

EKOS GROUP

AMSTERDAM • ISTANBUL • ALGIERS • DAKAR



EKOSync 1588A | **EKOSync 1588B**

PTP TIME SERVER
PTP SERVEUR DE TEMPS
PTP ZAMAN SUNUCUSU

EKOSinerji

INTRODUCTION / PRESENTATION / TANITIM **EKOSync 1588A / EKOSync 1588B**



Features

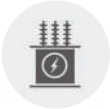
- Full IEEE 1588v2 PTP Grandmaster & Slave functionality
- One-step and two-step clock support
- Flexible holdover performance levels
- IRIG-B
- Gigabit dual ethernet port
- Gigabit dual fiber SFP port (1588B)
- Redundant, hot-swappable power supply (1588B)

Caractéristiques

- Full IEEE 1588v2 PTP Grandmaster & Slave fonctionnalité
- Clock support one-step et two-step
- Niveaux flexibles de holdover performance
- IRIG-B
- Double port Ethernet Gigabit
- Port SFP double fibre Gigabit (1588B)
- Alimentation redondante remplaçable à chaud (1588B)

Özellikler

- Full IEEE 1588v2 PTP Grandmaster & Slave fonksiyonu
- One-step ve two-step clock desteği
- Esnek holdover performans seviyeleri
- IRIG-B
- Gigabit çift Ethernet port
- Gigabit çift fiber SFP port (1588B)
- Çalışırken değiştirilebilir Yedekli Güç Kaynağı (1588B)



Power Substations

Postes de Transformation

Trafo Merkezleri



Industrial Automation

Automation Industrielle

Endüstriyel Otomasyon



Telecom - LTE 4G-5G

Telecom - LTE 4G-5G

Telekom - LTE 4G-5G



Finance

MIFID II (EU) CAT(USA)

Finance MIFID II (EU) CAT (USA)

Finans MIFID II (EU) CAT(USA)



Smart Grids

Réseaux intelligents

Akıllı Ağlar



Data Centers

Centre de Données

Veri Merkezleri



M.Critical IoT

IoT Critique

Kritik IoT Görevleri



Defence

Défense

Savunma



Transportation

Transport

Ulaşım

Overview

Emerging applications in power substations, industrial automation, mobile infrastructure and smart grid have higher precision time synchronization needs. Thus, in mission-critical time dependent systems, synchronization from the same source (aka master) with adequate accuracy is essential. Traditional synchronization methods are either costly or less accurate. The EKOSync 1588A & 1588B implements state of the art time & frequency synchronization algorithms using packet timing in accordance with the IEEE 1588 standard to deliver a full, high performance timing solution.

Integration

The EKOSync 1588 family enables an easy path to quickly and reliably deploy a precise synchronization system. The EKOSync 1588 can be integrated into an end-point where precision timing signals are required as well as systems that need to provide Grandmaster functionality.

Precise synchronized signals are generated and are available at rear BNC connectors as 5/10/20/25 MHz and Pulse Per Second (PPS). The "Time of Day" (ToD) information is available in NMEA or ASCII format.

The EKOSync 1588 enables extraction of precise time signals from packets impeded over the network by traffic load, congestion and delay variation (PDV).

Vue générale

Les systèmes de distribution d'énergie en développement, l'automation industrielle, les infrastructures mobiles et les smart réseaux nécessitent une synchronisation de temps précis. Ainsi, dans les systèmes critiques dépendant du temps, la synchronisation à partir de la même source (c'est-à-dire le maître) avec une précision adéquate est essentielle. Les méthodes de synchronisation traditionnelles sont très coûteuses ou bien moins précises. EKOSync 1588A & 1588B est un système de synchronisation de temps et de fréquence précis et de haute performance et qui utilise un paquet timing (PTP - IEEE 1588) pour présenter des solutions fiable de timing.

Intégration

EKOSync famille présente une méthode simple pour l'intégration rapide d'un système de synchronisation précis. EKOSync 1588 peut intégrer les signaux précis de timing vers les end-points et peut être utilisé dans les systèmes qui nécessitent un grandmaster.

Les signaux précis synchronisés sont produits en 5/10/20/25 MHz et en PPS (pulse per second-impulsion per second) et sont communiqués aux connecteurs BNC. Les informations ToD (Time of day-temps du jour) sont fournis en format NMEA ou ASCII.

