

Hirschmann OpEdge Family

Industrial Edge Gateways Enabling Various Use Cases

PRODUCT BULLETIN



Bring edge computing capabilities to your local automation infrastructure with industrial-grade OpEdge-4D and OpEdge-8D edge gateway devices. All devices run applications that make operational data more actionable.

OpEdge-4D

- **Lower in cost and power consumption** with an ARM CPU.
- **Suited for deployment of edge applications via containers**, either locally through the device interface or remotely via the Belden Horizon™ Console.
- **Hazardous locations approvals**, a robust form factor, and an extended temperature range for use in harsh environments.

OpEdge-8D

- **Ideal for more resource-intensive use cases** with more memory, storage and Ethernet ports than OpEdge-4D and two SFP ports for fiber connections.
- **More options for application deployment at the network edge** via containers and virtual machines.
- **Substation and ship approvals** for the energy sector and marine applications.

Hirschmann's OpEdge-4D and OpEdge-8D gateways help companies bridge the IT/OT divide by empowering industrial infrastructures with devices that help achieve Industry 4.0 goals.

Key Features

- Industrial-grade design for DIN rail mounting with convection-cooled metal housing.
- Operating temperature range: -40°C to +70°C.
- Secure remote access for a protected connection initiated from the cloud or on-premises to connected end devices.
- Integrated with the Belden Horizon Console for device management and application orchestration.

OpEdge-4D

- **CPU:** NXP i.MX 8M Mini ARMv8 64-bit Cortex-A53 @ 1.6 GHz (quad core)
- **Memory:** LPDDR4 4 GB
- **Ethernet Ports:** 4 x GbE RJ45 ports
- **Serial Ports:** 1 x RJ45 port (serial tunneling & encapsulation; RS232/422/485)
- **USB Ports:** 1 x USB 2.0 port

OpEdge-8D

- **CPU:** Intel Atom E3950 @ 1.6 GHz (quad core)
- **Memory:** DDR3L 8 GB
- **Ethernet Ports:** 5 x GbE RJ45 ports + 2 x GbE SFP ports
- **Serial Ports:** 2 x DB9 ports for RS-232 protocols
- **USB Ports:** 2 x USB 3.0 ports

Your Benefits

As connected devices proliferate and IIoT adoption grows, companies have unprecedented data volumes. Belden's industrial-grade OpEdge-4D and OpEdge-8D edge gateway devices run applications and process data at the network edge, turning data into insights where they can best be used. These gateways feature a secure operating system that is easy to use, saving on time and labor during installation and operation, and provide users with networking capabilities and support for secure remote access to end devices. Organizations that use OpEdge gateways benefit from increased efficiency, maximized uptime, and lower total cost of ownership.

OpEdge-4D supports deployment of edge applications via containers, which can be installed either locally through the device interface or remotely through the Belden Horizon Console.

OpEdge-8D allows edge application deployment via either virtual machines or containers and integrates into the Belden Horizon Console. The OpEdge-8D is an AWS qualified device for IoT Greengrass and a Microsoft Azure Certified Device that was also granted the IoT Plug and Play approval. Additionally, the OpEdge-8D is approved by Inductive Automation as an Ignition Edge-ready device.

Applications

The Hirschmann OpEdge gateway family is ideal for companies looking to unite IT and OT data – from the sensor to the cloud.

OpEdge-4D is a more cost-effective choice for applications that have lower computing requirements and provides robust edge computing power in a more compact design. With multiple hazardous location approvals, OpEdge-4D can operate in harsh environments.

OpEdge-8D is an advanced solution designed for large, complex industrial networks with a growing number of connected devices. It offers additional available data storage, support for fiber and copper connections, and more Ethernet ports than the OpEdge-4D.



Markets

The Hirschmann OpEdge gateway family supports a broad range of industries and use cases, including discrete manufacturing, energy, transportation and machine building.

OpEdge-4D has specific hazardous location approvals that make it well-suited for process industries – such as oil and gas, chemical manufacturing, and food and beverage.

OpEdge-8D has specific substation and ship approvals for use in the energy sector and in maritime applications.

