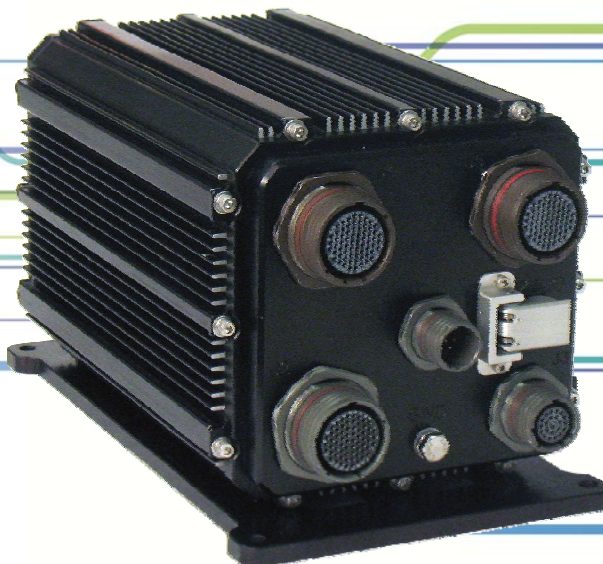


# DuraMAR 3230

Rugged Cisco 3230 Mobile IP Router  
w/ Integrated Gigabit Ethernet Switch

- Integrated Cisco Mobile Router
- Wide Temperature Range
- Designed to MIL-STD-810G
- 17x Ethernet Ports
- 3x Serial Ports
- Weight: <16lbs. (7.26kg)
- Designed to MIL-STD-704E & 1275B\*



## FEATURES

**BEST IN-CLASS MOBILE IP ROUTING:** Integrated Cisco Mobile Router w/ Robust IOS Software Security, Management, QoS, VLAN, & Routing Protocol Support, IPv6, IP Mobility

**DESIGNED FOR MILITARY COMPLIANCE:**

- Environmental: MIL-STD-810G (Qualification Testing Pending)
- Power: MIL-STD-704E, MIL-STD-1275B\*
- EMC: MIL-STD-461E (Qualification Testing Pending)

**PORTS:**

- 17x Ethernet Ports (1x Routed, 16x Switched)
- 3x Serial Ports (2x Multi-Protocol Serial, 1x Management Console)

**RUGGED CHASSIS:**

- Corrosion-Resistant Aluminum-Alloy IP67/68 Chassis
- Wide Oper. Temp Range: -40° to +71°C (\*See specs for details)
- High Shock/Vibe Tolerance for Tracked Vehicles
- Isolated MIL-704/1275\* Power Supply
- MIL-C-38999 Sealed Connectors
- Data Zeroization Button to Erase Sensitive Information

**MODULAR PC104+ ARCHITECTURE:**

- Cisco 3230 Mobile Access Router Card, Fast Ethernet Switch Mobile Interface Card, Serial Mobile Interface Card
- Parvus COM-1268 Gigabit Switch Card (x2)

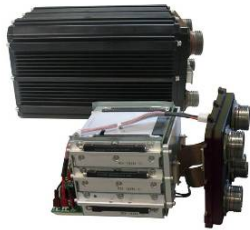
**DECLASSIFICATION:** Data Zeroization Button to Erase Sensitive Information with Flip Guard against Accidental Activation

The DuraMAR® 3230 is a Cisco IOS-managed mobile network router with 16 Ethernet switch ports and an ultra-rugged chassis optimized for harsh military and civil vehicle/aircraft installations. The unit integrates Cisco Systems' 3200 mobile access router technology together with Parvus PC/104+ Gigabit Ethernet switch cards to expand LAN port count and consolidate switch and router functions into a single hardened subsystem designed to MIL-STD-810G and MIL-STD-461E environmental conditions.