EKOSync 1588 possède des algorithmes leader industriels qui fournissent des signaux de timing précis des paquets en perturbation sur le réseau à cause de la charge du trafic, congestions et variations de retard.

Genel Bakış

Gelişen enerji dağıtım sistemleri, endüstriyel otomasyon, mobil altyapı ve akıllı şebekeler yüksek hassasiyetli zaman senkronizasyonuna ihtiyaç duyar. Bu nedenle, zamana bağlı kritik sistemlerde, aynı kaynaktan (ana kaynaktan) yeterli doğrulukla senkronizasyon esastır. Geleneksel senkronizasyon metodları ya çok pahalı ya da hata oranları oldukça yüksektir. EKOSync 1588 tam ve yüksek performanslı, güvenilir timing çözümleri için paket zamanlama (PTP - IEEE 1588) kullanan bir zaman ve frekans senkronizasyonu sistemidir.

Entegrasyon

EKOSync 1588 bir hassas senkronizasyon sistemini hızlıca entegre edebilmek için kolay bir yol sunar. EKOSync 1588 hassas zaman sinyallerinin gerekli olduğu end-point'lere entegre edilebildiği gibi Grandmaster fonksiyonuna ihtiyaç duyan sistemlerde de kullanılabilir.

Hassas syntonize sinyaller 5/10/20/25 MHz ve PPS (pulse per second) olarak üretilir ve BNC konnektörlere verilir. ToD (time of day) bilgileri NMEA veya ASCII formatında sağlanır.

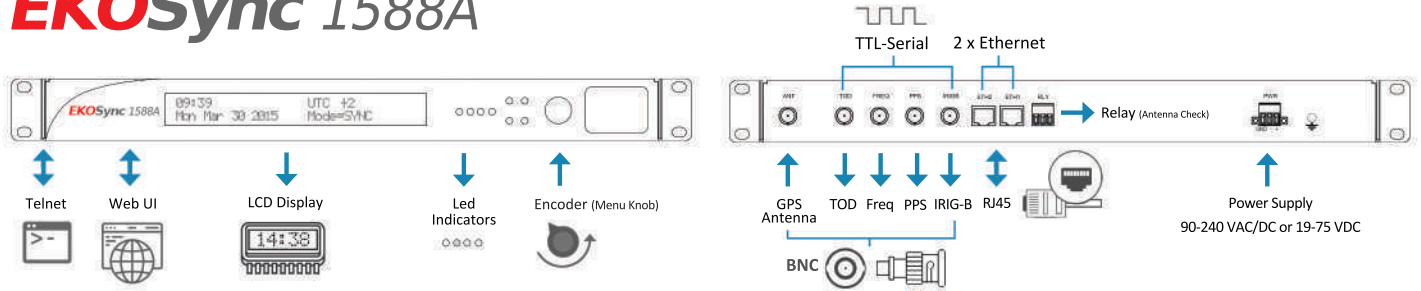
EKOSync 1588 network trafiği yükü, yığılması ve gecikme varyasyonları yüzünden network üzerinde sekteye uğrayan paketlerden hassas zaman sinyallerini çıkaran endüstri lideri algoritma sahiptir.

NTP/PTP (IEEE 1588) PRECISE TIME SYNCHRONIZATION SERVER

SERVEUR DE SYNCHRONISATION PRÉCISE DE L'HEURE NTP/PTP (IEEE 1588)

NTP/PTP (IEEE 1588) HASSAS ZAMAN SENKRONİZASYONU SUNUCUSU

EKO Sync 1588A



System Features

- IEEE 1588v2 Grandmaster and Boundary Clock support
- Fully compliant to power, telecom, stock exchange and datacenter profiles
- PRP enabling BMC algorithm
- IRIG-B
- Enhanced synchronization and network performance metrics

Network Interface

- 10/100/1000 Mbps RJ45

Other Features

- DHCP client
- FTP server
- TELNET server
- Command line interface configuration
- Web UI

Physical Interfaces

- Alarm relay
- ToD and PPS output
- Two 10/100/1000 BaseT

Operating Specifications

- Power Supply: 90-240 VAC/DC or 18-75 VDC
- Operating temperature -20°C to 70°C
- RoHS compliant

Size

- Dimensions: 1RU 19"

