



Datasheet

EdgeIPS Pro 2016F/4016F

Intent-Based Industrial Intelligent Protection System

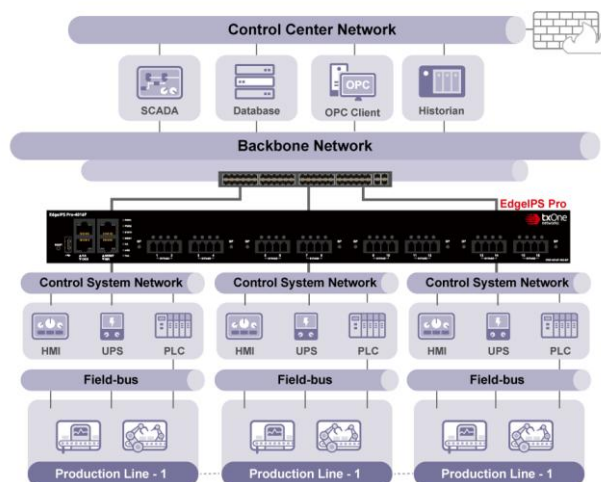
Safeguarding the Future of Industry: OT Network Security
Solutions for Uninterrupted Operation

As we enter the era of Industry 4.0, the integration of Operational Technology (OT) into manufacturing and industrial production is revolutionizing the industry. However, this advancement also brings an increase in sophisticated cyber threats such as ransomware, supply chain attacks, and critical infrastructure targeting. To combat these threats, TXOne has developed a comprehensive suite of OT security solutions, meticulously designed in respond to the complex needs of today's production environments.

Selecting the right security solution is essential to any effective cybersecurity strategy. TXOne offers a diverse range of Edge security solutions, tailored to the specific requirements and operational contexts of each industrial vertical. This ensures that every industry can deploy an optimal solution for its unique environment.

In OT security, protecting operations without disrupting production is critical. TXOne Edge devices leverage AI-powered security intelligence to provide robust and precise protection while ensuring uninterrupted business continuity. These devices integrate seamlessly into existing networks, eliminating the need for downtime. In the rare event of hardware failure, multiple bypass mechanisms help maintain smooth production network traffic and operational continuity.

Comprehensive protection is the cornerstone of effective OT security. EdgeIPS Pro combines advanced CPSDR technology with AI-powered security intelligence to strengthen network defenses against unauthorized access, anomalous behavior, and evolving cyber threats. Its enhanced OT visibility provides deeper insight into assets, communications, risks, and threats, enabling security teams to make faster, more informed decisions and respond more effectively to potential security risks.



Solution Overview

Building a reliable OT network with ease involves three key elements. First, ensuring a strong feature-environment fit is crucial for seamless hardware **adoption**. Second, all security features are designed with a primary focus on **operational** efficiency and continuity. Lastly, OT-specific insights play a pivotal role in enhancing **prevention** capabilities, addressing gaps often overlooked by general IT security products.

You can find your Edge for all sorts of environments—whether harsh or temperate, centralized or distributed. Our flexible connection types and available port density options ensure that your specific needs are met. The pioneering fail-safe mechanisms and AI-driven deployment strategies reduce the configure-to-service time, ensuring a seamless, uninterrupted end-to-end flow. Combined with our OT-centric, proactive prevention technologies, TXOne makes resilient networking both practical and effective. With rising cybersecurity threats, robust OT security is crucial. TXOne Edge products offer innovative Network-wide Security Situational Awareness, providing real-time threat detection and response across the entire OT environment.

Core Capabilities



Adoption

Fulfilling Technical and Operational Demands with a Swift Onboarding Flow

- ❖ Features fiber interfaces for ultra high-speed data transfer.
- ❖ Commercial form factor for less-demanding environments.
- ❖ Protect your entire shop floor with a single, high-port-density EdgeIPS Pro device.
- ❖ Easy on-site installation for rapid deployment.
- ❖ Batch setup supported with Deployment Assistant.