Technical Information

Product Description

Type	OpEdge-8D	OpEdge-4D
Description	Industrial Edge Gateway Device for DIN Rail Mounting	
Port Type and Quantity	5 x GbE RJ45 ports + 2 x GbE SFP ports	4 x GbE RJ45 ports
Port Speeds	10/100/1000 Mbps RJ45 1000 Mbps SFP	10/100/1000 Mbps RJ45

More Interfaces

USB Interface	2 x USB 3.0 ports	1 x USB 2.0 port
Serial Interface	2 x DB9 serial interfaces for RS232 protocols	1 x RJ45 port (serial tunneling & encapsulation; RS232/422/485)

Hardware

CPU	Intel Atom E3950 @ 1.6 GHz (quad core)	NXP i.MX 8M Mini ARMv8 64-bit Cortex-A53 @ 1.6 GHz (quad core)
Encryption	TPM 2.0 (Hardware based anti-counterfeit, anti-tamper chip)	
Memory	DDR3L 8 GB	LPDDR4 4 GB
Bypass	2 x GbE Copper (2x1) with Gen3 Bypass	N/A
Storage	64 GB SSD storage (48.5 GB accessible)	64 GB eMMC storage (17 GB accessible)

Power Requirements

Operating Voltage	Dual 20 - 54 V DC	Dual 10 - 30 V DC
Power Consumption	max. 25 W	2.5 W
Power Supply	1 x plug-in terminal block, 6-pin	1 x plug-in terminal block, 10-pin

Ambient Conditions

Operating Temperature	-40°C to +70°C (cold start at -20°C)	-40°C to +70°C
Storage/Transport Temperature	-40°C to +85°C	
Relative Humidity (non- condensing)	5% to 95%	
Protective Paint on PCB	Yes	No

Mechanical Construction

Dimensions (W x H x D)	65 x 186 x 160 mm	48 x 137 x 105 mm
Mounting	DIN Rail 35 mm	
Enclosure	Rugged high-strength sheet metal	Aluminum with DIN clip
Weight	1.56 kg	613 g
Protection Class	IP40	IP30

Approvals

Basis Standard	CE, FCC	
Safety	UL 62368-1	UL 61010
Hazardous Locations	ISA-12.12.-01 Class 1 Div. 2 - Haz. Loc, ATEX-95 Category 3G (Zone 2)	
Substation	IEC 61850-3, IEEE 1613	N/A
Ship	DNV	N/A

Software

Security	Integrated Firewall Allowed IP List to prevent unwanted access Secure Socket Tunneling Protocol (SSTP, port 443) with single use credentials to create tunnels AES-256 bit encryption Activity Logs Additional IT-friendly security features when using Belden Horizon™ Console (formerly ProSoft Connect™, a secure, cloud-native platform for the Industrial Internet of Things): <ul style="list-style-type: none"> • Virtual Lockout, Tagout (vLOTO™) – dynamic authorization for secure remote access • Active Directory support via Single Sign On (SSO) with SAML 2.0 • Email and Token based multi factor authentication • Role based access for users and devices • Configure password rules and enforcement policies • Audit trail with auto-backup 	
Routing	Routing between LAN and WAN, WAN Backup, IP masquerading, 1-to-1 NAT, port forwarding, L2 bridging	
Multipoint VPN	External connectivity via OpenVPN or Belden Horizon™ Console	
Management	Local Web UI for configuration, diagnostics and maintenance, Supports FTP/SFTP through Belden Horizon™ Console	
Diagnose	LEDs (Power, Link Status, Data, Status), Signal Contact (24 V DC/1 A), Log File	LEDs (Power, Link Status, Data, Status), Signal Contact (24 V DC/1 A), Log File, Syslog
Configuration	Web Interface, Belden Horizon™ Console	
Protocols	SNMPv3, HTTPS, SSL-VPN, L2TP, Ping, NTP (Client/ Server), DNS, Dynamic DNS, DHCP (Server/Client)	SNMPv3, HTTPS, SSL-VPN, L2TP, Ping, NTP (Client/ Server), DNS, Dynamic DNS, DHCP (Server/Client), Syslog
Redundancy Functions	Routing between LAN and WAN, WAN Backup	
Other Services	NTP Client and Server, DHCP Client, DNS Client	
Application Support and Management	Docker Containers, Virtual Machines, App orchestration through Belden Horizon™ Console	Docker Containers, Docker Compose, App orchestration through Belden Horizon™ Console

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com



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