Technical Specifications

Ethernet

- 10/100/1000 Mbps

PTP Master

- Accuracy: ± 100 ns, ± 25 ns typical
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP Slave

- Supports 1-step and 2-step masters
- Accuracy: ± 100 ns, ± 25 ns typical
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO (optional): 30 usec/24hr

Input Synchronization Interfaces

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Output Synchronization Interfaces

- Freq out: 5/10/20/25 MHz
- IRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

ToD Format

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

Caractéristiques du système

- Prise en charge de la norme IEEE 1588v2 Grandmaster et Boundary Clock
- Entièrement conforme aux profils d'alimentation, de télécommunications, de bourse et de centre de données
- PRP permettant l'algorithme BMC
- IRIG-B
- Mesures de synchronisation développée et de performance du réseau

Interface de réseau

- 10/100/1000 Mbps RJ45

Autres Caractéristiques

- DHCP client
- FTP serveur
- TELNET serveur
- Configuration avec ligne de commande
- Interface Web

Interfaces Physiques

- Relais d'alarme
- Sorties ToD et PPS
- 2 points de connexion 10/100/1000 BaseT Ethernet

Spécifications Opératives

- Alimentation : 90-240 VAC/DC or 18-75 VDC
- Température de fonctionnement : -20 / 70 degré C
- Conformité RoHS

Taille

- Dimensions : 1RU 19 pouces

Spécifications Techniques

Ethernet

- 10/100/1000 Mbps

PTP Master

- Précision : ± 100 ns, ± 25 ns typique
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP slave

- Support une phase et deux phases master
- Précision : ± 100 ns, ± 25 ns typique
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

Interfaces de Synchronisation à l'Entrée

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Interfaces de Synchronisation à la sortie

- Fréquence de sortie : 5/10/20/25 MHz
- IRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Format ToD

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

Sistem Özellikleri

- IEEE 1588v2 Master ve Kenar Saat desteği
- Güç, telekom, borsa ve veri merkezi profilleri ile tam uyumlu
- PRP sağlayan BMC algoritması
- IRIG-B
- Gelişmiş senkronizasyon ve ağ performans ölçümleri

Ağ Arayüzü

- 10/100/1000 Mbps RJ45

Diğer Özellikler

- DHCP istemci
- FTP sunucu
- TELNET sunucu
- Komut satırı ile konfigürasyon
- Web Kullanıcı Arayüzü

Fiziksel Arabirimler

- Alarm röle
- ToD ve PPS çıkış
- 2 adet 10/100/1000 BaseT Ethernet bağlantı noktası

Çalışma Özellikleri

- Güç kaynağı: 90-240 VAC/DC or 18-75 VDC
- Çalışma sıcaklığı -20°C / 70°C
- RoHS uyumlu

Ölçüler

- Boyutlar: 1RU 19"

Teknik Özellikler

Ethernet

- 10/100/1000 Mbps

PTP Master

- Doğruluk: ± 100 ns, ± 25 ns (tipik olarak)
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP Slave

- Bir aşamalı ve iki aşamalı master desteği
- Doğruluk: ± 100 ns, ± 25 ns (tipik olarak)
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO (optional): 30 usec/24hr

Giriş Senkronizasyon Arabirimleri

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Çıkış Senkronizasyon Arabirimleri

- Frekans çıkışı: 5/10/20/25 MHz
- IRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

ToD Format

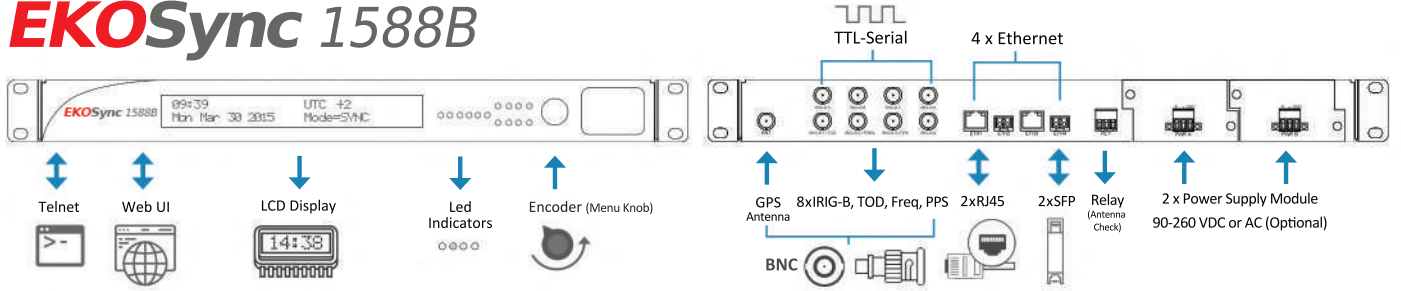
- ASCII: YYYY-MM-DD HH:MM:SS
- NMEA & China Mobile format
- Binary

