DATASHEET

CPE3-P • CPE5 • Base5i

Product Overview

The Lysora CCTV Bridge Series is designed for outdoor video surveillance and edge network backhaul scenarios. Through wireless point-to-point (PTP) and point-to-multipoint (PTMP) bridging, it helps integrators quickly establish camera backhaul links in environments where cabling is inconvenient, costly, or expensive to maintain.

The series centers on a combination of a 5 km base station for aggregation, a 5 km high-performance CPE, and a 3 km PoE-Out CPE. It also provides cloud-based planning, fast pairing, link testing, antenna alignment, and project sharing capabilities, lowering the barriers to solution design, on-site installation, and after-sales maintenance.

Features

- Enterprise-Grade Outdoor Protection
- Easy Installation and Alignment
- One-Touch Easy Pairing
- Bridge Heatmap Planning
- Triple Power Input Options
- Self-Organizing Network
- Cloud Management
- CPE3-P Dual PoE-Out

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Enterprise-Grade Outdoor Protection

Base5i, CPE5, and CPE3-P all support an IP55 protection rating, making them suitable for outdoor pole-mounted, wall-mounted, and outdoor low-voltage cabinet deployments. Base5i and CPE5 support an operating temperature range of -30°C to +65°C, while CPE3-P supports -30°C to +55°C. All three models support 5% RH to 95% RH non-condensing humidity environments. Their Ethernet ports support ±4 kV common-mode surge protection, and their power ports support ±4 kV common-mode / ±2 kV differential-mode surge protection, helping improve the long-term stability of outdoor CCTV backhaul links.

Easy Installation and Alignment

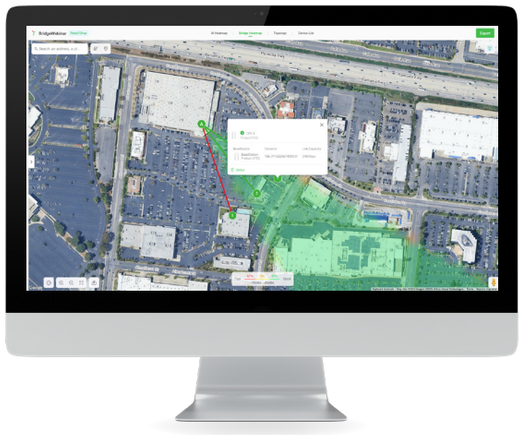
Base5i, CPE5, and CPE3-P all support wall-mounted and pole-mounted installation, making them suitable for CCTV sites such as camera poles, building exterior walls, and outdoor low-voltage cabinets. All three models support the Antenna Alignment feature and are equipped with three signal status indicators. Installers can adjust the direction and angle based on system alignment information and device indicator feedback, quickly confirming link signal status.

One-Touch Easy Pairing

One-Touch Easy Pairing simplifies initial setup in both PTP and PTMP scenarios. In point-to-point scenarios, installers can quickly pair two bridge devices. In point-to-multipoint scenarios, the base station can quickly connect to multiple CPEs, reducing repetitive device-by-device configuration and making large-scale CCTV site deployment more efficient.

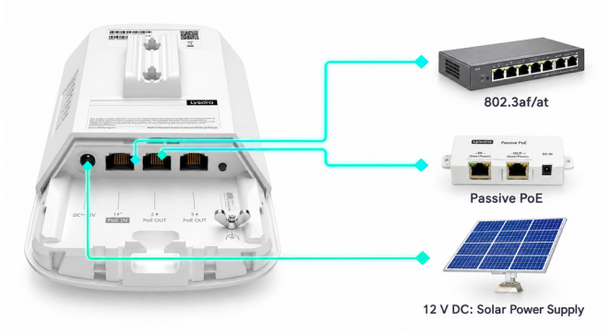
Bridge Heatmap Planning

Bridge Heatmap is used during the bridge solution design phase. Users can select sites on a map, view link distance, coverage performance, and bridge quality simulations, and receive recommended models. It turns traditional experience-based bridge selection into a more intuitive, visual, and report-ready planning process.