Operation

Activating Protection Painlessly with No Operational Disruption

- ❖ Ensures uninterrupted production by supporting fail-safe mechanisms during hardware failures.
- ❖ Automatic switchover with Universal Bypass Feature ensures zero disruption during uplink disconnection, keeping your business continuity.
- ❖ Automatically creates and deploys security policies based on AI-curated traffic behaviors.
- ❖ Integrates seamlessly into existing networks without disrupting operations.
- ❖ AI-Powered OT asset identification automatically discovers and profiles OT assets.



Prevention

Crafting a Resilient Network with Operational Insights

- ❖ Identifies and predicts anomalous network behaviors with CPSDR Networking technology.
- ❖ Secures OT network communication and prevents insider threats across ICS protocols.
- ❖ Enhances network segmentation to contain cyber infections and limit lateral movement.
- ❖ Protects unpatched production assets with signature-based virtual patching and antivirus.
- ❖ Extends IT to OT network protection by importing suspicious objects from third parties.

Key Features



Cyber-Physical System Detection and Response

EdgeIPS Pro 2016F/4016F is built with TXOne's pioneering CPSDR (Cyber-Physical System Detection and Response) technology, designed to identify and predict anomalous network behaviors at an early stage. With the CPSDR, your OT network can proactively stay a step ahead of cyber risks, blocking potential threats before they materialize.



AI-Powered Asset-Centric Auto Rule Learning

EdgeIPS Pro 2016F/4016F uses AI-driven traffic analysis to automatically learn each asset's communication behavior and generate asset-specific allowlist rules. Security teams can quickly review and optimize policies with greater accuracy, reducing manual effort while strengthening OT operational protection and resilience.



Hybrid Approach to OT Protocol Filtering

EdgeIPS Pro 2016F/4016F delivers granular inspection of a wide range of OT protocols—such as Modbus, SECS/GEM, CIP, TSAA, and CODESYS—without requiring a firmware upgrade. This hybrid approach ensures up-to-date protocol filtering capabilities while maintaining uninterrupted operations.



OT-Aware Operational Intelligence

Our core technology for EdgeIPS Pro 2016F/4016F, TXOne One-Pass DPI for Industry (TXODI), gives you the ability to create and edit allowlists, enabling interoperability between key nodes and deep analysis of L2-L7 network traffic.



Signature-Based Virtual Patching and Antivirus

Virtual patching shelters endpoint and network vulnerabilities while signature-based antivirus provides an extra layer of protection under EdgeIPS Pro 2016F/4016F. Research-supported, up-to-date signatures protect your production assets against the latest threats, and the frequency of flexible updates is fully under the administrator's control.



Unrivaled Threat Intelligence

Leveraging the Zero Day Initiative (ZDI) vulnerability rewards program, EdgeIPS Pro 2016F/4016F provides your systems with unparalleled protection against undisclosed and zero-day threats.



Multi-Segmenting with Integrated Security

EdgeIPS Pro 2016F/4016F, specifically designed for levels 1-3, can be deployed in front of mission-critical assets or at the OT network edge. Its transparency and high performance enable it to safeguard network traffic and production assets without disrupting operations.



High Port Density and Flexible Deployment

EdgeIPS Pro 2016F/4016F flexibly switches between 'Monitor' and 'Prevention' modes and supports 8 segments to preserve your productivity while maximizing security.



Centralized Management with Convenient, Consolidated Overview

Pattern updates and firmware management can all be centralized on a large scale. For facilities with extensive EdgeIPS Pro 2016F/4016F nodes, EdgeOne facilitates group administration and management, thereby reducing costs and enhancing efficiency on a large scale.



AI-Powered Shadow OT Visibility

EdgeIPS Pro 2016F/4016F leverages AI-Powered Asset Intelligence to autonomously discover unknown OT assets, legacy systems, vulnerabilities, and communication paths across IT/OT networks with zero manual intervention. Eliminate Shadow OT blind spots and gain reliable asset intelligence from day one.



Holistic CPS Protection Platform Integration

By integrating TXOne EdgeOne with Edge security solutions, you can orchestrate cybersecurity information across all Edge Series devices. This integration goes beyond visibility, offering comprehensive protection and threat detection across all CPS facilities in your organization. It offers actionable recommendations ready for implementation by OT security management teams.