NTP/PTP (IEEE 1588) PRECISE TIME SYNCHRONIZATION SERVER

SERVEUR DE SYNCHRONISATION PRÉCISE DE L'HEURE NTP/PTP (IEEE 1588)

NTP/PTP (IEEE 1588) HASSAS ZAMAN SENKRONİZASYONU SUNUCUSU

EKO Sync 1588B



System Features

- IEEE 1588v2 Grandmaster and Boundary Clock support
- Fully compliant to power, telecom, stock exchange and datacenter profiles
- PRP enabling BMC algorithm
- IRIG-B
- Enhanced synchronization and network performance metrics

Network Interface

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

Other Features

- DHCP client
- FTP server
- TELNET server
- Command line interface configuration
- Web UI

Physical Interfaces

- Alarm relay
- ToD and PPS output
- Two 1GE SFP Ethernet Port
- Two 10/100/1000 BaseT Ethernet Port

Operating Specifications

- Power Supply: 90-260 VDC or AC (Optional)
- Operating temperature -40°C to 70°C
- RoHS compliant

Size

- Dimensions: 1RU 19"

Technical Specifications

Ethernet

- 1 Gbps FO
- 10/100/1000 Mbps

PTP Master

- Accuracy: ± 100 ns, ± 25 ns typical
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP Slave

- Supports 1-step and 2-step masters
- Accuracy: ± 100 ns, ± 25 ns typical
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO (optional): 30 usec/24hr

Input Synchronization Interfaces

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Output Synchronization Interfaces

- Freq out: 5/10/20/25 MHz
- 8xIRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

ToD Format

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

Caractéristiques du système

- Prise en charge de la norme IEEE 1588v2 Grandmaster et Boundary Clock
- Entièrement conforme aux profils d'alimentation, de télécommunications, de bourse et de centre de données
- PRP permettant l'algorithme BMC
- IRIG-B
- Mesures de synchronisation développée et de performance du réseau

Interface de réseau

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

Autres Caractéristiques

- DHCP client
- FTP serveur
- TELNET serveur
- Configuration avec ligne de commande
- Interface Web

Interfaces Physiques

- Relais d'alarme
- Sorties ToD et PPS
- 2 points de connexion 1GE SFP
- 2 points de connexion 10/100/1000 BaseT Ethernet

Spécifications Opératives

- Alimentation : 90-260 VDC or AC (Optionell)
- Température de fonctionnement : -40 / 70 degré C
- Conformité RoHS

Taille

- Dimensions : 1RU 19 pouces

Spécifications Techniques

Ethernet

- 1 Gbps FO
- 10/100/1000 Mbps

PTP Master

- Précision : ± 100 ns, ± 25 ns typique
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP slave

- Support une phase et deux phases master
- Précision : ± 100 ns, ± 25 ns typique
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

Interfaces de Synchronisation à l'Entrée

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Interfaces de Synchronisation à la sortie

- Fréquence de sortie : 5/10/20/25 MHz
- 8xIRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Format ToD

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

Sistem Özellikleri

- IEEE 1588v2 Master ve Kenar Saat desteği
- Güç, telekom, borsa ve veri merkezi profilleri ile tam uyumlu
- PRP sağlayan BMC algoritması
- IRIG-B
- Gelişmiş senkronizasyon ve ağ performans ölçümleri

Ağ Arayüzü

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

Diğer Özellikler

- DHCP istemci
- FTP sunucu
- TELNET sunucu
- Komut satırı ile konfigürasyon
- Web Kullanıcı Arayüzü

Fiziksel Arabirimler

- Alarm röle
- ToD ve PPS çıkış
- 2 adet 1GE SFP Ethernet bağlantı noktası
- 2 adet 10/100/1000 BaseT Ethernet bağlantı noktası

