

ESW1100 Series

The Isolated Sensor & Peripheral Hub

Designed strictly as an unmanaged Edge/Access switch for localized node isolation. It is the ideal fit for enclosed subsystems—such as weapon stations, local surveillance pods, or bumper-camera clusters—where sub-10-second startup times and zero software configuration are required to ensure continuous operational availability without maintenance overhead.

Key Features

Primary Network Role	Unmanaged Edge/Access Switch
Ethernet Interfaces	Up to 10 ports (8 x 1G copper access, 2 x 1G fiber uplinks)
Non-Blocking Throughput	Up to 10 Gbps line-rate capacity
Boot-up Time	Ultra-fast startup (<10 seconds)
Layer Capability	Pure Layer 2 processing (zero download overhead)
PoE Capability	Integrated PoE and PoE+ support

Capabilities

The ESW1100 Series is purpose-built for tactical and mission-critical environments where reliability, rapid availability, and maintenance-free operation are essential. Built on a fully unmanaged Layer 2 hardware switching architecture, it operates without software dependencies, eliminating the risks associated with firmware corruption, software failures, or field misconfigurations.

Optimized for standalone and enclosed subsystem deployments, the ESW1100 Series ensures secure local connectivity where network separation is paramount. Its ultra-fast startup time of less than 10 seconds enables network services to become available almost immediately following a power event. Integrated PoE and PoE+ functionality allows the switch to serve as a combined power and data distribution hub for connected devices while maintaining low standby power consumption.

The capabilities of the ESW1100 series include:

- **Pure Hardware Switching:** Zero configuration Layer 2 switching for maintenance-free operations.
- **Rapid Startup:** Fully operational in under 10 seconds after power-on.
- **Integrated Power Delivery:** Native PoE/PoE+ support to power local hardware directly.
- **High-Performance Throughput:** Delivers up to 10 Gbps of dedicated, non-blocking line-rate switching bandwidth.
- **Field-Proven Simplicity:** Designed for isolated military and tactical applications, including remote weapon stations, sensor platforms, surveillance systems, and other embedded subsystems.

Form factors

The ESW1100 series offers different form factors depending on best fit for a particular use case.

Standard 19"/2 form factor	Customized form factor	Customized ultra small form factor
		
▪ Form, fit and function over multiple generations ▪ Long-term roadmaps	▪ Project driven form factor	▪ Project driven form factor ▪ Limited power input protection to minimize form factor

MilDef 19"/2 modular design

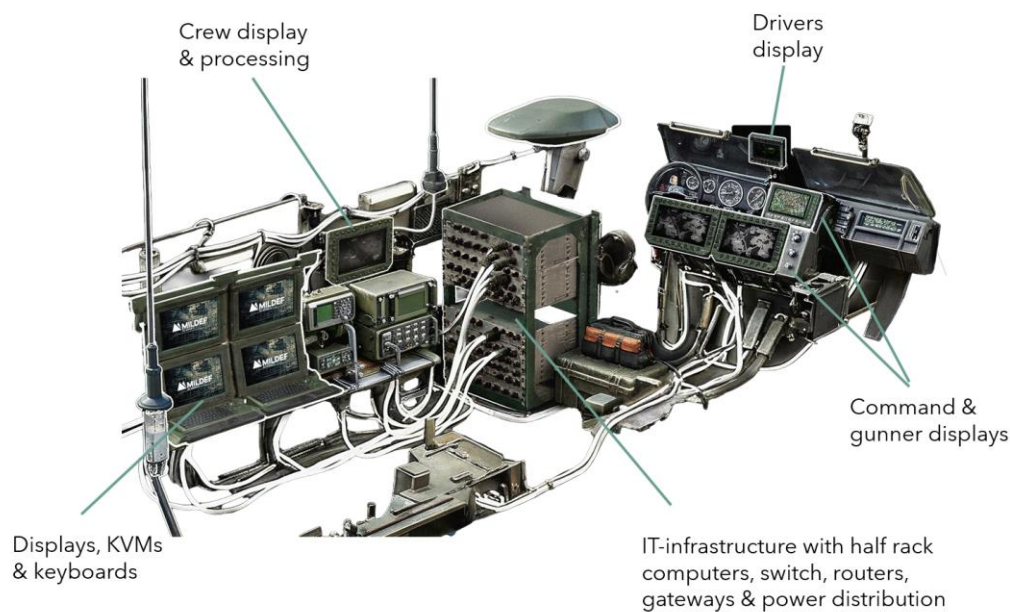
The MilDef 19"/2® addresses the requirements for small, high performance IT hardware. The modular design and broad product offering (computer, network, power and peripherals) enables the use of 19"/2® units as building blocks for creating built to purpose solution. Same form factor over multiple generations enable reuse of cable, mounting solution etc for midlife upgrades along the system life cycle.

