

# 19"/2 ESW2239



## Rugged Fiber Switch

The ESW2239 offers a high-end ruggedized Cisco fiber switch, with 10G fiber uplink and 1G fiber downlinks all in a 1U half rack form factor.

### Small Form Factor

The MilDef 19"/2 form factor is optimized for reduced size, weight, and power (SWaP) to meet industry and military requirements without sacrificing reliability, ruggedness or performance.

### Flexible mounting

The 19"/2 standard enables flexible mounting options for a wide array of integration scenarios. The unit can be mounted in a standard 19" rack, half racks, or directly on to a surface and at any angle.

### Military-Relevant Rugged Design

MilDef products are designed to operate in extreme environmental conditions and challenging electromagnetic operational scenarios. Operationally proven, MilDef products are actively employed in military operations in over 60 countries.

### Customizable

Are you looking for additional features and functions? MilDef specializes in customized solutions, to include change of connectors, chassis modifications, mounting solutions, etc. Contact your nearest MilDef Sales Office and we will help you tailor a solution to meet your exact requirements.

### Guaranteed performance

MilDef products are designed for the long lifecycles of military programs and come with a lifetime support program to ensure your equipment maintains peak performance for many missions to come.

We also guarantee the availability of spare parts for an additional 5 years after product end-of-life.

### Features

- Based on Cisco ESS 3300
- Cisco IOS XE
- 10G fiber uplink
- Gigabit fiber downlinks

## Connector Interfaces

<b>X1 DC IN</b> (front)	• 1x Power
<b>SERVICE</b> (back)	• 1x RS232 Service
<b>X2-X5</b> (front)	4 connectors which each has: <ul style="list-style-type: none"> <li>• 2x 1000BASE-SX</li> </ul>
<b>X6</b> (front)	• 1x 10GBASE-SX
<b>X7</b> (front)	• 1x Serial Console

## Other Interfaces

1x System Button (front)

## Technical Specification

<b>Blanking</b>	Enable/disable all externally visible indicators from emitting light via the "blanking command"
<b>Design</b>	Based on the Cisco ESS 3300
<b>IP Multicast (Network Advantage only)</b>	PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM) and PIM Sparse dense mode
<b>IP routing protocols (Network Advantage only)</b>	OSPF (v4 and v6), RIP (V1 and V2), ISIS (v4 and v6), EIGRP (v4 and v6)
<b>LAN 1000BASE-SX</b>	1000BASE-SX standard with MM 850nm
<b>LAN 10GBASE-SX</b>	10GBASE-SX standard with MM 850nm OM3/OM4 fiber
<b>Layer 2 IPv6</b>	IPv6 host support, HTTP over IPv6, SNMP over IPv6
<b>Management</b>	Web UI, MIB, SmartPort, SNMP, syslog, DHCP server, SPAN session (1), Full Flexible Netflow (FnF)
<b>Multicast</b>	IGMPv1, v2, v3 snooping, IGMP filtering, IGMP querier
<b>Quality of service</b>	Ingress policing, rate limit, egress queuing/shaping, autoQoS
<b>Security</b>	Port security, 802.1x, DHCP snooping, dynamic ARP inspection, IP source guard. Storm control - unicast, multicast, broadcast, SSH, SNMPv3, TACACS+, RADIUS, BPDU guard, MACsec-128, MACsec-256 (Network Advantage only)
<b>Switching</b>	IEEE 802.1, 802.3 standard, NTP, UDLD, CDP, LLDP, unicast MAC filter, VTPv2, VTPv3, EtherChannel, RSTP, etc
<b>Virtualization (Network Advantage only)</b>	VRF-lite
<b>MIL-STD-1275E</b>	Transient disturbances 5.1.3.1 5.1.3.2

<b>Polarity protection</b>	Protected against polarization failure on the power input in the voltage range of normal operation
<b>Power consumption</b>	30 W
<b>Power input</b>	10-36 VDC
<b>Chassis material</b>	Aluminum
<b>Coating and color</b>	Dupont AE0305-6603120 (RAL6031)
<b>Cooling</b>	Passively cooled
<b>Earth point</b>	M6 12 mm
<b>Surface treatment chassis</b>	Chromit-Al
<b>Weight</b>	3.4 kg (7.5 lbs)
<b>MTBF</b>	184,324 h