This hardened Commercial-Off the Shelf (COTS) IPv6 compliant router empowers prime defense contractors and civil agencies to achieve mobile communications-on-the-move (COTM) and a wide range of new in-vehicle networking applications in even the harshest shock, vibration, thermal, ingress, and EMI environments. The unit's military-grade power supply supports aircraft (MIL-STD-704E) and ground/marine (MIL-STD-1275B\*) vehicle voltage inputs, spikes, and transient levels.

Sealed MIL-C-38999 connectors bring out an IOS-managed 10/100 WAN port, three (3) IOS-managed 10/100 switch ports, and thirteen (13) 10/100/1000 Gigabit Ethernet switch ports (COM-1268 managed), as well as two multi-protocol serial ports and a RS-232 management console port. The DuraMAR 3230 is also equipped with a data zeroization button for enhanced security and a conductively cooled chassis with near cable-less internal design for solid reliability under high mechanical stress.

## Specifications



### ETHERNET PORTS

- Total of 17 Ethernet Ports:
  - 1x 10/100 Fast Ethernet WAN Router Port, IEEE 802.3 Compliant
  - 3x 10/100 Fast Ethernet Switched LAN Ports, IEEE 802.3u Compliant
  - 13x 10/100/1000 Gigabit Ethernet Switched LAN Ports, IEEE 802.3ab Compliant

### SERIAL PORTS

- Total of 3 Serial Ports:
  - 2x Multi-Protocol Serial Ports (supporting RS-530/232/422/423/485/others, DTE and DCE Modes, Synchronous or Asynchronous Modes)
  - 1x RS-232 Management Console Port

### MANAGEMENT

- Advanced Enterprise Cisco IOS Software with Command Line Interface (CLI)
- Configuration Management via Serial Console or Ethernet Port Through Terminal Emulation Application
- Simple Network Management Protocol (SNMP) v2, SNMPv3, Telnet, RADIUS, TACACS+, Cisco Service Assurance Agent, Syslog, Response Time Reporter, Network Time Protocol (NTP) Client, TFTP Client and Server, DHCP Client and Server, DHCP Relay, HSRP

### GENERAL NETWORKING

- Auto-MDI/MDIX, Auto Negotiation and Correction
- Half Duplex and Full Duplex Operation

### ROUTING & BRIDGING

- Static and Dynamic Routing Capabilities
- IP Protocol Support for IPv4 and IPv6 addressing (per RFC 2460)
- ICMPv6 (Internet Control Message Protocol for IPv6) per IETF RFC 4443
- Connection of IPv6 islands over IPv4 per IETF RFC 4798
- Transmission of IP datagrams over Ethernet per IETF 41/RFC 894
- Virtual Local-Area Networks (VLAN) Layer 3 Routing Between Switch VLANs
- IEEE 802.1d/w Bridging (Spanning Tree Protocol, Rapid Spanning Tree Protocol)

### ROUTING PROTOCOLS

- RIPv1v2: OSPF: EIGRP-IP: Cisco Discovery Protocol, Cisco GMP: IP Multicast PIM v1, PIMv2; Protocol Independent Multicast -Sparse Mode (PIM-SM): IGMPv1v2; IP Policy Routing, IP Multicast Load Splitting; Point-To-Point Protocol (PPP), Frame Relay, X.25, XOT, High-Level Data Link Control (HDLC), Telnet, Asynchronous Tunneling, Dial-On-Demand Routing (DDR), PPP Over Frame Relay

### SECURITY

- Route and Router Authentication, PAP, CHAP, MS-CHAP Local Password, IP Basic and Extended Access Lists, and Time-Based Access Control Lists
- Stateful Inspection Firewall, Firewall Intrusion Detection
- Port-To-Application Mapping, GRE
- IP Security (IPSec), Easy VPN Version 4.1 for client and server, Tunnel Endpoint Discovery
- Secure Shell (SSH) Protocol Client and Server Version 1.5
- Fast Switching, Cisco Express Forwarding, Process Switching, STAC Compression, Routing Table Protocol (RTP) Header Compression
- Cisco 3200 is Compliant with Common Criteria Evaluation and Validation Scheme (CCEVS) EAL 3

