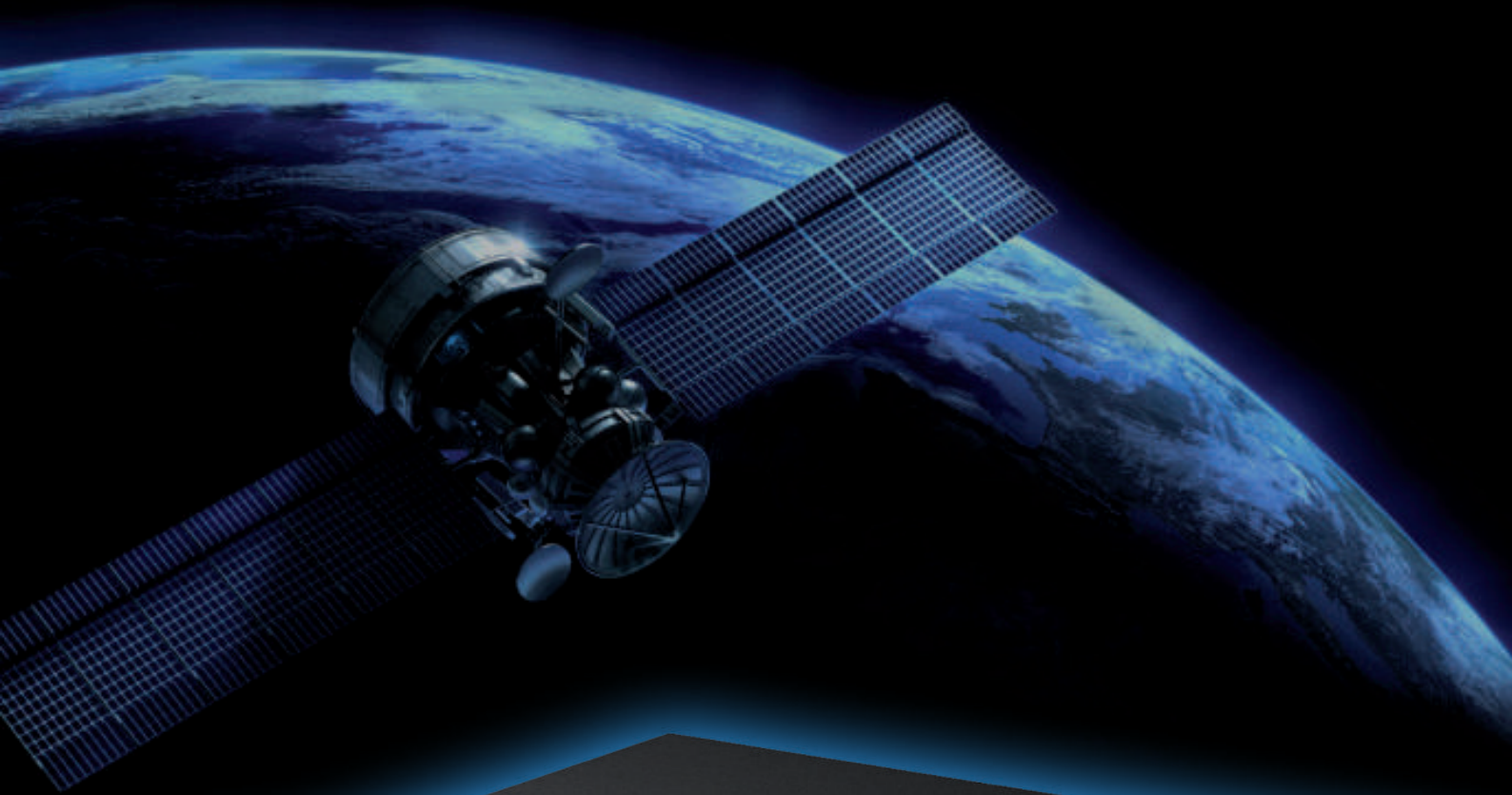


EKOSync 1588

NTP / PTP Time Server



EKOSync 1588 A | **EKO**Sync 1588 B
NTP/PTP (IEEE 1588) Precision Time Server

aRF
technologies

NTP / PTP (IEEE 1588) Precision Time Server

Mastering Time. Empowering System

EKOSync 1588 PTP Time Server

Developing energy distribution systems, industrial automation, mobile infrastructure, and smart grids require high-precision time synchronization. Therefore, in time-critical systems, synchronization from the same source (master source) with sufficient accuracy is essential. Traditional synchronization methods are either very expensive or have high error rates. EKOSync 1588 is a high-performance, reliable timing and frequency synchronization system that provides packet timing (PTP - IEEE 1588) solutions for precise timing needs.