Çalışma Özellikleri

- Güç kaynağı: 90-260 VDC veya AC (Opsiyonel)
- Çalışma sıcaklığı -40°C to 70°C
- RoHS uyumlu

Ölçüler

- Boyutlar: 1RU 19"

Teknik Özellikler

Ethernet

- 1 Gbps FO
- 10/100/1000 Mbps

PTP Master

- Doğruluk: ± 100 ns, ± 25 ns (tipik olarak)
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO(optional): 30 usec/24hr

PTP Slave

- Bir aşamalı ve iki aşamalı master desteği
- Doğruluk: ± 100 ns, ± 25 ns (tipik olarak)
- Holdover: VCTCXO(default): 5 msec/24 hr
OCXO (optional): 30 usec/24hr

Giriş Senkronizasyon Arabirimleri

- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

Çıkış Senkronizasyon Arabirimleri

- Frekans çıkışı: 5/10/20/25 MHz
- 8xIRIG-B
- PPS
- ToD
- PTP: Ethernet (L2), IPv4 / IPv6 (L3), UDP (L4)

ToD Format

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

DOCUMENTS / BELGELER

APPROVAL AND CERTIFICATION APPROBATION ET CERTIFICATION ONAY VE SERTİFİKASYON

Approval and Certification

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

Approbation et Certification

- Conformité CE Directif Base Tension EN60950-1
- Directif EMC EN61000-6-2, EN61000-6-4
- Rayonné et conduit EN55022 (CISPR22) Classe A
- Emission

Onay Ve Sertifikasyon

- 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

Types Testes IEC 61850-3 EMI

ESD	EN61000-4-2	Niveau 4
Immunité RF	EN61000-4-3	20V/m
Explosion (transition rapide)	EN61000-4-4	Niveau 4
Immunité saut de courant	EN61000-4-5	Niveau 4
Immunité RF conduit	EN61000-4-6	Niveau 3
Champs magnétique	EN61000-4-8	Niveau 3
Manque de tension / Interruption	EN61000-4-29	
Ondulation sur DC	EN61000-4-17	Niveau 3
Oscillations amorties	EN61000-4-12	Niveau 3
Réseau Fréq. Tension	EN61000-4-16	Niveau 4
Résistance diélectrique	EN60255-5	2kV
Choc HT	EN60255-5	5kV

IEC 61850-3 EMI Tip Testleri

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

IEEE 1613 (C37.90.X) EMI Immunity Type Tests

IEEE 37.90.3 ESD	Enclosure Contact	+/-2kV, +/-4kV, +/-8kV
	Enclosure Air	+/-4kV, +/-8kV, +/-15kV
IEEE 37.90.2 Radiated RFI	Enclosure Ports	35 V/m
IEEE 37.90.1 Fast Transient	Signal Ports	+/-4kV @ 2.5kHz
	DC Power Ports	+/-4kV
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

Types Testes de Susceptibilité IEEE 1613(C37.90.X) EMI

IEEE 37.90.3 ESD	Boite des contacts	+/- 2kV, +/-4kV, +/-8kV
	Réservoir d'air	+/-4kV, +/-8kV, +/-15 kV
IEEE 37.90.2 Rayonnement RFI	Boîtes des portes	35 V/m
IEEE 37.90.1 Transition rapide	Portes de signaux	+/-4kV @ 2.5kHz
	Portes Puiss. DC	+/-4kV
IEEE 37.90.1 Oscillations	Portes de signaux	2.5kV
	modèle ordinaire@1MHz	
Portes Puiss. DC	2.4kV ord.	
	1kV diff.@1MHz	
IEEE 37.90 Choc HT	Portes de signaux	5kV
	(fail-safe relais de sortie)	
Portes Puiss. DC	5kV	
IEEE 37.90 Résistance diélectrique	Portes de signaux	2kVAC
	Portes Puiss. DC	2kVAC

IEEE 1613 (C37.90.X) EMI Alinganlık Tip Testleri

IEEE 37.90.3 ESD	Enclosure Contact	+/-2kV, +/-4kV, +/-8kV
	Enclosure Air	+/-4kV, +/-8kV, +/-15kV
IEEE 37.90.2 Radiated RFI	Enclosure Ports	35 V/m
IEEE 37.90.1 Fast Transient	Signal Ports	+/-4kV @ 2.5kHz
	DC Power Ports	+/-4kV
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	-40°C (1588B)
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

