

**Product Datasheet**

# HIPswitch 250

The 250 is an industrial and commercial IoT Gateway that enables the creation of highly available, remarkably simple, and radically secure instant overlay networks.



## Eliminate Network Complexity, Cost, and Security Risks

### Secured Network Overlays in Less Than 15 Minutes

The 250 enables and enforces instant LAN/WAN connectivity, cloaking, encryption, segmentation, failover, and revocation for ICS, SCADA, and BACnet systems without changing the underlay network. The 250 can be installed and activated with a cloaked and encrypted LAN or WAN overlay network in as little as 15 minutes. Unlike other alternatives, there is no need to re-IP devices, provision cellular APNs, or be prevented by NAT or CGNAT gateways for direct peer-to-peer encrypted connectivity.

The 250's Link Manager monitors wired and cellular links for availability based on customizable monitors for priority-based fast failover. Combined with the HIPrelay's identity routing, highly available and resilient networks with fast failover can be achieved quickly and easily for much simpler deployments and superior uptime.

As with all HIP Services, all network connectivity is uniquely based on verifiable machine identities that authenticate and authorize communication before transport and data exchange. This makes IoT endpoints invisible and accessible only by other authorized devices preventing hacker recon and eliminating exploit command and control.

“With zero training, we were able to install and configure a highly secured and segmented overlay network in less than 20 minutes without touching the underlay network. We’ve eliminated our BACnet storms, a majority of the attack vectors, and my network is now highly available, resilient, and incredibly simple to manage.”

- Tom W. Network Architect, [BIG 12 University](#)

## Features and Benefits

- Deploy and activate an instant overlay network in as little as 15 minutes with no changes to underlay network
- Eliminate the cost, complexity, and exposure of FWs/VPNs with 3-click LAN and WAN micro-segmentation
- Reduce attack vectors and methods like IP spoofing with cloaking and verifiable machine identity for access enforcement
- Prevent attacks like MiTM with end-to-end AES 256 encryption from the HIPswitch 250 to one or many HIP Service endpoints.
- Get rid of unmanaged Ethernet switches and consolidate power via GbE port density with PoE out
- Stop depending on APNs and separate modems/routers through fast Ethernet and dual cellular modems with smart Link Manager for millisecond failover
- Unify and simplify with a common architecture achieved through Serial over IP ports that bind legacy ICS and SCADA with Ethernet
- Buy only what you need, when you need it with flexible throughput-based software licensing and bursting at no charge

# Simplify and Consolidate

## Eliminate the Complexity and Vulnerabilities of VPNs/FWs, Ethernet Switches, and Cellular Modems

The ruggedized HIPswitch 250 series is the most powerful and versatile platform among our small form factor products. It's high performance, port density, dual cellular modems, and smart Link Manager help create a simple yet powerful always-on, cloaked network. The 250 is ideal for protecting and cloaking ICS systems in isolated and extreme environments where data acquisition and remote access is required. For the first time, all networked elements can remain private, cloaked, segmented, and easily networked across wired or cellular networks without connectivity barriers. Customers can now consolidate, eliminate, and simplify their OT/IoT networks, eliminating Ethernet switches, publicly exposed VPNs/FWs, APNs, and cellular modems.



### PHYSICAL AND POWER SPECIFICATIONS

Ethernet Ports	4 x 10/100/1000 Mbps on RJ-45 ports, auto MDI/MDIX 4 x Combo 10/100/1000 Mbps on RJ-45 ports, auto MDI/MDIX or 1 Gbps on SFP socket
Console Port	1x Micro USB
Power Input Failover	Automatic failover between all inputs
DC Power Input	Dual 12-48 VDC on terminal block
Power Consumption	240W, max
Storage Temp Range	-40° to 85° C (-40° to 185° F)
Operating Temp Range	-40° to 85° C (-40° to 185° F) 3GPP Class B -30° to 70° C 3GPP Class A (Cellular models only)
Operating Humidity	5% to 95%
Dimensions	188mm W x 188mm D x 130mm H (7.4" W x 7.4" D x 5.12" H)
Mounting	DIN-rail, wall-mount, rubber feet
Weight	3.0 kg (6.61 lbs.)

### POWER OVER ETHERNET (POE)

Operating Mode	Auto Mode
POE Power Output	Ports 1-8: IEEE 802.3at/af Max 30W/port Pin 1/2,7/8(-), Pin 3/6,4/5(+)
Protection Features	Overload, surge, and short-circuit protection

### CELLULAR MODULE (SIERRA WIRELESS HL7588) - SUPPORTED BANDS

4g Cellular Modes	LTE: 1900(B2)/ 1700(B4)/ 850(B5)/ 700(B13)/ 700(B17) MHz LTE Category 4 Downlink: 150 Mbps Uplink: 50 Mbps
3g Cellular Modes	UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 1900(B2)/850(B5) MHz Data (HSPA+) rates Downlink: Up to 42 Mbps (HSDPA category 24) Uplink: Up to 5.76 Mbps (HSUPA category 6)
3.5g Cellular Modes	UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 1900(B2)/850(B5) MHz Data (HSPA+) rates: Downlink: Up to 42 Mbps (HSDPA category 24) Uplink: Up to 5.76 Mbps (HSUPA category 6)
Cellular Antenna Connectors	Two SMA female connectors (250g) Four SMA female connectors (250g-DUAL)
SIM Card Slot	1 externally accessible 3FF micro SIM card slot (250g) 2 externally accessible 3FF micro SIM card slots (250g- DUAL)

### SERIAL INTERFACE - PORT 1

Protocols	RS-232, RS-422, RS-485 (full and half duplex)
Connector	DE-9M
Isolation Voltage	2.5 kV minimum

### SERIAL INTERFACE - PORT 2

Protocols	RS-422, RS-485 (full and half duplex)
Connector	Terminal block
Isolation Voltage	2.5 kV minimum

### REGULATORY APPROVALS

CE	EN55032:2012, EN 55024:2010
cETLus	UL 62368-1:2004 (2nd ed.), CSA C22.2 No 62368-1-14 (Ed. 2)
IEC	62368-1:2014 (2nd edition)
IC	VOC ICE S-003:2016 (Issue 6)