2 Precision

- **Accuracy:** +/- 100 nS
- **Holdover:** VCTCXO (current): 10 ms / 24 hr
- OX-221 (optional): 30 μ s / 24 hr



1

Time Synchronization

- Full IEEE 1588v2 PTP Grandmaster & Slave function
- NTP/ SNTP
- IRIG-B Time Code
- FREQ 5-10-20-25MHz.



Reliability

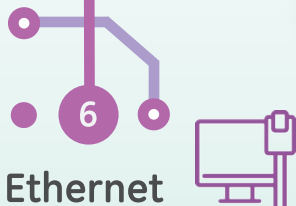
- Sustainable Design, recognized for its credibility around the world.
- PTP Solution

3



09:39:42
Mon Mar 30 2015

UTC +2
Mode = SYNC



Ethernet

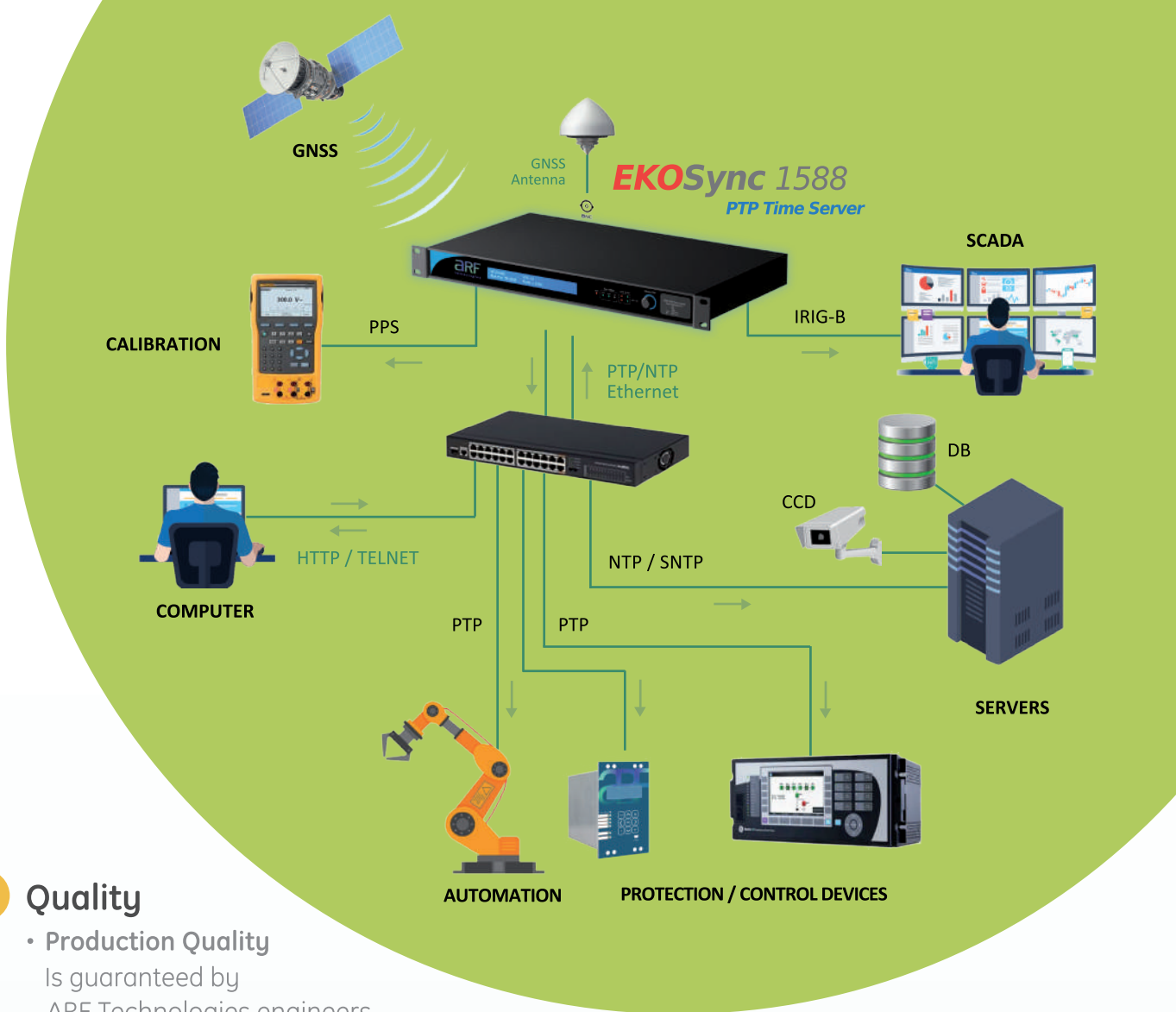
- NTP/PTP Protocols
- Telnet Command Line
- HTTP Protocol
- FTP Protocol
- IPv4, IPv6 (Layer 2)
- SNTP (optional)



