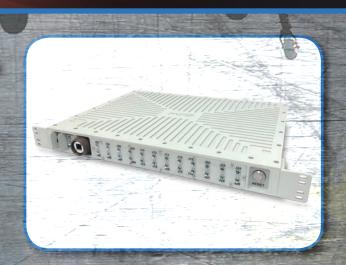# NOVA INTEGRATION SOLUTIONS

5100 CLASS
RUGGED ETHERNET SWITCH

MODEL 5140-24

MILITARY GRADE
24-PORT SWITCH
ENTERPRISE / MANAGED

The 5000 Series consists of a family of COTS IT equipment (such as switches, routers, firewalls and servers) which are then ruggedized and housed in standard and custom "reference design" enclosures. They support highly rugged and MIL-spec applications utilized by the defense/aerospace markets as well as high reliability industrial such as railway and oil/gas.
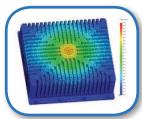
The 5100 Class is a family of conduction cooled switches ideally suited for applications requiring a sealed chassis without the use of forced air convection. This class of products includes 8 to 24 port switches which are managed or unmanaged. The COTS devices used are Small-Medium Business or Enterprise class Netgear® and Cisco® products.

The Model 5140-24 is the worlds one and only full military grade, IP66 rated, conduction cooled chassis which supports 24 ethernet ports in a 1U form factor. This networking device houses a ruggedized Ubiquiti® US-24 24 port gigabit ethernet switch with console port and two optional SFP fiber ports. This easy to use managed switch is best suited for applications requiring an Enterprise Class ethernet switch.

Optional features include rackmounting kit, heater for -20°C operation, D38999 connectors to replace RJField connectors, and power input options of 18-32VDC, 110-220VAC 50/60Hz or 115VAC 47-440Hz.

For more information please visit: www.novaintegration.com

- **24 Port Gigabit Ethernet Switch**
- **2 SFP Fiber Ports (optional)**
- **Managed / Enterprise Class Switch**
- **NOVA's proprietary, overlapping machined panel design results in zero torsional flex and superior sealing for FOD and EMI**
- **Conduction cooled IP66 rated housing**
- **RTCA/DO-160E temperature, altitude, humidity, shock, vibration, explosive atmosphere, salt spray and sand / dust**
- **MIL-STD-461E EMI/EMC**
- **Customer definable I/O panel**
- **18-32VDC, 110-220VAC or 115VAC / 47-440Hz power input available**
- **Thermal and sturctural simulations have been completed validating all designs**
- **Max power consumption 90W**
- **Tabletop or 1U Rackmount**
- **Optional heater for -20°C operation**

AS 9100
BUREAU VERITAS
Certification
Certificate No: US008267-1

BUREAU VERITAS
1828

ENVIRONMENTAL CHARACTERISTICS

Temperature, operating	0°C to +55°C -20°C to +55°C w/ heater
Temperature, non-operating	-40°C to +85°C
Humidity	0% to 100%, non-condensing MIL-STD-810D, Method 507.2, Fig 507.2-3
Altitude, operating	-1,000 to 15,000 ft (minimum) RTCA/DO-160E, Paragraph 4.6.1, Category A
Altitude, non-operating	-1,000 ft. to 60,000 ft. RTCA/DO-160E, Paragraph 4.6.1
Decompression	65,000 ft. tested per RTCA/ DO-160E, Paragraph 4.6.2
Vibration	MIL-STD-810F, Method 514.6, Procedure I
Acceleration	40G, any axis per MIL-STD- 810D method 513.3
Shock	MIL-STD-810F, Method 516.6, Procedures I
Shock, non-operating (Bench Handling)	MIL-STD-810F, Method 516.6, Procedures V & VI
EMI/EMC	MIL-STD-461F CE102, CE106, CS101, CS114, CS115, CS116, RE102, RS103
Electrical Bonding	MIL-HDBK-1857
ESD	MIL-STD-1686A
Explosive Atmosphere	RTCA/DO-160E, Paragraph 9.7.2, Category E
Salt Spray	RTCA/DO-160E, Paragraph 14.2, Category S

Sand and Dust	RTCA/DO-160E, Paragraph 12.3, Category D
Fungus Resistance	MIL-STD-454N, Requirement 4
Fluid Contamination	Jet fuel DERD 2494, hydrolic fluid MIL-H-5606E, lube oil mixtures to DERD 2497/ MIL-L-7808 & soap water

PHYSICAL CHARACTERISTICS

Dimensions	12.5" D x 16.1" W x 1.64" H (1U)
Weight	12 lbs. (max)
Mounting	Tabletop or Rackmount
Sealing	IP66
Chassis Body	Machined aluminum (6061-T6)
Cooling	Conduction

ELECTRICAL CHARACTERISTICS

Input Power	18-32 VDC 110-220VAC (nominal) 115VAC, 47-440Hz
Power Consumption	25W max 90W with optional heater
Voltage Hold Up	MIL-STD-704A (optional)

PERFORMANCE CHARACTERISTICS

Gigabit Ethernet Ports	24
SFP Gigabit Ethernet Ports	2 (optional)
Console serial port	1

Total Non-blocking Throughput	26 Gbps
Switching capacity	52 Gbps
Forwarding rate	38.69 Mpps
Features	MSTP/RSTP/STP VLAN, Private & Voice VLAN Link Aggregation DHCP & IGMP Snooping TACACS+, RADIUS, 802.1X, MAC Filtering, ACL DiffServ, CoS Static Routing, Policy- Based Routing DHCP Server Functionality
Customization	Front I/O panel, Heater, Power Input and Mounting

Note: For additional performance characteristics
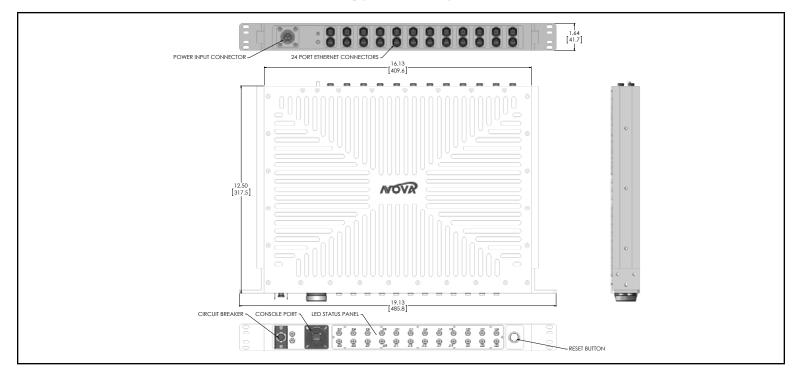see manual for the Ubiquiti® US-24.

ORDERING TABLE

95-5140-24HMP-00X

HEATER		MOUNT		POWER		CONFIG	
1	None	0	Tabletop	2	18-32VDC	1	Standard
4	Installed	2	Rackmount	5	110-220VAC	x	Customer Specific
				6	115VAC 47-440Hz		

Contact Nova Integration Solutions for custom configurations

OUTLINE DRAWING

POWER INPUT CONNECTOR   24 PORT ETHERNET CONNECTORS

1.64
[41.7]

16.13
[409.6]

12.50
[317.5]

19.13
[485.8]

CIRCUIT BREAKER   CONSOLE PORT   LED STATUS PANEL

RESET BUTTON