### QoS

- Generic Traffic Shaping, Class-Based Ethernet Matching and Mobile Access Routing (802.1p Class of Service), Committed Access Rate, Flow-Based Weighted Random Early Detection (WRED), Low-Latency Queuing, Priority Queuing, Weighted Fair Queuing, LF), Dial Backup, Dialer Profiles, Dialer Idle Timeout, Dial on Demand
- Class-Based Weighted Fair Queuing, Traffic Policing Resource Reservation Protocol (RSVP)
- 802.1Q Virtual Local-Area Network (VLAN) Trunking and Encapsulation support

### MOBILITY FEATURES

- Mobile IP, Mobile Networks in Cisco IOS Software, Cisco Mobile Networks Network Address Translation (NAT) Traversal over Mobile IP, Home Agent And Mobile Router Redundancy, Mobile Router Preferred Interfaces, Mobile Router Reverse Tunneling, Mobile Router Asymmetric Links, Mobile Router Static and Dynamic Networks, Static Co-Located Care of Address, Authentication, Authorization, and Accounting (AAA) Server And Mobile IP, MobileIP tunnel templates support for configuration of IP Multicast and IPsec on MobileIP tunnels, MobileIP foreign agent local routing optimization

### PHYSICAL

- Dimensions: 5.95" x 5.90" x 10.24" (15.11 cm x 14.99 cm x 26.01 cm) H x W x L, Including Connectors and Mounting Plate
- Weight: <16lbs. (7.26kg)
- Installation: Flange Mounting Bracket
- Cooling: Passive Conductive. No Moving Parts
- Connectors: MIL-DTL-38999, Water Ingress Protected
- Black Anodize Finish per MIL-A-8625, Type II, Class 2
- Installation: Conduction Cooled, Flange Baseplate Mount

## Specifications

<b>ENVIRONMENTAL</b>	<p>Designed to Meet MIL-STD-810G (Qualification Testing Pending):</p> <ul style="list-style-type: none"><li>• Operating Temp: Estimated at -40°C to +71°C (-40°F to +160°F) Ambient with Partial Load (Note: Feasibility of full bandwidth on all ports currently validated to +52°C; Final operating temperature range will be determined after final design revisions and MIL-810 qualification testing is completed)</li><li>• Non-Operating Temp: -40°C to +85°C (-40°F to +185°F)</li><li>• Immersion: 1 Meter, 30 Minutes</li><li>• Humidity: up to 95% RH, Non-Condensing</li><li>• Salt Fog: 48 hours</li><li>• Operating Shock: 20g, 11ms, 18 Sawtooth Pulses</li><li>• Crash Safety Shock: 40g, 11ms, 18 Sawtooth Pluses</li><li>• Random Vibration: Method 514.5.1</li></ul>
<b>POWER</b>	<ul style="list-style-type: none"><li>• 24/28VDC Voltage Input Range: 9-36VDC</li><li>• Galvanic Isolation: 1500 V</li><li>• Power Consumption: &lt;75W max @ 18VDC</li><li>• Designed to Comply with MIL-STD-704E and MIL-STD-1275D Steady State Voltage, Ripple, Surges, and Spikes with Exceptions</li><li>* Limited to Accepting Only Fault Free Condition Surge</li></ul>
<b>EMI/EMC</b>	<p>Designed to Meet MIL-STD-461E (Qualification Testing Pending):</p> <ul style="list-style-type: none"><li>• Conducted Susceptibility, CS101, Power Leads, 30 Hz to 150 KHz, Curve 2 (28V and below)</li><li>• Radiated Emissions, RE102, Electric Field, 10 KHz to 18 GHz, Figure RE102-3 for fixed Wing External</li><li>• Radiated Susceptibility, RS103, Electric Field, 2MHz to 18 GHz, Aircraft External, 200 Volts per Meter</li></ul>
<b>WARRANTY</b>	90-Day Warranty (Extended Service Contracts Available)

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