Types Testes d'Environnement

EN60068-2-1	Température froide	-20 degré C
EN60068-2-2	Température chaude	+70 degré C
EN60068-2-30	Humidité	95%
		(sans condensation)
EN60255-21-1	Vibrations	2g@10-150Hz
EN60255-21-2	Choc	30g@11ms

Çevresel Tip Testleri

EN60068-2-1	Cold Temperature	-20°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

Application Scenarios / Scénarios d'application / Uygulama Senaryoları



EKOS World / Le Monde d'EKOS / EKOS Dünyası

EKOS GROUP exports the 70% of its products to Holland, Czech Republic, Algeria, Senegal, Ivory Coast, Philippines, Canada, Great Britain, Germany, Uruguay, Mali, Benin, Nigeria, Togo, Kazakhstan, Turkmenistan, Azerbaijan, Iran, Iraq, Palestine, Tunisia, Morocco, Libya, Jordan and Syria.

Le GROUPE EKOS exporte 70% de ses produits vers la Hollande, République Tchèque, l'Algérie, le Sénégal, Côte d'Ivoire, Philippines, le Canada, la Grande-Bretagne, l'Allemagne, l'Uruguay, le Mali, le Nigeria, le Bénin, le Togo, le Kazakhstan, le Turkmenistan, l'Azerbaïdjan, l'Iran, l'Irak, la Palestine, la Tunisie, le Maroc, la Libye, la Jordanie et la Syrie.

Ürettiği orta gerilim ekipmanlarının %70'ini ihrac eden şirketin çalıştığı ülkeler arasında Hollanda, Çek Cumhuriyeti, Cezayir, Senegal, Fildişi Sahili, Filipinler, Kanada, Büyük Britanya, Almanya, Uruguay, Mali, Benin, Nijerya, Togo, Kazakistan, Türkmenistan, Azerbaycan, İran, Irak, Filistin, Tunus, Fas, Libya, Ürdün ve Suriye yer almaktadır.





EKOS GROUP

AMSTERDAM • ISTANBUL • ALGIERS • DAKAR

24/7 Service, Global Network

EKOSinerji provides specialized expertise in engineering and local support aiming for a sustainable world. The wide range of products and services the company provides thrive to improve the quality of the society and environment both locally and globally. EKOS' longstanding systematic approach in finding solutions to suit the customers' needs ensures superior service. Whether it be turnkey design, startup, commissioning or field service, EKOSinerji is your solution partner.

EKOSinerji Elektrik San. ve Tic. A.Ş

Head Office: Istasyon Mah. Guney Yanyol No: 78 41420 Gebze/Kocaeli/Turkey | T: +90 262 656 4767 F: +90 262 656 4770

Factory: Organize Sanayi Bolgesi 7. Cadde No: 17-19 Altieylul/Balikesir/Turkey | T: +90 266 281 1295 F: +90 266 281 1295

Ankara Office: Oguzlar Mah. 1364 Sok. No: 2 D: 3 Balgat/Cankaya/Ankara/Turkey | T: +90 312 284 5347 F: +90 312 284 5348

Export: Istanbul End. ve Serbest Bol. Mud. Parsel No: 111/4 Kat: 2 34957 Tuzla/Istanbul/Turkey | T: +90 216 394 0632 F: +90 262 656 4770

EKOSinerji Holding B.V.

Head Office: Eerste Weteringplantsoen 8, 1017SK Amsterdam/Netherlands | T: +31 20 211 1821

Sarl EKOS ENERGIE

Head Office: 13, Chemin Pouyenne Telemely Algiers/Algeria | T: +213 21 64 1807 F: +213 21 64 1834

EKOS AFRICA - Sarl

Cite Keur Gorgui Lot 57 Residence Moustapha Zeme Etage Dakar/Senegal | M: +221 776 378 182



FOR MORE INFO

+90 262 656 4767

ekosinerji@ekosinerji.com | sales@ekosinerji.com



linkedin.com/company/ekosinerji-elektrik-san-tic-a-s
facebook.com/EKOSinerji | instagram.com/ekosgroup

EKOSinerji