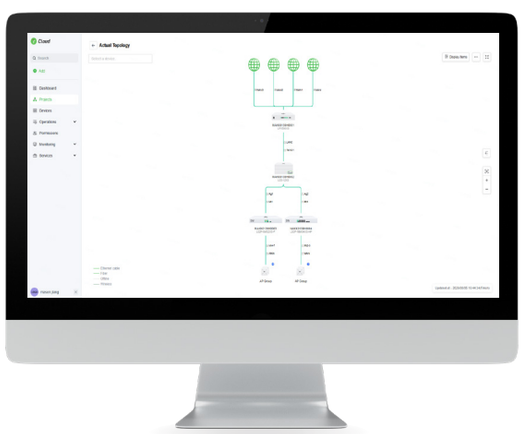
Triple Power Input Options

Base5i, CPE5, and CPE3-P support multiple power input options, including DC power, 24 V Passive PoE, and 802.3af/at standard PoE. This allows them to adapt to different site conditions such as solar power systems, outdoor low-voltage cabinets, Passive PoE injectors, and PoE switches. CPE3-P supports PoE-Out when powered by 24 V Passive PoE or 802.3at, but does not support PoE-Out when powered by 12 V DC or 802.3af.



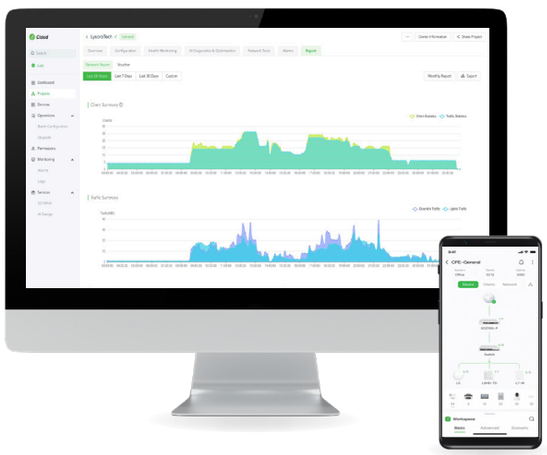
Self-Organizing Network

supports self-organizing network, which helps administrators complete project creation, device discovery, and unified device onboarding after deployment. For projects with multiple devices, this capability reduces repetitive per-device configuration, accelerates rollout, and gives administrators a clearer view of topology and centralized maintenance.



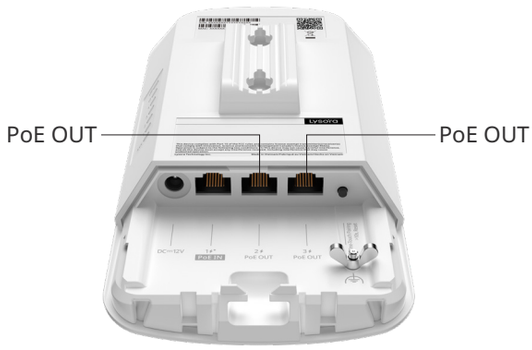
Cloud Management

The series supports Cloud, Web, and App management, allowing users to remotely view device online status, link status, and band/channel environments. It also works with Speed Test, Antenna Alignment, and Spectrum Scan for throughput testing, alignment, and interference troubleshooting. Project Share supports permission-based project sharing or handover, helping integrators reduce on-site troubleshooting and lower O&M costs for multi-site CCTV projects.



CPE3-P Dual PoE-Out

CPE3-P is equipped with two PoE-Out Ethernet ports and provides a 15.4 W PoE-Out power budget, allowing it to power downstream low-power devices such as cameras. This capability is supported in non-12 V DC power modes, such as 24 V Passive PoE or 802.3at power input. By powering devices directly through the bridge, it can reduce the need for additional PoE switches, lowering the number of devices in outdoor cabinets and simplifying cabling.