## Environmental Specification

<b>Functional shock - Operating</b>	MIL-STD-810G, Method 516.6, Procedure I - Functional Shock. Table 516.6-II, Terminal peak sawtooth pulse, Ground equipment 40 g 11 ms
<b>High temperature - Operating</b>	MIL-STD-810G, Method 501.5, Procedure II - Operation 55 °C (131 °F)
<b>High temperature - Storage</b>	MIL-STD-810G, Method 501.5, Procedure I - Storage 71 °C (160 °F)
<b>Humidity</b>	MIL-STD-810G, Method 507.5, Procedure II - Aggravated 95 ± 4 % RH Ten 24 h cycles
<b>IP Class (Solid Particle Protection)</b>	IP Class 6X
<b>IP Class (Water)</b>	IP Class X5
<b>Low air pressure - Rapid decompression</b>	MIL-STD-810G, Method 500.5, Procedure III - Rapid decompression 75.2 kPa, corresponding to 2,438 m (8,000 ft) 17 kPa, corresponding to 12,192 m (40,000 ft)
<b>Low air pressure - Operating</b>	MIL-STD-810G, method 500.5, Procedure II - Operation/Air Carriage 4,572 m (15,000 ft)
<b>Low temperature - Operating</b>	MIL-STD-810G, method 502.5, Procedure II - Operation -40 °C (-40 °F)
<b>Low temperature - Storage</b>	MIL-STD-810G, method 502.5, Procedure I - Storage -40 °C (-40 °F)
<b>Noise level</b>	Maximum noise level of 40 dB SPL A-weighting at 1 m (3.3 ft) distance

<b>Salt fog</b>	MIL-STD-810G Method: 509.5 5 % ± 1 % (by weight) Two cycles, 24 h wet + 24 h dry / cycle
<b>Temperature shock - Operating</b>	MIL-STD 810G, method 503.5 procedures I - C, - Multi-cycle shocks from constant extreme temperature 55 °C (131 °F) -40 °C (-40 °F)
<b>Transit drop, in shipping package</b>	MIL-STD-810G, method 516.6, Procedure IV - Transit Drop. Table 516.6-VI, Transit drop test, < 45.4 kg (100 lbs), < 91 cm (36 inch), Manpacked or man-portable
<b>Vibration - Helicopter</b>	MIL-STD-810G. Method 514.6, Procedure I - General vibration, Category 14 - Rotary wing aircraft - helicopter
<b>Vibration - Loose Cargo</b>	MIL-STD-810G. Method 514.6, Procedure II - Loose cargo transportation, Category 5 - Truck/trailer - loose cargo
<b>Vibration - Tracked Vehicles</b>	MIL-STD-810G. Method: 514.6 , Procedure 1 - General Vibration, Category 20 - Ground vehicles - ground mobile, tracked vehicles
<b>Vibration - Wheeled Vehicle</b>	MIL-STD-810G. Method: 514.6 , Procedure 1 - General Vibration, Category 20 - Ground vehicles - ground mobile, wheeled vehicles

## EMC Specification

<b>EMI conducted CE102</b>	MIL-STD-461F, Method CE102 BASIC CURVE 10 kHz to 10 MHz
<b>EMI radiated RE102</b>	MIL-STD-461F Navy Mobile & Army 2 MHz - 18 GHz
<b>EMS conducted CS101</b>	MIL-STD-461F, Method CS101, conducted susceptibility, power leads. CURVE #1 30 Hz to 150 kHz
<b>EMS conducted CS114</b>	MIL-STD-461F Army, Ground 10 kHz - 200 MHz
<b>EMS conducted CS115</b>	MIL-STD-461F Conducted susceptibility, bulk cable injection, impulse excitation
<b>EMS conducted CS116</b>	MIL-STD-461F 10 kHz - 100 MHz
<b>EMS radiated RS103</b>	MIL-STD-461F Army 2 MHz - 1 GHz