

## iWAP300-M Industrial Wireless MESH Ethernet



**Industrial wireless MESH Ethernet router for use in potentially harsh, wet, and corrosive environments**

**Ambient temperature range -40° to 70°C**

**Note that this temperature is dependent on whether the enclosure heating or cooling option is fitted**

**IP66 protection**

**316L stainless steel construction**

**Optional serial and 802.3af POE interfaces**

### Overview

The iWAP300M industrial Wireless MESH Ethernet Routers provide reliable Ethernet and optional serial data connectivity over a high-performance, self-forming wireless mesh backbone - indoors, outdoors, or onboard moving vehicles. Powered by Firetide they have one Ethernet port for connecting network devices such as an IP Camera or other networks to the wireless mesh. iWAP300 mesh nodes provide up to 70 Mbps throughput and operate at 2.4 GHz, 4.9 GHz (U.S. public safety licensed band), or 5 GHz. Depending on the model, iWAP300 nodes are equipped with either single or dual radios, operating at up to 400 mW.

#### Reliable Connectivity Anywhere

Designed for seamless indoor and outdoor operation, the mesh network securely handles concurrent video, voice, and data applications, making it ideal for industrial networks. The mesh's self-forming and self-healing properties enable rapid deployment and dependable operation. Firetide's AutoMesh routing protocol manages network load and traffic congestion to optimize mesh-wide performance and capacity.

#### Dual-radio Performance

To maximize performance, dual-radio iWAP300 nodes support two radio modes. In the "bonded" mode, both radios are combined to operate as a single unit that provides double the bandwidth of a single radio equivalent. This is ideal for bandwidth-intensive applications such as video surveillance, resulting in crystal clear video images. This mode also provides a "fat pipe" for point to point wireless backhaul - for example, to connect two mesh networks or creating a point to point link between two sites. In the "linear" mode, both radios operate independently enabling sustained bandwidth levels over an unlimited number of hops. This enables long linear topologies, such as when networking a railway line, and provides a sustained level of service to every node, which is also critical for large municipal networks.

#### Designed For Extreme Environments

The Extronics iWAP300 is designed for use with one or two standard antennas or Extronics iANT200 series of intrinsically safe antennas for optimum coverage on Chemical Plants, Oil Refineries or Oil & Gas Platforms. Optional features include surge arrestors for lightning suppression in outdoor installations, multimode fibre inputs for the Ethernet, enclosure heating and cooling for extreme ambient temperatures and anti-condensation plus the option of plug and socket cable entry instead of cable glands.

### Features and Benefits

#### Single Infrastructure for Multi-user, Multi-service Wireless Network

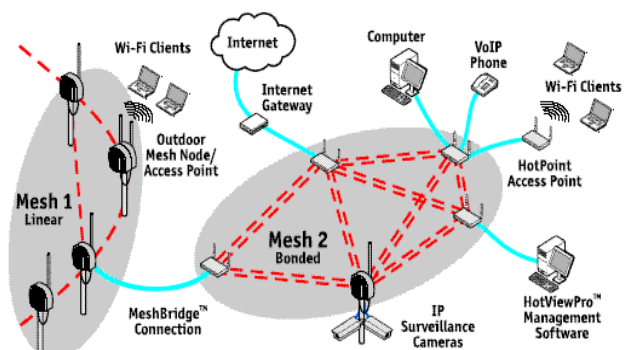
The Firetide mesh solves the problem of having to build out dedicated wireless networks for multiple applications and users. With iWAP300-M nodes, you can build a single infrastructure for site safety video, Wi-Fi access, enterprise VPN, and voice traffic, dramatically reducing return on investment in the wireless backbone.

#### Convenient Network Expansion

You can extend your existing network, whether wired or wireless, with iWAP300 nodes and achieve seamless integration with all network components and applications.

#### Advanced Mesh Security

End-to-End security in the iWAP300 mesh nodes ensure maximum safety and privacy of your data. They feature WEP and WPA2 encryption between nodes and AES encryption from ingress to egress. All Layer 3 IP data is encapsulated and accessible only to Firetide mesh nodes. iWAP300-M nodes support VLANs, segmenting traffic with secure access control on same physical infrastructure.