7

Sustainable Design

- **Recyclable Materials**
- **Energy Saving:** Low power components
- **Fanless Design:** Eliminates problems caused by fan failure



4

Quality

- **Production Quality**
Is guaranteed by ARF Technologies engineers.

5



Web Interface

- **Multi-Platform**
Management and configuration from all operating systems with web-based interface.



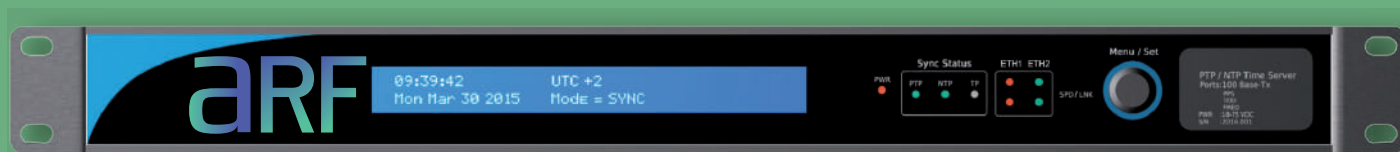
8

- **RJ45 Ethernet** A and B Models: 2 Pcs
- **SFP Ethernet** B Model: 2 Pcs
- **Time Outputs:**
 - Protocols: NTP, PTP, IRIG-B
 - Signals: 1PPS, Frequency, ToD

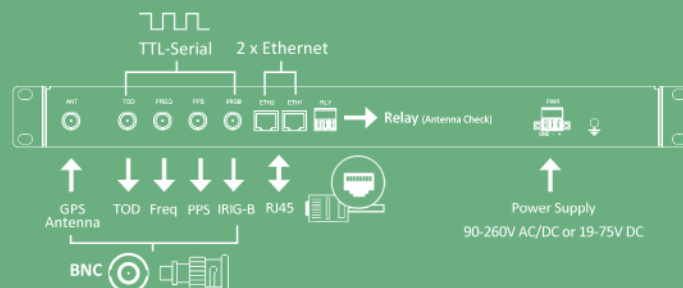
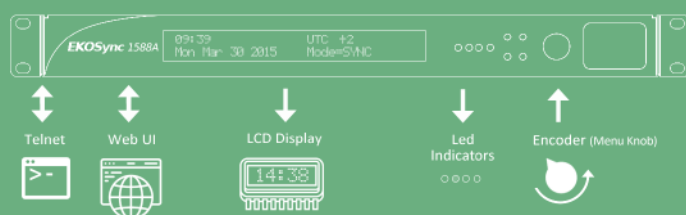
EKOsync 1588 provides an easy way to quickly integrate a precise synchronization system. It can be integrated into endpoints where precise timing signals are required, as well as systems requiring Grandmaster functionality. Precise synchronized signals are generated in 5/10/20/25 MHz and PPS (pulse per second) formats and are provided via BNC connectors. Time of day (ToD) information is provided in NMEA or ASCII format. EKOsync 1588 utilizes an industry-leading algorithm to extract precise timing signals from packets on the network that may be disrupted due to network traffic load, congestion, and delay variations.

