

Datasheet

# IP-50CX

September 2024 | Rev C.01

**Note:** For feature availability, check the Release Notes for the CeraOS version you are using.

## Radio

### Supported Frequency Range

6-42 GHz

### Radio Configurations

1+0 up to 4+0 Single/Dual Polarization, 1+1/2+2 HSB, 2+0 XPIC, 2x2+0 East/West Single/Dual Polarization\*

### Radio Features

4+0 Layer 1 Aggregation

Layer 1 Aggregation with IP-20C and IP-20C-HP<sup>†</sup>

Layer 1 Link Bonding with IP-20N or IP-20A<sup>†</sup>

Enhanced Multi-Carrier ABC (up to 2+0)

Protection: 1+1 HSB/2+2 HSB<sup>†</sup>

High spectral utilization: BPSK to 4096 QAM w/ACM

Channel bandwidth: 14 to 224 MHz

XPIC

Multiband with Layer 1 Link Bonding (with IP-50E)

## Ethernet

### Ethernet Interfaces

Port 1:

- DC Port

Port 2:

- RJ-45 - Electric 100Mbps/1Gbps traffic interface

Port 3:

- SFP+ – 1/2.5/10 traffic interface

Port 4:

- SFP28 – 1/10/25G traffic interface

Port 5:

- RJ-45 – Management/Protection interface - 100 Base-T

**Notes:** SFP and SFP+ devices must be of industrial grade (-40°C to +85°C, -40°F to +185°F).

For information on supported interface usage and speed per CeraOS release, refer to the Release Notes or Technical Description for the release.

## Ethernet Features

MTU – 9612 Bytes

Up to 1024 Ethernet services, plus one pre-defined management service

MAC address learning with 32K MAC addresses

Quality of Service:

- Multiple Classification criteria (VLAN ID, P-bits, IPv4 DSCP, IPv6 TC, MPLS EXP)
- 8 CoS queues per port
- WRED
- P-bit marking/remarking

VLAN add/remove

G.8032 Ethernet Ring Protection Switching (ERPS)

Multiple Spanning Tree Protocol (MSTP)

Y.1731 Ethernet OAM

Y.1731 Ethernet Bandwidth Notification (ETH-BN)

## Management Protocols

SNMP

REST

NETCONF/YANG

## Synchronization Protocols

Enhanced Ethernet Equipment Clock (eEEC) Specification (G.8262.1)

PTP Telecom Boundary Clock (T-BC) and Time Slave Clock (T-TSC) Specification (G.8273.2)

PTP Telecom Transparent Clock (T-TC) Specification (G.8273.3)

Enhanced SyncE Network Limits (G.8261, clause 9.2.1)

Enhanced PTP Network Limits (G.8271.1)

Ethernet Synchronization Messaging Channel (ESMC) (G.8264, clause 11)

PTP Telecom Profile for phase/time synchronization with full timing support from the network (G.8275.1) as T-BC

PTP Telecom Profile for phase/time synchronization with partial timing support from the network (G.8275.2) as T-TC

Precision Time Protocol (version 2, IEEE1588-2008)

\* Not all configurations are supported in every CeraOS release. For details about supported configurations, refer to the Release Notes for the CeraOS version you are using.

<sup>†</sup> Planned for future release.

## Standards

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### Supported Ethernet Standards

- 10/100/1000base-T/X (IEEE 802.3)
- 10GBase-LR (IEEE 802.3)
- Ethernet VLANs (IEEE 802.3ac)
- Virtual LAN (VLAN, IEEE 802.1Q)
- Class of service (IEEE 802.1p)
- Provider bridges (QinQ – IEEE 802.1ad)
- Link aggregation (IEEE 802.1AX)
- Auto MDI/MDIX for 1000baseT
- RFC 1349: IPv4 TOS
- RFC 2474: IPv4 DSCP
- RFC 2460: IPv6 Traffic Classes

### Security

- Radio Encryption – AES 256\*
- Secured protocols:
  - HTTPS
  - SNMPv3
  - SSH
  - SFTP
- RADIUS authentication and authorization
- TACACS+ Authentication, Authorization, and Accounting (session-based)

### Standards Compliance

- Radio Spectral Efficiency: FCC Part 101, EN 302 217-2
- EMC: EN 301 489-1, EN 301 489-4, Class B (Europe), FCC 47 CFR, part 15, class B (US), ICES-003, Class B (Canada), TEC/EMI/TEL-001/01, Class B (India)
- Surge: EN61000-4-5, Class 4 (for PWR and ETH1 ports)
- Safety: EN 60950-1, IEC 60950-1, UL 60950-1, CSA-C22.2 No.60950-1, EN 60950-22, UL 60950-22, CSA C22.2.60950-22
- Storage: ETSI EN 300 019-1-1 Class 1.2
- Transportation: ETSI EN 300 019-1-2 Class 2.

## Technical Specifications

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### Mechanical Specifications

Dimensions – 270mm(H), 230mm(W), 98mm(D), 5.3 kg  
Pole Diameter Range (for Remote Mount Installation) – 8.89 cm – 11.43 cm

### Environmental Specifications

-33°C to +55°C  
-27°F to +131°F

### Power Input Specifications

Standard Input: -48 VDC  
DC Input range: -40.5 to -60 VDC

### Power Consumption Specifications

Typical Power Consumption:

2+0 Operation:

- 6-11 GHz: 85W
- 13-15 GHz: 66W

1+0 Operation (one carrier muted):

- 6-11 GHz: 66W
- 13-15 GHz: 58W

Both carriers muted:

- 6-11 GHz: 41W
- 13-15 GHz: 43W

**Note:** The maximum power consumption can be up to ~20% higher than the typical figures listed above.

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\* Not supported in the initial release.

Product Image

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