## Specification

<b>Power Supply</b>	Universal 90-264VAC or 24VDC (If heating and/or is used AC voltage is not universal voltage, only 115VAC or 230VAC may be used)																								
<b>Maximum Power Consumption</b>	Without heating or cooling 19W With cooling 24W With heating and cooling 124W																								
<b>Enclosure Material</b>	316L Stainless Steel																								
<b>Ingress Protection</b>	IP66																								
<b>Weight</b>	Approximately 10 Kg																								
<b>Dimensions</b>	323 (390 including mounting plate) x 286 x 300 mm (h x w x d)																								
<b>Environmental</b>	Operating temperature: Without heating or cooling -20°C to 55°C With cooling -20°C to 70°C With heating and cooling -40°C to 70°C  Storage temperature; -20°C to 70°C  Relative humidity; 0 to 95%, non condensing																								
<b>Input Connections</b>	10/100BaseT Ethernet on RJ45 socket and screw terminals 115V/230VAC input option on screw terminals 24VDC input option on screw terminals Multimode fibre input option on ST connectors Note that connectors may be specified as an option in the ordering data																								
<b>Output Connections</b>	Dual energy-limited external RF outputs via N-type RF connectors with optional lightning arrestors																								
<b>Security &amp; Encryption</b>	MAC filtering, WEP keys of 40, or 104 bits, WPA2, AES, digitally signed firmware files, digital certificates on nodes																								
<b>Frequency Ranges</b>	2.412-2.483 GHz 4.94-4.99 GHz (US public safety band) 5.15-5.25 GHz 5.25-5.35 GHz 5.470-5.725 GHz 5.725-5.825 GHz																								
<b>Receive Sensitivity (typical)</b>	<table border="1"> <thead> <tr> <th colspan="3"><b>Maximum Layer 3 Data Throughput (OFDM Modulation)</b></th> </tr> <tr> <th><i>Mbps (Dual Radio)</i></th> <th><i>Mbps (Single Radio)</i></th> <th><i>Receive Sensitivity (dBm)</i></th> </tr> </thead> <tbody> <tr> <td>48</td> <td>24</td> <td>-73</td> </tr> <tr> <td>36</td> <td>18</td> <td>-75</td> </tr> <tr> <td>22</td> <td>11</td> <td>-79</td> </tr> <tr> <td>12</td> <td>6</td> <td>-82</td> </tr> <tr> <td>4</td> <td>2</td> <td>-85</td> </tr> <tr> <td>&lt;1</td> <td>&lt;1</td> <td>-87</td> </tr> </tbody> </table>	<b>Maximum Layer 3 Data Throughput (OFDM Modulation)</b>			<i>Mbps (Dual Radio)</i>	<i>Mbps (Single Radio)</i>	<i>Receive Sensitivity (dBm)</i>	48	24	-73	36	18	-75	22	11	-79	12	6	-82	4	2	-85	<1	<1	-87
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<b>Transmit Power</b>	+10dBm (10mW) to +26dBm (400mW), variable in 1 dBm increments																								
<b>Internal Losses From Antenna Connector To RF Transmitter (losses due to ATEX requirements)</b>	2.4GHz = 1.55dB (add 0.5dB if surge arrestors are fitted) 5GHz = 2.8dB (add 0.8dB if surge arrestors are fitted)																								
<b>Antennas</b>	Any Suitable Antenna e.g. Extronics iANT200 series																								

## Ordering Information

### iWAP300-M Industrial MESH Router

iWAP300-M-[#3]-[#4]-[#5]-[#7]-[#8]-[#9]-[#10]-[#11]-[#12]

#### Specify option [#3] - Number of Radios

Single Radio	1
Dual Radio	2

#### Specify option [#4] - Power Supply

Universal 90-264VAC (If heater option [#8] selected the unit is not universal voltage, either 115 or 230VAC)	AC
24V DC	DC

#### Specify option [#5] - Ethernet Connection

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

#### Specify option [#7] - 2 x Antenna Lightning Protection For Option [#3]

No Surge Arrestors	N
Surge Arrestors Fitted	S

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

No enclosure heating	N
230VAC enclosure heating	H1
115VAC enclosure heating	H2
24VDC enclosure heating	H3

#### Specify option [#9] - Enclosure Cable Entry

Cable glands fitted	G
Quick Release Sockets fitted (Not for fibre optic input)	S

#### Specify option [#10] - Enclosure cooling (not compatible with POE supply)

No enclosure cooling	N
Enclosure cooling fitted	C