CPE3-P SPECIFICATIONS

Specifications

Overview	
Dimensions	198.8 mm x 102 mm x 53.4 mm (7.83 in. x 4.02 in. x 2.10 in.) (excluding mounting bracket)
Weight	0.37 kg (0.82 lbs) (without packaging materials) 0.91 kg (2.01 lbs) (with packaging materials)
Wi-Fi Standards	Wi-Fi 5 (IEEE 802.11ac), backward compatible with IEEE 802.11a/b/g/n standards
Spatial Streams	3
Coverage Area	3 km (1.86 miles)
Mounting Options	Wall/Pole
Hardware	
CPU	Single-core processor, 575/580 MHz clock frequency
Flash Memory	16 MB
RAM	64 MB
Networking Interface	3 x 10/100BASE-T ports
Wi-Fi Protocols	2.4 GHz: IEEE 802.11b/g/n 5 GHz: IEEE 802.11a/n/ac
MIMO	2.4 GHz: 1 x 1 SISO 5 GHz: 2 x 2 MIMO
Channel Width	2.4 GHz: 20/40 MHz 5 GHz: 20/40/80 MHz
Wireless Data Rate	2.4 GHz: 150 Mbps 5 GHz: 867 Mbps
Antenna Gain	2.4 GHz: 1.27 dBi 5 GHz: ANT1: 12.42 dBi ANT2: 12.68 dBi
–3 dB Azimuth Beamwidth	30°
–3 dB Elevation Beamwidth	30°
Max. Transmit Power (Conducted Output Power)	2400-2483.5MHz: e.i.r.p <= 36dBm 5150-5250MHz: e.i.r.p <= 36dBm 5250-5350MHz e.i.r.p <= 30dBm 5470-5725MHz e.i.r.p <= 30dBm 5725-5850MHz e.i.r.p <= 36dBm
Power Consumption	9 W (Without PoE Out) 24.4 W (With PoE Out)
Power Input	DC power adapter (24 V, 1.5 A) (adapter included) 24 V passive PoE injector (injector included) DC power adapter (12 V, 1 A) PoE/PoE+
PoE Power Pins	1-2 (+), 3-6 (-); 4-5 (+), 7-8 (-)
PoE Budget	15.4 W (PoE budget for two ports) When powered by 24 V passive PoE or 802.3at, the device can supply power to other devices via PoE. When powered by 12 V DC or 802.3af, the device cannot supply power to other devices via PoE.
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Receive Sensitivity	802.11b: –91 dBm (1 Mbps), –88 dBm (5 Mbps), –85 dBm (11 Mbps) 802.11a/g: –89 dBm (6 Mbps), –80 dBm (24 Mbps), –76 dBm (36 Mbps), –71 dBm (54 Mbps) 802.11n: –83 dBm @ MCS0, –65 dBm @ MCS7, –83 dBm @ MCS8, –65 dBm @ MCS15 802.11ac HT20: –83 dBm (MCS0), –57 dBm (MCS9) 802.11ac HT40: –79 dBm (MCS0), –54 dBm (MCS9) 802.11ac HT80: –76 dBm (MCS0), –51 dBm (MCS9)

CPE3-P SPECIFICATIONS

Specifications

LED	1 x system status LED 3 x Ethernet port LEDs 3 x signal status LEDs	
Button	1 x Reset button	
Environment	Operating Temperature: –30°C to +55°C (–22°F to +131°F) Storage Temperature: –40°C to +85°C (–40°F to +185°F) Operating Humidity: 5% RH to 95% RH (non-condensing) Storage Humidity: 5% RH to 95% RH (non-condensing)	
Weather Resistance	IP rating: IP55 Service port: ±4 kV for common mode Power connector: ±4 kV for common mode and ±2 kV for differential mode	
Software		
Working Mode	BaseStation	Yes
	CPE	Yes
WLAN	TDMA	Yes
	Bridge SSID hiding	Yes
	Antenna alignment	Yes
	Spectrum scan	Yes
	VLAN	Yes
Management and Maintenance	Self-Organizing Network	Yes
	SSH	Yes
	Web management	Yes
	Cloud management	Yes
Performance		
WDS	Maximum number of devices on the self-organizing network	200
	Maximum number of connections supported by the root bridge	5
	Maximum bridge distance	3 km (1.86 miles)
	Minimum bridge distance	2 m (6.56 ft.)
	Maximum effective distance of one-touch pairing	20 m (65.62 ft.)
	Bridge performance	Bridging distance: 90 Mbps/0.5 km (0.31 miles) (HT40) 80 Mbps/1 km (0.62 miles) (HT40) 60 Mbps/2 km (1.24 miles) (HT40) 40 Mbps/3 km (1.86 miles) (HT40)
	RSSI	Bridging distance: –53 dBm/0.5 km (0.31 miles) –59 dBm/1 km (0.62 miles) –65 dBm/2 km (1.24 miles) –70 dBm/3 km (1.86 miles)
	Recommended number of connected cameras (4–5 Mbps)	Bridging distance: 12/0.5 km (0.31 miles) 10/1 km (0.62 miles) 8/2 km (1.24 miles) 5/3 km (1.86 miles)
	Recommended number of connected cameras (7–8 Mbps)	Bridging distance: 5/0.5 km (0.31 miles) 5/1 km (0.62 miles) 2/2 km (1.24 miles) 1/3 km (1.86 miles)

