

### Product Overview

The **xFalcon** is a highly resilient IP68 outdoor PoE powered Time Synchronization device with an integrated GNSS receiver and antenna. By design it simplifies the delivery of high-precision GNSS timing services for RAN and private mobile networks.

To simplify the setup of a new GNSS timing service installation, the **xFalcon** is designed for easy rooftop installation on buildings. It requires only a single PoE Ethernet cable for power, which also seamlessly delivers time synchronization services to the network. A single **xFalcon** device eliminates the need to deploy complicated COAX cabling and install a separate PTP Grandmaster device. The **xFalcon** allows mobile network operators, particularly those in enterprise private networks, to quickly deploy high-precision PTP services without needing to dispatch a skilled technician to every new site.

The **xFalcon's** Timing toolbox includes a comprehensive set of capabilities, such as built-in GNSS receiver (with integrated antenna) that provide an accurate time source of PTP GM/BC/TC services, along with robust SyncE and NTP. The system's timing is orchestrated via Fibrolan's user-friendly SyncCenter tool and Fibrolan's customized multitenant cloud 'SyncHome' services. Once a newly installed device is registered and connected to the network, it links to the company's cloud SyncHome services and is automatically configured. SyncHome zero-touch provisioning can set each newly installed device with its own configuration and up-to-date software version. It also serves the network operator as a remote monitoring and configuration tool for its already deployed devices. Another capability of this platform is to serve as the network's event collection from different sites.

The **xFalcon** is equipped with two ports an RJ45 Ethernet port (PoE) and an SFP that can also be bridged for daisy chaining additional devices.

- **xFalcon** - Compact outdoor PTP Grandmaster
- Great fit for Private 4/5G and Neutral Host network architectures
- Simple installation, save on skilled technician remote site dispatch
- Integrated GNSS receiver and antenna
- A single Ethernet cable for power (PoE) and connectivity (1GbE)
- Secondary 1G SFP interface for optional PTP over fiber connection
- Flexible PTP configuration of profiles and modes of operation
- Support for SyncE
- Cloud-based SyncHome simplifying installation / remote configuration



The **xFalcon** design includes built-in multiple protection schemes to help addressing any deployment challenges. By design, the **xFalcon** can overcome various scenarios where GNSS reception is jammed or compromised. Additionally, it supports network protection schemes topologies (linear, star, ring) and delivers the reliability required for critical infrastructure such as 5G.

The system implements effective OAM tools for monitoring, alarming, analysis and troubleshooting. Specifically, the unique SyncController function that monitors synchronization status and performance of attached disciplined devices

The **xFalcon** is housed in a highly compact, IP68 outdoor enclosure. It is powered by PoE through a single Ethernet cable, which also provides time synchronization to the network as a PTP Grandmaster.

## Technical Specifications

### Interfaces & Indicators

- Ethernet:
  - 1 x 1G (SFP)
  - 1 x 10/100/1000BaseT (RJ45, PoE)
- Supported SFP:
  - MMF, SMF, SFS
- Sync & Timing:
  - All Ethernet ports support PTP, SyncE and NTP
- LEDs
  - System status

### PTP/IEEE1588

- Functions:
  - Grandmaster (PRTC)
  - Boundary Clock
  - Ordinary Clock
  - Transparent Clock
- Profiles supported:
  - Telecom Frequency (G.8265.1)
  - Telecom Phase (G.8275.1, G.8275.2)
  - Default (IEEE1588)
  - Custom
- HW timestamping
- Modes supported:
  - 1 and 2 step
  - L2 Multicast
  - L3/UDP Unicast/Multicast
  - Mixed transport modes
  - E2E and P2P delay
  - VLAN tagging
- Slave capacity:
  - Up to 128 Unicast @ full packets rates
  - Support for max packet rates for: Announce, Sync and Del.Req/Del.Resp messages

### Other Timing Services/Features

- SyncCenter
- SyncController
- GNSS:
  - 32 channels
  - Multi-constellation: GPS, GLONASS, Galileo, Beidou, QZSS
  - Integrated active antenna
  - Optional dual band receiver
- Synchronous Ethernet (SyncE):
  - G.8261, G.8262
  - ESMC (G.8264)
- NTP
  - Client
  - Server
- Local clock:
  - Built-in Stratum 3 clock

