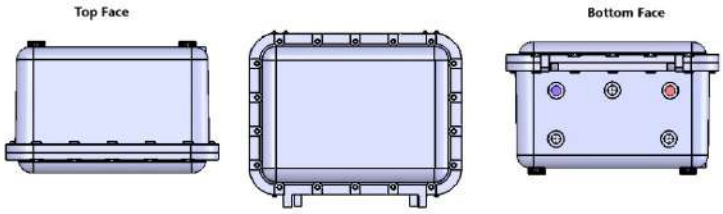
In order that customers enjoy the best possible wireless performance from their iWAP107 system we recommend that, where possible, antennas are remotely mounted as high as possible and with sufficient separation. It is recognised that in some instances remote mounting of antennas is not a feasible option and for these circumstances we have optimised the antenna positions for the various configurations. When completing the order information for **option [#11]** overleaf, you must specify remote or direct mounted antennas. The RF connections will then be supplied as shown in the diagrams below depending on the total number of RF ports selected for your device.



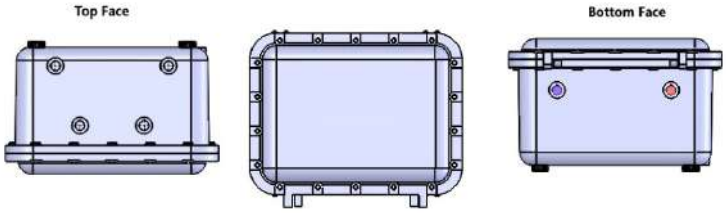
Remote mount – up to 6 antennas plus data and power outlets



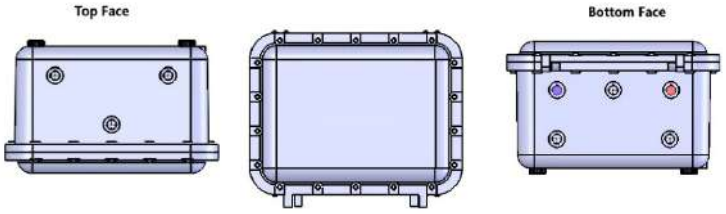
Direct mount – 2 antennas plus data and power outlets



Direct mount – 3 antennas plus data and power outlets



Direct mount – 4 antennas plus data and power outlets



Direct mount – 6 antennas (3 bottom and 3 top) plus data and power outlets

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Ordering Information:

iWAP107 -[#1]-[#2]-[#3]-[#4]-[#5]-[#6]-[#7]-[#8]-[#9]-[#10]-[#11]-[#12]

Specify option [#1] – certification type

ATEX / IECEx	AI
MET CI / D1	USG
MET CII / D1	USD
MET CI/II, Zone 1/21	CA

Specify option [#2] – wireless network hardware supply

Extronics can supply the wireless hardware, or alternatively you may wish to 'free issue' (supply and deliver to Extronics at your cost) one of the already assessed solutions (see option #3), which we can factory fit.

Hardware supplied by customer	C
Hardware supplied by Extronics	E

Specify option [#3] – wireless network hardware type

Maximum operating temperature listed in brackets only applies to PoE powered units; take a lower value if powered by AC. If the heater option is selected this will allows APs to operate at a lower ambient indicated on the certificate

Aruba AP-220 series access point (0°C to +40/45°C)	41
Aruba IAP 204 access point (-20°C to +60°C)	51
Aruba AP-228 access point (-40° C to +60° C)	59
Cisco AP1530 series access point (-20°C to +55/60°C)	39
Cisco AP1600 series access point (-20°C to +45/50°C)	36
Cisco AP2600 series access point (-20°C to +45/50°C)	37
Cisco AP2702EAV.9 access point (-20 to +50°C)	52
Cisco AP3600 series access point (-20°C to +45/50°C)	38
Cisco AP3700 series access point (-20°C to +40/45°C)	45
Siemens Scalance W770 series access point (-20°C to +60°C)	53
Siemens Scalance W788 series access point (-20°C to +60°C)	54
New wireless hardware – order code to be advised	TBC

Specify option [#4] – power supply

120 VAC supply	AC1
230 VAC supply	AC2
IEEE802.3at compliant Power-over-Ethernet (chosen hardware must be compatible with PoE supply)	POE

Specify option [#5] – Ethernet connection

100/1000Base-T Ethernet on CAT6 copper	C
100/1000Base-T Ethernet on CAT6 copper (surge protected)	CS
Multimode 1000BASE-FX fibre with LC connector	FG
Single mode 1000BASE-LX10 fibre with LC connector	SG

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Specify option [#6] – isolated output for radio 1

150MHz to 8GHz	501

Specify option [#7] – number of antenna outputs for radio 1

0/1/2/3/4 off, CT-01	0/1/2/3/4
0/1/2/3/4 off, CT-01 with surge protector	0S/1S/2S/3S/4S

Specify option [#8] – isolated output for radio 2

Not required	N
150MHz to 8GHz	501

Specify option [#9] – number of antenna outputs for radio 2

0/1/2/3/4 off, CT-01	0/1/2/3/4
0/1/2/3/4 off, CT-01 with surge protector	0S/1S/2S/3S/4S

Specify option [#10] – enclosure heating (not compatible with POE supplies)

No enclosure heating	N
Supplied with enclosure heating	H

Specify option [#11] – antenna position (see previous page for antenna layout pattern, which relates to total number of RF outputs)

Remote mount	R
Direct mount	D

Specify option [#12] – enclosure material

Marine grade copper-free aluminium light alloy	AL
316L stainless steel	SS

Accessories:

iANT2xx range of rugged simple apparatus antennas	IANT2xx
316L stainless steel pipe mount bracket kit for iWAP107, to fit 1.5 – 2” diameter pipe or rectangular post	IWAPMB03

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