Solution provider

MilDef offers solution and integration delivering seamless, end-to-end solutions by integrating hardware and software into complete systems that meet customer requirements. Managing integration projects/programs to ensure alignment with mission objectives/business strategy and technological capabilities.

Hardware ECO-system

Our hardware offering including all the building blocks for complete IT infrastructure for the tactical edge, such as displays, network products, power products, docking stations, mounting solutions etc.



Use case

The ESW1100 series is a core component of many tactical platform designs. Some use case examples are:

- **Armoured Vehicles:** Provides a local Ethernet backbone for connecting vetronics, sensors, communications equipment, navigation systems, and mission computers.
- **Remote Weapon Stations:** Interconnects EO/IR cameras, fire control systems, laser range finders, and operator interfaces for real-time target engagement.
- **ISR & Surveillance Systems:** Enables high-speed networking between cameras, thermal imagers, radar units, sensor fusion processors, and compute nodes.
- **Border Security & Unattended Sensors:** Aggregates sensor, camera, and monitoring data within remote surveillance and perimeter security installations.



Specifications

System & Interfaces			
Switch Platform	Microchip SparX-iii	Switching Architecture	Unmanaged Layer 2
Primary Network Role	Edge/Access Switch - Primarily device facing - Connects end-devices - Simple edge/access networking	Boot-up Time (typical)	< 10 seconds
Ethernet Ports & Interfaces	Up to 10 ports 8 x 1G copper access ports 2 x 1G fiber uplinks	PoE Capability	- PoE (IEEE 802.3af) - PoE+ (IEEE 802.3at)
Switching Capacity	Up to 10 Gbps Non-blocking line-rate		
Core Capabilities			
Network Services	Layer 2 Switching	Secure Boot	Not supported
Security Functions	Basic Port-Based Protection	Zeroization	Yes
Traffic Prioritization (QoS)	Basic Traffic Prioritization	MACsec	Not supported
Tactical & Mission Services			
Time-Sensitive Networking	Not supported	Resilience Features	None
Multicast Services	IGMP Snooping		
Deployment & Architecture			
Primary Mission Use Case	Device and Sensor Access Connectivity	Network Position	Edge Layer
Typical Deployment	Crew Stations, Sensors, Cameras, Edge Devices		
Environmental			
MIL-STD-810			
Shock operating	Functional Shock. 40G/11ms	Noise level	Max noise level of 40 dB SPL 1 m (3.3 ft)
Temp. operating	-40 to 65°C (-40 to 149 °F)*	Salt fog	5 ± 1%
Temp. storage	-40 to 71°C (-40 to 160 °F)*	Temp. shock	55 °C (131 °F) / -40 °C (-40 °F)*
Humidity	Aggravated, 95 ± 4% RH	Vibration	Rotary wing aircraft - helicopter
IP Class	IP65*		Truck/trailer - loose cargo
Low air pressure	Rapid Decompression 8000 ft / 40000 ft Operation/Air Carriage 15,000 ft		Ground vehicles - ground mobile tracked
			Ground vehicles - ground mobile wheeled
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
EMC			
MIL-STD-461			
EMI/EMS	Ground Army	ESD	CS118
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
Power			
Vehicle Power	MIL-STD-1275		
Optional standards			
VG, DEFSTAN, MIL-STD, etc can be included on request.			

*Higher available on request