comnet
Communication Networks

netwave®

HARDENED	5GHz 802.11AC	PSE IEEE802.3af	PD	IP67	GIGABIT ETHERNET
-40° TO +70°	802.11ac	15W	802.3af/at	IP67	2

The NetWave® NWK9[E] ultra-high throughput, impact-resistant hardened wireless Ethernet transmission kit comes preconfigured with one Client and one Access Point. This single radio model was designed for high throughput point-to-point applications and comes with an integrated 19dBi, 17° beamwidth antenna. The NWK9[E] supports up to 500 Mbps throughput using 802.11ac MIMO technology. The units can be powered by an 802.3af/at PoE compliant device or through a sold-separately PoE injector with the second Ethernet port serving as an IEEE802.3af power source. The NWK9 is FCC certified for use in North America and the NWK9E is ETSI, DFS and TPC certified for use in the European Union.

FEATURES

› Up to 500 Mbps throughput

› Lifetime Warranty

› Sturdy cast aluminum enclosure

› IEEE802.3at PoE Compliant PD

› Over current protection and 3 layers of Ethernet surge suppression on the PD port

› 802.11ac Compliant

› Distances up to 2 mi (FCC) or 2 km (ETSI)

› Distances up to 4 mi (FCC) with MAC Lock enabled

› Environmentally Hardened -40° to +70°C

› Meets class IP67 dust and water immersion protection standards

› ETSI Standards (EU Region only):
  – DFS Dynamic Frequency Selection
  – TPC Transmit Power Control

› Secure transmission: WPA2 – AES or TKIP encryption

› ComNet Antenna alignment feature eases installation and setup

› RF Spectrum Survey Tools

› Antenna Alignment Tools

› LED array displays unit operational status along with received signal strength

APPLICATIONS

› High Throughput Back Haul Link for installations that require connecting to more than one Ethernet device

› Ideal for PoE Camera connectivity

› Simple to deploy and cost-effective alternative to physical connections to Ethernet edge equipment

› Integration of Ethernet where right-of-way issues mandate wireless communications

› ITS traffic signalization networks and Video Detection Systems (VDS)

› Multicast traffic-based video systems

› ITS roadside and city center CCTV surveillance, and surveillance of high-value or mission-critical assets

› Wireless communications in manufacturing, petrochemical refineries, wastewater treatment facilities, and other industrial automation and control applications operating in harsh or out-of-plant environments

› Electrical substation video and perimeter surveillance

SPECIFICATIONS

5GHz Wireless Radio

EIRP	NW9 (FCC): +49dBm for point to point deployments with MAC-lock feature enabled NW9E (ETSI): +30dBm
RF Output	+30dBm Rated Transmitter
Operational Frequency	5180MHz – 5825MHz, Region-dependent. Not all frequencies are supported in all regions. Contact ComNet for frequencies supported in your region.
Bandwidths	10, 20, 40, and 80MHz

Internal Antenna

Antenna	Internal 19dBi Dual Polarized Directional
Gain	19dBi
Azimuth	17° Horizontal/Vertical
Elevation	17° Horizontal/Vertical

Connectors

Gigabit Ethernet	2 × RJ-45, Sealed Cable Gland

AGENCY COMPLIANCE

FC PART 15 COMPLIANT   CE   RoHS COMPLIANT

Low Power Consumption

Software Features

Addressing	Static IP / DHCP Client / DHCP Server
SNMP	V3
Spanning Tree Protocol support	
Telnet Server	
Syslog	
802.1x Port-Based Network Access Control	
NTP Client	
User-Configurable Watchdog and Auto-Reboot Mechanism	
Multi-Level Configuration and Monitoring Login Accounts	
User Configurable Long Range Parameters	

Power

Operating Power	48 to 57 VDC @ 170 mA
Power Consumption	8 W Max (with no PD load connected to port 2)
PD Power	IEEE802.3af/at PD compliant
PSE Power	IEEE802.3af PSE compliant

Mechanical

Indicating LEDs	Power On Ethernet Link Signal Strength
Size (L × W × H)	10.27 × 10.27 × 1.38 in (26.1 × 26.1 × 3.5 cm)
Shipping Weight:	<11 lb / 5 kg

Environmental

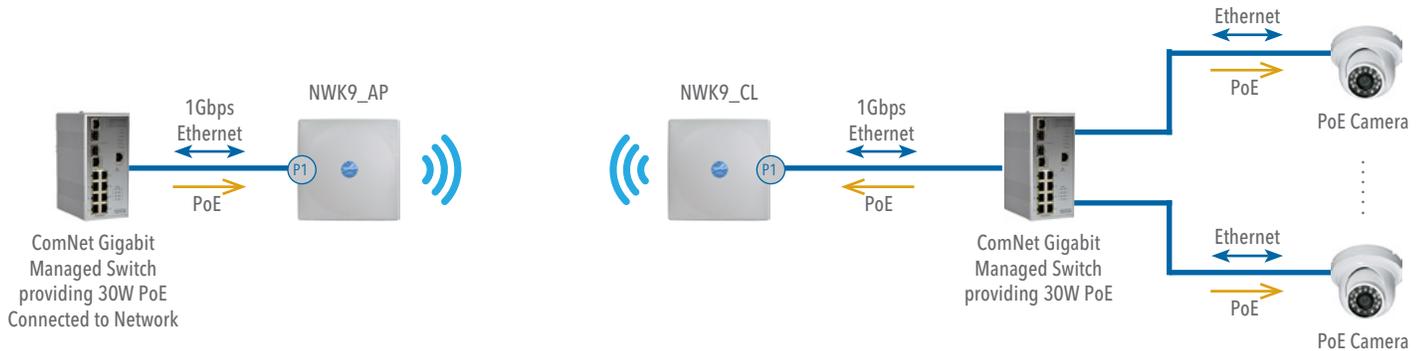|	
MTBF	>100,000 hours
Operating Temp	-40° C to +70° C
Storage Temp	-40° C to +85° C
Relative Humidity	5% to 95%, non-condensing[1]

ORDERING INFORMATION

Part Number	Description
NWK9	Hardened Radio Kit with one Access Point (NWK9_AP) and one Client (NWK9_CL), FCC certified for use in NA Region
NWK9E	Hardened Radio Kit with one Access Point (NWK9_AP) and one Client (NWK9_CL), ETSI certified for use in EU Region
Included Accessories	Mounting Hardware Kit (For Pole Mounting Only)
Options	CNGE1IPS - 35W PoE Injector (sold separately) [1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)

NOTE: In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

Ultra-High Throughput, Impact-Resistant Hardened Wireless Ethernet Kit

TYPICAL APPLICATIONS

High Throughput Point-to-Point Topology (Shown with PoE Cameras)

1Gbps Ethernet
PoE
NWK9_AP
NWK9_CL
1Gbps Ethernet
PoE
Ethernet
PoE
PoE Camera
Ethernet
PoE
PoE Camera

ComNet Gigabit Managed Switch providing 30W PoE Connected to Network

ComNet Gigabit Managed Switch providing 30W PoE

LEGEND

Symbol	Description
((	Wireless
—	Cat5
←	Power
↔	Ethernet

P1 PORT 1 PD
P2 PORT 2 PSE

Point-to-Point Topology (Shown with PoE Injector and PoE Powered Cameras)

1Gbps Ethernet
PoE
NWK9_AP

ComNet Managed Switch with 30W PoE Connected to Network

NWK9_CL
Ethernet
PoE
CNGE1IPS or any PSE device
Ethernet
Power
IP Camera
Ethernet
PoE
PoE Camera

05 Nov 2015