Specifications

Compliance and Standard		
NDAA Compliant	Yes	
Certification	FCC, ISED, cTUVus, TEC, WPC	
Operating Frequency	2400–2483.5 MHz 5150–5250 MHz 5250–5350 MHz 5470–5725 MHz 5725–5850 MHz	
Package Contents		
Device	Device	1
Manual	User Manual	1
	Warranty Card	1
Accessories	DC power adapter	1
	24 V passive PoE injector	1
	Screw	4 x Phillips pan head self-tapping screws (4.2 mm x 19 mm)
	Cable tie	4

CPE5 SPECIFICATIONS

Lysora

Specifications

Overview	
Dimensions	240 mm x 133 mm x 108 mm (9.45 in. x 5.24 in. x 4.25 in.) (excluding mounting bracket)
Weight	0.56 kg (1.24 lbs) (without packaging materials) 2.55 kg (5.62 lbs) (with packaging materials)
Wi-Fi Standards	Wi-Fi 5 (IEEE 802.11ac), backward compatible with IEEE 802.11a/b/g/n standards
Spatial Streams	3
Coverage Area	5 km (3.11 miles)
Mounting Options	Wall/Pole
Hardware	
CPU	Dual-core processor, 880 MHz clock frequency per core
Flash Memory	16 MB
RAM	128 MB
Networking Interface	3 x 10/100/1000BASE-T ports
Wi-Fi Protocols	2.4 GHz: IEEE 802.11b/g/n 5 GHz: IEEE 802.11a/n/ac
MIMO	2.4 GHz: 1 x 1 SISO 5 GHz: 2 x 2 MIMO
Channel Width	2.4 GHz: 20/40 MHz 5 GHz: 20/40/80 MHz
Wireless Data Rate	2.4 GHz: 150 Mbps 5 GHz: 867 Mbps
Antenna Gain	2.4 GHz: 1.75 dBi 5 GHz: ANT1: 15.78 dBi ANT2: 14.90 dBi
–3 dB Azimuth Beamwidth	31°
–3 dB Elevation Beamwidth	14°
Max. Transmit Power (Conducted Output Power)	2400-2483.5MHz: e.i.r.p <= 36dBm 5150-5250MHz: e.i.r.p <= 36dBm 5250-5350MHz e.i.r.p <= 30dBm 5470-5725MHz e.i.r.p <= 30dBm 5725-5850MHz e.i.r.p <= 36dBm
Power Consumption	≤ 12 W
Power Input	DC power adapter (24 V, 0.6 A) (adapter included) 24 V passive PoE injector (injector included) DC power adapter (12 V, 1 A) PoE/PoE+
PoE Power Pins	1-2 (+), 3-6 (-); 4-5 (+), 7-8 (-)
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Receive Sensitivity	802.11b: –91 dBm (1 Mbps), –88 dBm (5 Mbps), –85 dBm (11 Mbps) 802.11a/g: –89 dBm (6 Mbps), –80 dBm (24 Mbps), –76 dBm (36 Mbps), –71 dBm (54 Mbps) 802.11n: –83 dBm @ MCS0, –65 dBm @ MCS7, –83 dBm @ MCS8, –65 dBm @ MCS15 802.11ac HT20: –83 dBm (MCS0), –57 dBm (MCS9) 802.11ac HT40: –79 dBm (MCS0), –54 dBm (MCS9) 802.11ac HT80: –76 dBm (MCS0), –51 dBm (MCS9)

