Datasheet

IP-50FX200

Rev. A.07 | January 2023

Disaggregated Wireless Backhaul Router

The IP-50FX200 is a Disaggregation Cell Site Gateway (DCSG) that combines three vital cell site functions into one product: a cell site router (CSR), a networking switch, and a radio indoor unit (IDU). IP-50FX can be connected via fiber and Ethernet to any type of device and supports radio configurations of up to 16+0. Its high switching capacity and port density make it an excellent fit for any cell site or aggregation site that requires ultra-high capacity, multi-directional functionality, and switching/routing capabilities.

IP 50FX200 utilizes radio-aware networking capabilities, such as Layer 1 Link Bonding and Ethernet Bandwidth Notification (ETH-BN), as well as Class C-compliant synchronization that supports SyncE and IEEE-1588 Transparent Clock and Boundary Clock. These and many more advanced capabilities enable IP-50FX200 to serve as a revolutionary solution for any multi-carrier requirement, such as high-capacity trunks and multi-directional nodes.

Technical Specifications

Mechanical Specifications

Height: 44 mm

Width: 431.5 mm

Depth: 250 mm

Weight: 4 kg

Environmental Specifications

Operation: ETSI EN 300 019-1-3, Class 3.2

0°C (32°F) to +55°C (131°F)

Humidity: 5%RH to 95%RH

Storage: ETSI EN 300 019-1-1 class 1.2 (Weather protected, not temperature-controlled Storage)

Transportation: ETSI EN 300 019-1-2 class 2.3 power (Public transportation)

EMC: Canada/USA Radiated and conducted emissions tests according to ICES-003 and FCC 47 CFR part 15, subpart B
Europe according to EN 301 489-1/4 + EN 300 386
India according to TEC/SD/DD/EMC-221/05/OCT-16 + IEC 61000-4-29

Safety: Europe/CB/USA/Canada tests and certification according to EN/IEC/UL/CSA C22.2 NO 62368-1

Power Specifications

IDU Standard Input: -48 VDC with dual power supply feed for power redundancy.

Maximum power consumption with 2xPoE: ~264W

Typical power consumption, not including PoE: ~100W

IDU DC Input range: -40.5 to -60 VDC

SDN

NETCONF/YANG management

Applications

Edge/tail

First and second Aggregation

Networking

Networking capacity: 64 Gbps

Layer-1 carrier bonding**:** Up to 16+0

Quality of Service: 3 levels of H-QoS

OAM functionality: ETH-BN according to ITUT G.8013/Y.1731

QoS classification based on TOS/DSCP, VLAN ID, VLAN P-bits, MAC DA and SA, SA and DA IP Addresses (IPv4 and IPv6)

LAG support with BFD on LAG interfaces according to RFC7130

Open SW standards: complies with ONL/ONIE

Layer-1 carrier bonding supports multiband with any additional layer-1 connection

Layer 3 Software

IP/MPLS as the infrastructure

LDP for label distribution / Segment Routing with Topology Independent LFA

IGP – OSPFv2/v3, IS-IS for path of the MPLS tunnels with LFA

L3VPN as the service.

MP-BGP as the protocol to establish the end to end L3 services (L3VPN).

BFD to monitor health of connection to aggregation router.

Complies with TWAMP according to RFC 5357

Synchronization

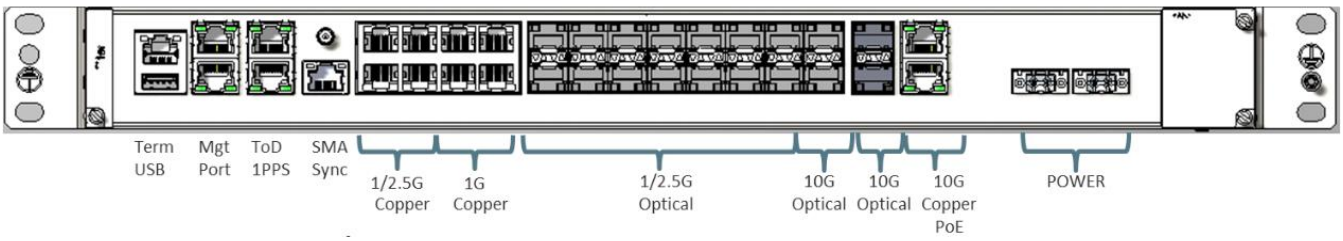
1588 Boundary and Transparent Clock for full timing support from the network – G.8275.1 profile

1588 Boundary and Transparent Clock for partial timing support from the network with GNSS as a main timing source – G.8275.2 profile

Supports 5G synchronization requirements

Product Image

IP-50FX200 Interfaces



- Terminal Port (TERM) – RJ-45 Terminal console interface (RS-232) for connection to a local craft terminal, for local CLI management of the unit.
- USB Port – Used for mounting an external storage, e.g., for NOS installation and upgrade.
- Protection Port (PROT) – RJ-45 Ethernet management interface supporting 10/100/1000Base-T, used for unit protection.
- Management Port (MGMT) – RJ-45 Ethernet management interface supporting 10/100/1000Base-T.
- ToD/1PPS (In/Out) – RJ-45 interface supporting 1PPS and ToD (in/out).
- 2/10MHz (SMA) – SMA (SubMiniature version A) connector to receive a 10 MHz signal from an external sync source.
- Sync – RJ-45 synchronization interface for T3 clock input.
- 1/2.5 GbE Interfaces (RJ-45) – 4 ports (also supporting 100M)
- 1 GbE Interfaces (RJ-45) – 4 ports (also supporting 100M)
- 1/2.5G Optical Interfaces (SFP) – 14 ports
- 10G Optical Interfaces (SFP+) – 4 ports
- 10 GbE Interfaces (RJ-45) – 2 ports with PoE

Approved SFP Modules

Marketing Model	Marketing Description	Item Description
SFP-GE-ZX	SFP optical interface 1000Base-ZX	XCVR,SFP,1550nm,2.125G,SM,80km,W.DDM
SFP-GE-SX	SFP optical interface 1000Base-SX	XCVR,SFP,850nm,MM,1.0625 Gbit/s FC/ 1.25 GBE,PACKED
SFP-GE-LX	SFP optical interface 1000Base-LX*ROHS	XCVR,SFP,1310nm,1.25Gb,SM,10km,W.DDM, SINGLE PACK KIT
SFP-GE-ELC	SFP electrical interface 1000Base-T	SFP 1000BASE-T 3.3V STAND ALONE RoHS
SFP-3.7G-SX-EXT-TEMP	SFP-3.7G-SX-EXT-TEMP	XCVR,SFP,850nm,MM,3.7 Gbit/s, INDUSTRIAL GRADE
SFP-3.7G-LX-EXT-TEMP	SFP-3.7G-LX-EXT-TEMP	XCVR,SFP,1310nm,SM,10km,3.7 Gbit/s, INDUSTRIAL GRADE
SFP+10GBASE-SR	SFP+ 10GE optical interface 10GBASE-SR	XCVR,SFP+,850nm,MM,10 Gbit/s, COMMERCIAL GRADE
SFP+10GBASE-LR	SFP+10GBASE-LR	XCVR,SFP+,1310nm,SM,10 Gbit/s,2km,COMMERCIAL GRADE
SFP+10GBASE-SR10-EXT-TEMP	SFP+10GBASE-SR10-EXT-TEMP	XCVR,SFP+,850nm,MM,Up to 10 Gbit/s, INDUSTRIAL GRADE