### Management

- Interfaces:
  - CLI: Console, Telnet, SSH
  - SNMP: v1/v2c/v3, extensive MIBs
  - Web: HTTP/HTTPS
  - Management VLAN
  - IPv6 management
- Authentication:
  - RADIUS, TACACS+
  - Multiple local users
  - User access levels (15)
  - Management ACLs
  - 802.1x (port/MAC based)
- DHCP client, relay, server, snooping
- Link discovery: LLDP, LLDP-MED, CDP ware
- Netconf/YANG support
- CPU sub-system:
  - Single core, 600MHz, ARM
  - 1GB DDR, up to 32GB flash memory
- Operations:
  - Remote System Update (FTP or Web)
  - Configuration upload/download (FTP or Web)
  - Text based config files
- Alarms:
  - SNMP traps
  - Syslog (internal and remote server)
  - CLI events
- RMON
- Multi-tenant Cloud Call home service:
  - Zero Touch Provisioning
  - Device configuration and SW image
  - Collection of events and status from device

**Power & Environmental**

**Power Supply:**

- Input Power: PoE+ (802.3at Type-2)
- Power consumption:
- Maximum: <15W; typical: <10W

▪ Operating temperature:

- -40°C ÷ +65°C (-40°F ÷ 149°F)
- Storage temperature: -40°C ÷ +80°C (-40°F ÷ 176°F)
- Humidity: 10-90%, non-condensing

**Physical**

- Dimensions (HxWxD):
- 200x130x80 mm (7.87x5.12x3.15 inch)
- Weight: ~1.2Kg (2.65 lb)

▪ Mounting:

- Pole / Wall
- Accessories:
- Pole/wall mounting kit (optional)

**Regulatory & Compliance**

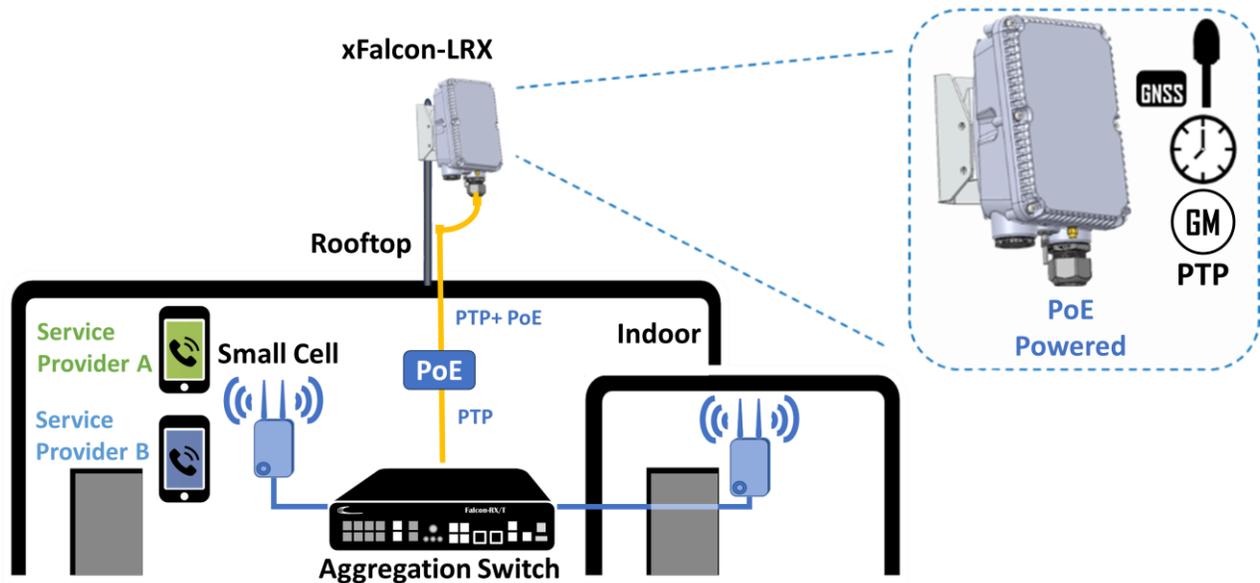
▪ Safety:

- IEC EN60950-1
- CE
- RoHS

▪ EMC:

- FCC CFR 47 part 15, subpart B, Class A
- EN 300 386 V1.3.3: 05

**Typical xFalcon Rooftop Deployment**



**Ordering Information**

Model	P/N	Description
xFalcon-LRX/G/P	7146	Edge PTP Grandmaster, High performance, Outdoor, PoE powered, integrated GNSS Rx and antenna

*Specifications are subject to change w/o prior notice*



*It's About Time!*

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Revision: xfalcon-lrx\_ds\_2025-10-27\_v1.1

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