A Model

- 2 x Ethernet (2xRJ45) •
- 1 x IRIG-B •
- 1 x Power Supply •



EKOSync 1588 A



System Specifications

- IEEE 1588 v2 Grand Master
- Full compliance in Power, Telecom and Data Centers
- BMC algorithm providing -PRP (optional)
- IRIG-B
- Advanced synchronization and network performance metrics

Web Interface

- 10/100/1000 Mbps RJ45

Other Features

- DHCP client
- FTP server
- TELNET server
- Web User Interface
- Dimensions: 1RU 19"

Physical Interfaces

- Alarm relay
- ToD and PPS output
- 2 10/100/1000 BaseT Ethernet ports

Operating Specifications

- Power supply: 90-260 VAC/DC or 18-75 VDC
- Operating temperature -20°C to 70°C
- RoHS compliant

Technical Specifications

Ethernet

- 10/100/1000 Mbps GE
- Accuracy: ± 10 ns, ± 25 ns (typically)
- Holdover: VCTCXO(default): 10 ms / 24 hr
OCXO(optional): 30 μ s / 24 hr

4 Output Options

- IRIG-B
- PPS
- ToD
- Frequency Output: 5/10/20/25 MHz

ToD Format

- ASCII: YYYY-MM-DD HH:MM:SS
- NMEA & China Mobile format
- Binary

Supported Profiles

- ITU-T G.8265.1
- ITU-T G.8275.1
- ITU-T G.8275.2
- IEEE C37.238-2017

VALIDATION AND CERTIFICATION

- CE compliance : Low voltage directive EN60950-1
- EMC directive: EN61000-6-2, EN61000-6-4
- Radiated & Conducted: EN55022 (CISPR22) Class A
- Emission

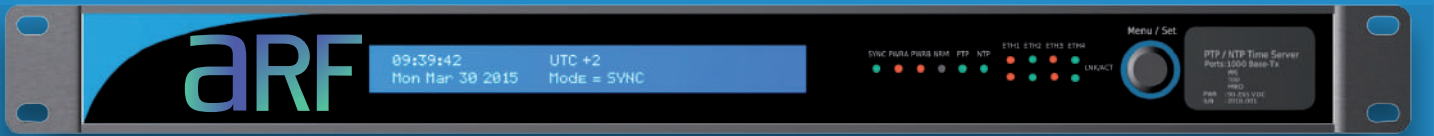
IEC 61850-3 EMI TYPE TESTS

- ESD: EN61000-4-2 Level 4
- RF Immunity: EN61000-4-3 20V/m
- Burst (Fast Transient): EN61000-4-4 Level 4
- Surge Immunity: EN61000-4-5 Level 4
- Conducted RF Immunity: EN61000-4-6 Level 3
- Magnetic Field: EN61000-4-8 Level 3

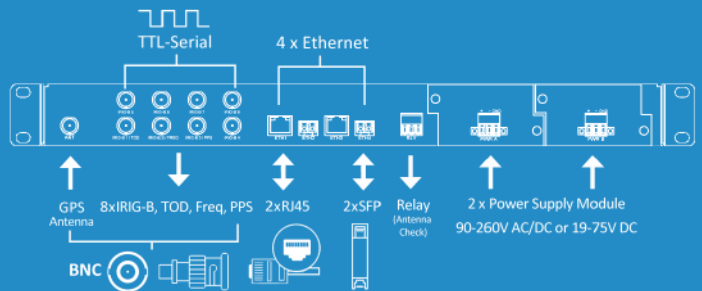
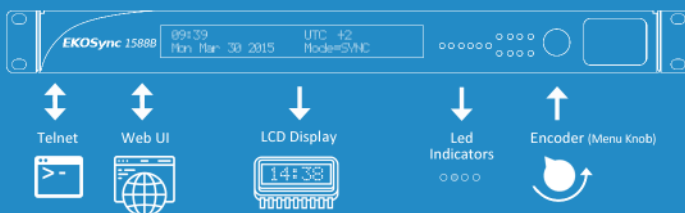
- Voltage Dip & Interrupt: EN61000-4-29
- Ripple on DC Power: EN61000-4-17 Level 3
- Damped Oscillatory: EN61000-4-12 Level 3
- Mains Freq. Voltage: EN61000-4-16 Level 4
- Dielectric Strength: EN60255-5 2kV
- HV Impulse: EN60255-5 5kV

