kynetech

Industrial Wireless Mesh Bridge K7100-Mesh

An industrial wireless Mesh bridge for complex environments. It supports self-organizing, multi-hop transmission with high resilience, enabling reliable voice, data and video networking in remote or off-grid areas.



Product Core Positioning

A decentralized self-organizing wireless solution for field, emergency and multi-hop scenarios. It delivers wide-area coverage and anti-interference transmission, solving communication blind spots and wiring challenges.

Core Technical Advantages

◎Self-organizing Mesh Self-healing Network

Supports self-organizing and multi-hop transmission with up to 18 hops, compatible with star, chain and hybrid topologies, enabling rapid construction of highly resilient wireless mesh networks.

◎Dual-band Long-distance Coverage

38dBm transmit power with omnidirectional antenna achieves 1.5-5km effective coverage; supports 2×2 MIMO and OFDM modulation with 80-500MHz channel bandwidth for strong transmission performance.

◎Industrial High-reliability Protection

Ip67 protection grade, operating temperature from -80℃ to +65℃, dustproof, waterproof and resistant to high and low temperatures, suitable for extreme outdoor scenarios such as deserts and mountainous areas.

◎Large Capacity & Easy Expansion

Supports no less than 50 Mesh node access per network, with extendable 2.4G/5.8G WiFi to meet the simultaneous networking needs of large-scale devices.

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Core Function Introduction

01 **Self-organizing Mesh Networking:**
Multi-hop transmission with up to 18 hops, compatible with multiple topologies

02 **High-power Long-range Transmission:**
38dBm transmit power with omnidirectional antenna achieves 1.5-5km coverage

03 **Large-capacity Node Access:**
Supports no less than 50 Mesh nodes to meet large-scale networking needs

04 **Wide-temperature High Protection:**
IP67 protection grade, operating from -80℃ to +65℃

05 **Flexible Frequency Configuration:**
2.4GHz/5.8GHz dual-band with adjustable center frequency

06 **Multi-service Transmission: Supports simultaneous transmission of voice, data and video for monitoring and emergency scenarios**

07 **Low-power Stable Operation:**
Average power consumption 3-5W, long-term stable and reliable

Product Technical Parameters

Parameter category	Specific parameters
Networking Parameters	2.4GHz / 5.8GHz @4W MIMO 2×2, center frequency adjustable
Modulation Mode	OFDM BPSK/QPSK/16-QAM/G4-QAM
Transmit Power	38dBm
Receive Sensitivity	-102dBm @5MHz BPSK
Channel Bandwidth	80-500MHz
Effective Range	1.5-5 km (with elevated antenna)
Interface	Ethernet port
Antenna Configuration	Omnidirectional antenna, 60 cm length
Mesh Node Capacity	No less than 50 nodes
Mesh Hop Count	18 hops; topology types: star, chain, hybrid
Protection Grade	IP67
Operating Temperature	-80℃ ~ +65℃
Power Consumption	Average: 3-5W
Optional Features	Extendable 2.4G/5.8G WiFi
Device Weight	2.65kg

Application Scenarios & Benefits

Suitable for remote coverage, video monitoring and emergency command scenarios; quickly build highly resilient wireless transmission networks when public networks fail or in remote areas, ensuring stable backhaul of voice, data and video, reducing wiring costs and improving communication reliability in complex environments.