EdgeIPS Pro 2016F/4016F Hardware

EdgeIPS Pro 2016F



438 mm x 650 mm X 44 mm (17.24 in X 25.59 in X 1.73 in)

Front Panel



Rear Panel



EdgeIPS Pro 4016F



438 mm x 650 mm X 44 mm (17.24 in X 25.59 in X 1.73 in)

Front Panel



Rear Panel



EdgeIPS Pro 2016F/4016F Specifications

Feature	EdgeIPS Pro 2016F (Multi-Mode)	EdgeIPS Pro 4016F (Multi-Mode)	EdgeIPS Pro 2016F (Single-Mode)	EdgeIPS Pro 4016F (Single-Mode)
Threat Prevention Throughput*	20Gbps (IMIX) 40Gbps (UDP 1518 bytes)	40Gbps (IMIX) 60Gbps (UDP 1518 bytes)	20Gbps (IMIX) 40Gbps (UDP 1518 bytes)	40Gbps (IMIX) 60Gbps (UDP 1518 bytes)
Latency*	<500 microseconds on average under mixed traffic condition			
Concurrent Connection (TCP)	4 million			
Intrusion Prevention / Antivirus / CPSDR-Networking	Yes / Yes / Yes			
Supported ICS Protocol	Modbus, EtherNet IP, CIP, FINS, S7Comm, S7Comm+, SECS, GEM, IEC61850-MMS, IEC-104, TSAA, CODESYS, and more — all supported without requiring a firmware update			
Policy Enforcement and L2 Policy Enforcement Rules	100,000 rules			
ICS Protocol Filter Profiles	256 profiles			
Form Factor	Standard 1U rack mount			
Weight (Standalone Device)	12.5 kg (27.557 lb)			
Dimensions (W x D x H)	438 mm x 650 mm X 44 mm (17.24 in X 25.59 in X 1.73 in)			
Network Interface Type	10Gbps 10GBASE-SR Fiber x 16 ports (LC connector type – multi-mode*)		10Gbps 10GBASE-LR Fiber x 16 ports (LC connector type – single-mode*)	
Fiber Interface Type	1000BASE-SX with LC – 1Gbps, SFP 10GBASE-SX with LC – 10Gbps, SFP+ 10GBASE-SR with LC – 10Gbps, SFP+ (Multi-mode is for short-distance transmission.)		1000BASE-LX with LC – 1Gbps, SFP 10GBASE-LX with LC – 10Gbps, SFP+ 10GBASE-LR with LC – 10Gbps, SFP+ (Single-mode is for long-distance transmission.)	
Hardware Failover	8 segments 10G fiber with Gen3 hardware bypass			
USB Interface / Serial Console	1x USB interface (Type-A) / 1x RJ-45 interface for serial console			
MGMT Interface / Mirror Interface	1 x 100Mbps/1Gbps/10Gbps RJ-45 for OOB MGMT port / 1 x 100Mbps/1Gbps/10Gbps RJ-45 for mirror port			
HA Port	1 x 10Mbps/100Mbps/1Gbps RJ-45 for HA port			
Input Voltage	90-264 VAC FULL RANGE			
Power Supplies	Redundant 800W power supply (1+1 AC, active-active) (hot swappable)			
Operating Temperature	0 - 40°C (32 - 104°F)			
Ambient Relative Humidity	5 to 95% (non-condensing)			
Storage Temperature	-40 - 85°C (-40 - 185°F)			
Vibration	2 Gems @ UEC 60068-2-64, random wave, 5-500HZ, 1hr per axis (without any USB devices attached)			
Mean Time Between Failure (MTBF)	63,000 hours (under 25°C)			
Safety Certification	CE, UL, EN60950-1, IEC60950-1, UL60950-1			
Electromagnetic Compatibility	VCCI, FCC			
Rack Rail Support	Rack mounting ears, sliding rails			
Green Product	RoHS, CRoHS, WEEE			
Central Management System	Supports EdgeOne			

* Note: Performance and latency are measured in a laboratory; these values may vary according to test conditions and system configuration.

* Each EdgeIPS Pro is entitled to 1 year of hardware warranty. Upon renewal of the software license and hardware warranty extension, the hardware warranty will be able to be extended for the same renewal period, subject to a maximum warranty period of 7 years.

* The supported optical fiber mode (multi-mode or single-mode) of each EdgeIPS Pro model depends on the purchased part number.