Specifications

LED	1 x system status LED 3 x Ethernet port LEDs 3 x signal status LEDs	
Button	1 x Reset button	
Environment	Operating Temperature: –30°C to +65°C (–22°F to +149°F) Storage Temperature: –40°C to +85°C (–40°F to +185°F) Operating Humidity: 5% RH to 95% RH (non-condensing) Storage Humidity: 5% RH to 95% RH (non-condensing)	
Weather Resistance	IP rating: IP55 Service port: ±4 kV for common mode Power connector: ±4 kV for common mode and ±2 kV for differential mode	
Software		
Working Mode	BaseStation	Yes
	CPE	Yes
WLAN	TDMA	Yes
	Bridge SSID hiding	Yes
	Antenna alignment	Yes
	Spectrum scan	Yes
	VLAN	Yes
Management and Maintenance	Self-Organizing Network	Yes
	SNMP	Yes
	SSH	Yes
	Web management	Yes
	Cloud management	Yes
Performance		
WDS	Maximum number of devices on the self-organizing network	200
	Maximum number of connections supported by the root bridge	5
	Maximum bridge distance	5 km (3.11 miles)
	Minimum bridge distance	2 m (6.56 ft.)
	Maximum effective distance of one-touch pairing	50 m (164.04 ft.)
	Bridge performance	Bridging distance: 230 Mbps/1 km (0.62 miles) (HT40) 200 Mbps/3 km (1.86 miles) (HT40) 150 Mbps/5 km (3.11 miles) (HT40)
	RSSI	Bridging distance: –56 dBm/1 km (0.62 miles) –64 dBm/3 km (1.86 miles) –68 dBm/5 km (3.11 miles)
	Recommended number of connected cameras (4–5 Mbps)	Bridging distance: 30/1 km (0.62 miles) 25/3 km (1.86 miles) 12/5 km (3.11 miles)
	Recommended number of connected cameras (7–8 Mbps)	Bridging distance: 15/1 km (0.62 miles) 12/3 km (1.86 miles) 6/5 km (3.11 miles)

Specifications

Compliance and Standard		
NDAA Compliant	Yes	
Certification	FCC, ISED, cTUVus, TEC, WPC	
Operating Frequency	2400–2483.5 MHz 5150–5250 MHz 5250–5350 MHz 5470–5725 MHz 5725–5850 MHz	
Package Contents		
Device	Device	2
Manual	User Manual	1
	Warranty Card	1
Accessories	DC power adapter	2
	24 V passive PoE injector	2
	Screw	8 x Phillips pan head self-tapping screws (4.2 mm x 19 mm)
	Cable tie	N/A
	Mounting bracket	2