- 4 x Ethernet (2xRJ45, 2xSFP)
- 5 x IRIG-B
- 2 x Power Supply (Redundant)

Model **B**



EKOSync 1588 B



System Specifications

- IEEE 1588 v2 Grand Master
- Full compliance in Power, Telecom and Data Centers
- BMC algorithm providing -PRP (optional)
- IRIG-B
- Advanced synchronization and network performance metrics

Web Interface

- 1 Gbps SFP
- 10/100/1000 Mbps RJ45

Other Features

- DHCP client
- FTP server
- TELNET server
- Web User Interface
- Dimensions: 1RU 19"

Physical Interfaces

- Alarm relay
- ToD and PPS output
- 2 Pcs 1GE SFP
- 2 pcs 10/100/1000 BaseT RJ45

Operating Characteristics

- Backup Power supply: 90-260 V AC/DC
- Operating temperature -40°C / 70°C
- RoHS compliant

Technical Specifications

Ethernet

- 10/100/1000 Mbps GE
- One step and two step master support
- Accuracy: ± 100 ns, ± 25 ns (typically)
- Holdover: VCTCXO(default): 10 ms / 24 hr
- OCXO(optional): 30 μ s / 24 hr

8 Output Options

- IRIG-B
- PPS
- ToD
- Frequency Output: 5/10/20/25 MHz

ToD Format

- ASCII: YYYY-MM-DD HH:MM:SS
- NMEA & China Mobile format
- Binary

Supported Profiles

- ITU-T G.8265.1
- ITU-T G.8275.1
- ITU-T G.8275.2
- IEEE C37.238-2017

IEEE 1613 (C37.90.X) EMI IMMUNITY TYPE TESTS

IEEE 37.90.3: ESD EnclosureContact ± 2 kV, ± 4 kV, ± 8 kV
Enclosure Air ± 4 kV, ± 8 kV, ± 15 kV

IEEE 37.90.2: Radiated RFI Enclosure Ports 35 V/m

IEEE 37.90.1: Fast Transient Signal Ports ± 4 kV @ 2.5kHz
DC Power Ports ± 4 kV

IEEE 37.90.1 Oscillatory Signal Ports 2.5kV common mode@1MHz
DC Power Ports 2.5kV com. 1kV diff.@1MHz

- ▶ IEEE 37.90 HV Impulse Signal Ports 5kV (fail-safe relay output)
DC Power Ports 5kV
- ▶ IEEE 37.90 Dielectric Str. Signal Ports 2kVAC
DC Power Ports 2kVAC

ENVIRONMENTAL TYPE TESTS

- EN60068-2-1: Cold Temperature A -20°C / B -40°C
- EN60068-2-2: Dry Heat +70°C
- EN60068-2-30: Humidity 95% (non-condensing)
- EN60255-21-1: Vibration 2g @ 10-150 Hz
- EN60255-21-2: Shock 30g @ 11ms



Mastering Time. Empowering Systems.

ARF Technologies provides specialized expertise in engineering and local support aiming for a sustainable world. The range of products and services the company provides thrive to improve the quality of the society and environment both locally and globally. ARF' longstanding systematic approach in finding solutions to suit the customers' needs ensures superior service.



We appreciate your interest in ARF products and services, if you have questions or comments, please contact us at: +90 266 502 44 15 | info@arftechnologies.com

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