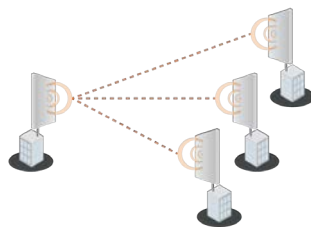# APC 5M-90

deliberant

The APC 5M-90 delivers the highest performance and stability available in the 5 GHz Base Station class class. This product combines a robust   IP-65 compliant enclosure with a highly advanced 802.11n radio core containing MIMO 2x2 technology along with an integrated high gain dual polarized 90° sector antenna. The device is powered by a reliable, advanced, and feature-rich operating system, allowing the creation of very high throughput and stable wireless networks quickly, safely, and effectively.   In addition, the APC 5M-90 supports client operating mode which extends application scenarios, but the main advantage of this model is a base station with a professional integrated antenna.

The robust software engine allows the APC 5M-90 to work as bridge or as a router, provides a user-friendly Adobe Flex - based GUI with instant changes, includes useful installation tools (Site survey, Antenna alignment, Delayed reboot, Spectrum analyzer, ping, traceroute) and also is compatible with Wireless Network Management System for one of the most advanced management tools on the market.

Usage examples

PTMP

Deliberant APC 5M-90 is an ideal device for point-to-multiple point applications as a powerful base station device.

PTP

Not applicable.

Product/ distance recomendation	PTMP mode	PTP mode	PTP mode (full capacity)
APC 5M-90	7 km/ 4.35 mi	N/A	N/A

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FUNCTION

APC 5M-90

Wireless

WLAN standard	IEEE 802.11 a/n, iPoll (proprietary)
Radio mode	MIMO 2x2
Operating modes	Access point (auto WDS), Station, Station WDS, iPoll Access Point, iPoll Station
Radio frequency band	5.1 - 5.9 GHz (country dependent - FCC 5.745 to 5.825 GHz)
Transmit power	Up to 29 dBm (country dependent)
Receive sensitivity	Varying between -95 and -75 dBm depending on modulation
Channel size	20, 40 MHz
Modulation schemes	802.11 a/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Data rates	802.11 n: 300, 270, 240, 180, 120, 90, 60, 30 Mbps
	802.11 a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
Error correction	FEC, Selective ARQ
Duplexing scheme	Time division duplex

Receive sensitivity (dBm)	802.11 N/ iPoll	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		-93	-91	-89	-86	-83	-79	-77	-75
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		-93	-91	-89	-86	-83	-79	-77	-75
	802.11a	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
		-95	-94	-92	-90	-87	-84	-79	-77

Output power (dBm)	802.11 N/ iPoll	15 Mbps	30 Mbps	45 Mbps	60 Mbps	90 Mbps	120 Mbps	135 Mbps	150 Mbps
		29	29	29	29	28	28	27	27
		30 Mbps	60 Mbps	90 Mbps	120 Mbps	180 Mbps	240 Mbps	270 Mbps	300 Mbps
		29	29	29	29	28	28	27	27
	802.11a	6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
		29	29	29	29	28	28	27	25

Antenna

Type	Integrated directional dual-polarized 90 degree sector (at 6 dB)
Gain	18 dBi

Wired

Interface	10/100 Base-T, RJ45

Networking

Operating modes	Bridge, Router
WAN	Static IP, DHCP client, PPPoE client
NAT	Routing w/ or w/o NAT
Static routing	Supported
DHCP	Client, Server, Relay
Port forwarding	Supported
VLAN	Supported for management and data

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FUNCTION

Softwave

General	Ability to define/limit frequency, channel width, EIRP, modulation
Advanced wireless functionality	ATPC (automatic transmit power control), DFS 3, auto-channel, auto-modulation,
Operating mode	Router, Bridge
Wireless operating modes	AP auto WDS, Station, Station WDS, Virtual radios (VSSID), iPoll access point, iPoll client
Wireless security	WPA/WPA2 Personal, WPA/WPA2 Enterprise, WACL, User isolation, UAM (web portal authentication)
Wireless QoS	WMM
WAN protocols	Static IP, DHCP client, PPPoE client
Network	NAT, static routing, firewall, port forwarding, VLAN, traffic shaping
Services	DHCP server, SNMP server, NTP client, Alerts, Remote syslog, Wireless and Ethernet statistics, bandwidth limiting
Management	HTTP(S) GUI, SSH CLI, SNMP read, WNMS, troubleshooting file, reset via reset tool
Tools	Site survey, Link test, Antenna alignment, Ping, Traceroute, Spectrum analyzer, delayed reboot

Physical

Dimensions	Length 430 mm (16.9 ''), width 150 mm (5.9 ''), height 40 mm (1.6 '')
Weight	1000 g (2.2 lb)
Power supply	12 - 48 V DC passive PoE
Power source	100 – 240 VAC via included adapter
Power consumption	6.5 W

Environmental

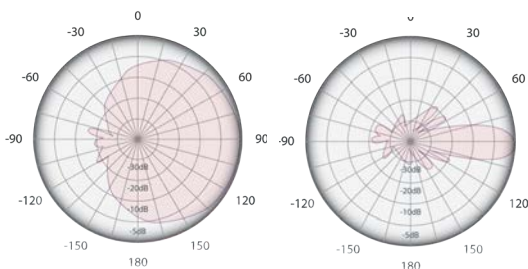|	
Operating temperature	-40°C (-22 F) ~ +65°C (+149 F)
Humidity	0 ~ 90 % (non-condensing)

Management

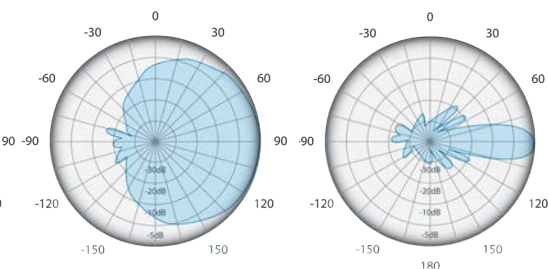|	
System configuration	User-friendly web GUI, Command line via SSH, centralized Wireless Network Management System, reset via reset tool
System monitoring	SNMP v1/2c/3 server, Syslogs, system alerts via e-mail and SNMP trap

Regulatory

Certification	FCC/CE/Safety/ RoHS

Antenna specifications

RF patterns (vertical)

RF patterns (horizontal)

Frequency range	5.1 - 5.9 GHz
Gain	18 dBi
Polarization	Dual linear
Cross-pol Isolation	24 dBi
Max VSWR	1.7:1
H-pol Beamwidth (6 dB)	90 deg
V-pol Beamwidth (6 dB)	90 deg
Elevation Beamwidth	20 deg

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FUNCTION