

EdgeSync / EdgeSync+

Network Timing Edge Device



Key Features

- Enhanced holdover and PTP slave capacity option
- Full IEEE 1588-2008 (PTPv2) master and slave modes
- Supports Multicast and Unicast operation
- IPv4, IPv6, and Ethernet (Layer 2) transport mechanisms
- Supports G.8262 Synchronous Ethernet with ESMC
- ITU-T G.8265.1 Frequency, ITU-T G. 8275.1 & G.8275.2 Time & Phase profiles
- IEEE PC37.238 and IEEE 61850 Power profiles
- SMPTE profile
- Remote provisioning and management (CLI, HTTP(S) and SNMP)

Key Benefits

- High performance NTP/PTP clock
- Configurable to operate in multiple PTP modes: PTP Grand Master, boundary and slave clock
- Scalable PTP slave capacity
- Low power consumption
- Small form-factor
- Easy to deploy, user-friendly management
- Cost effective without sacrificing performance

Applications

The innovative EdgeSync is well-suited for many applications, including:

- Datacenters and financial applications
- Mobile edge computing and enterprise
- Smart grid transmission and distribution substations
- Industrial IoT and factory automation applications
- 5G, small cell clusters, O-RAN, C-RAN, and neutral host deployments

EdgeSync is a network timing edge platform designed to provide high performance, scalability, ease of use, and manageability at a cost-effective price. Its versatile suite of features makes it suitable for a wide range of applications: Datacenter, Financial, Enterprise, Power and Smart Grid, Industrial IoT, Process Control and Automation, 5G, and more.

EdgeSync utilizes GNSS (GPS, Galileo, GLONASS, Beidou and QZSS), PTP and Synchronous Ethernet (SyncE) as input references and generates PTP, SyncE, NTP, and timing signals (frequency, 1PPS and ToD) as outputs. It features dual 1 GbE ports for both copper RJ45 and optical network timing connections as well as an independent management port. It provides all the essential timing interfaces such as GNSS, 1 Pulse Per Second (1PPS), Time of Day (ToD) (input/output) and frequency (selectable output).

EdgeSync also provides IEEE 1588-2008 (PTPv2) Grandmaster and Boundary Clock functionality at a low total cost of ownership. It leverages unique industry-leading PTP algorithms to deliver stringent timing for demanding, precise applications and supports multiple industry PTP profiles for interoperability. An enhanced oscillator and PTP slave capacity option allows to scale EdgeSync to peak levels of performance.

Specifications

Synchronization Interfaces

- 1x GNSS L1 (SMA); +5V to power active antenna
- 1x 1PPS out (LVTTTL, High Impedance, BNC)
- 1x Frequency out (LVTTTL, AC Coupled, BNC) – 1.544 MHz, 2.048 MHz, 10 MHz
- 1x Time of Day (ToD) + 1PPS in/out (RS-422, RJ-45)
- Time of Day Format – (ASCII (YYYY-MM-DD HH:MM:SS), or NMEA (RMC, ZDA)
- 2x Gb Ethernet with PTP, SyncE, NTP (RJ-45 / SFP)

IEEE 1588-2008 (PTP v2)

- Master, Slave operation
- Modes: Multicast, Unicast
- Transport: Ethernet (L2), IPv4 / IPv6 (L3)
- Delay Mechanism: E2E, P2P
- ITU-T G.8265.1 frequency profile
- ITU-T G.8275.1 & G.8275.2 time/phase profile
- IEEE PC37.238 and IEEE 61850 Power profiles
- SMPTE profile

Synchronous Ethernet (SyncE)

- Master, Slave operation
- Ethernet Synchronization Message Channel (ESMC)
- Support on both Ethernet interfaces (electrical and optical)

Network Timing Protocol

- SNTP Server (IETF RFC 4330)
- IPv4 Unicast, Multicast and Broadcast Modes

GNSS

- GPS-only or GPS + [Galileo / GLONASS / Beidou / QZSS]
- Phase accuracy (under ±100nsec from UTC) as per G.8272

PTP Clients Scalability

- EdgeSync: 32 slaves @ 128 packets per sec in Unicast mode
- EdgeSync+: 128 slaves @ 128 packets per sec in Unicast mode

Holdover Performance

Model	Oscillator type	1.5 μs	5 μs	Frequency 16 ppb
EdgeSync	OCXO	4 hrs	10 hrs	1 week
EdgeSync+	HP OCXO	8 hrs	15 hrs	1 month

Note: Constant temperature after 2 weeks of GPS lock.

Management

- 1x Management (10/100 Mbps, RJ45)
- CLI, HTTP(S), SNMP
- Remote login via SSH
- 1x mini USB console for local CLI access

LEDs

- Power status, GNSS acquisition & sync status

Power Supply

- Dual Supply: 28 - 40 VAC or 36 - 60 VDC, available AC/DC supply adapters
- Power consumption: depends on model, typically 9W - 22W

Physical & Environmental

- Operating temperature: 0°C to 50°C
- Storage temperature: -40°C to 70°C
- Size: 8.58" W x 1.74" H (1U) x 6.26" D (218 mm W x 44 mm H x 159 mm D), available EIA 19" rack kit
- Weight: 2.23 lbs (1.01 kg)

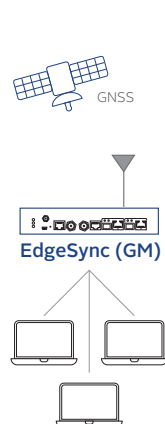
Agency Approvals

- CE, FCC part 15 class A, ROHS, WEEE

Ordering Information

Model		Options
EdgeSync	OCXO	32 PTP Unicast slaves
EdgeSync+	HP OCXO	128 PTP Unicast slaves

Small Network GM



Distribution / Edge Device