Base5i SPECIFICATIONS

Specifications

Overview	
Dimensions	355 mm x 124 mm x 48 mm (13.98 in. x 4.88 in. x 1.89 in.) (excluding mounting bracket)
Weight	0.83 kg (1.83 lbs) (without packaging materials) 1.61 kg (3.55 lbs) (with packaging materials)
Wi-Fi Standards	Wi-Fi 5 (IEEE 802.11ac), backward compatible with IEEE 802.11a/b/g/n standards
Spatial Streams	3
Coverage Area	5 km (3.11 miles)
Mounting Options	Wall/Pole
Hardware	
CPU	Dual-core processor, 880 MHz clock frequency per core
Flash Memory	16 MB
RAM	128 MB
Networking Interface	3 x 10/100/1000BASE-T ports
Wi-Fi Protocols	2.4 GHz: IEEE 802.11b/g/n 5 GHz: IEEE 802.11a/n/ac
MIMO	2.4 GHz: 1 x 1 SISO 5 GHz: 2 x 2 MIMO
Channel Width	2.4 GHz: 20/40 MHz 5 GHz: 20/40/80 MHz
Wireless Data Rate	2.4 GHz: 150 Mbps 5 GHz: 867 Mbps
Antenna Gain	2.4 GHz: 1.22 dBi 5 GHz: ANT1: 13.54 dBi ANT2: 14.11 dBi
–3 dB Azimuth Beamwidth	120°
–3 dB Elevation Beamwidth	13°
Max. Transmit Power (Conducted Output Power)	2400-2483.5MHz: e.i.r.p <= 36dBm 5150-5250MHz: e.i.r.p <= 36dBm 5250-5350MHz e.i.r.p <= 30dBm 5470-5725MHz e.i.r.p <= 30dBm 5725-5850MHz e.i.r.p <= 36dBm
Power Consumption	≤ 12 W
Power Input	DC power adapter (24 V, 0.6 A) (adapter included) 24 V passive PoE injector (injector included) DC power adapter (12 V, 1 A) PoE/PoE+
PoE Power Pins	1-2 (+), 3-6 (-); 4-5 (+), 7-8 (-)
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Receive Sensitivity	802.11b: –91 dBm (1 Mbps), –88 dBm (5 Mbps), –85 dBm (11 Mbps) 802.11a/g: –89 dBm (6 Mbps), –80 dBm (24 Mbps), –76 dBm (36 Mbps), –71 dBm (54 Mbps) 802.11n: –83 dBm @ MCS0, –65 dBm @ MCS7, –83 dBm @ MCS8, –65 dBm @ MCS15 802.11ac HT20: –83 dBm (MCS0), –57 dBm (MCS9) 802.11ac HT40: –79 dBm (MCS0), –54 dBm (MCS9) 802.11ac HT80: –76 dBm (MCS0), –51 dBm (MCS9)

Specifications

LED	1 x system status LED 3 x Ethernet port LEDs 3 x signal status LEDs	
Button	1 x Reset button	
Environment	Operating Temperature: –30°C to +65°C (–22°F to +149°F) Storage Temperature: –40°C to +85°C (–40°F to +185°F) Operating Humidity: 5% RH to 95% RH (non-condensing) Storage Humidity: 5% RH to 95% RH (non-condensing)	
Weather Resistance	IP rating: IP55 Service port: ±4 kV for common mode Power connector: ±4 kV for common mode and ±2 kV for differential mode	
Software		
Working Mode	BaseStation	Yes
	CPE	Yes
WLAN	TDMA	Yes
	Bridge SSID hiding	Yes
	Antenna alignment	Yes
	Spectrum scan	Yes
	VLAN	Yes
Management and Maintenance	Self-Organizing Network	Yes
	SNMP	Yes
	SSH	Yes
	Web management	Yes
	Cloud management	Yes
Performance		
WDS	Maximum number of devices on the self-organizing network	200
	Maximum number of connections supported by the root bridge	16
	Maximum bridge distance	5 km (3.11 miles)
	Minimum bridge distance	2 m (6.56 ft.)
	Maximum effective distance of one-touch pairing	20 m (65.62 ft.)
	Bridge performance	Bridging distance: 200 Mbps/1 km (0.62 miles) (HT40) 130 Mbps/3 km (1.86 miles) (HT40) 80 Mbps/5 km (3.11 miles) (HT40)
	RSSI	Bridging distance: –59 dBm/1 km (0.62 miles) –67 dBm/3 km (1.86 miles) –73 dBm/5 km (3.11 miles)
	Recommended number of connected cameras (4–5 Mbps)	Bridging distance: 25/1 km (0.62 miles) 18/3 km (1.86 miles) 10/5 km (3.11 miles)
	Recommended number of connected cameras (7–8 Mbps)	Bridging distance: 13/1 km (0.62 miles) 8/3 km (1.86 miles) 5/5 km (3.11 miles)

Specifications

Compliance and Standard		
NDAA Compliant	Yes	
Certification	FCC, ISED, cTUVus	
Operating Frequency	2400–2483.5 MHz 5150–5250 MHz 5250–5350 MHz 5470–5725 MHz 5725–5850 MHz	
Package Contents		
Device	Device	1
Manual	User Manual	1
	Warranty Card	1
Accessories	DC power adapter	1
	24 V Passive PoE injector	1
	Screw	4 x Phillips pan head self-tapping screws (4.2 mm x 19 mm)
	Mounting bracket	1