Total Access 5004 MSM20 2x10GE

Management and Switch Module

IP/Ethernet continues to be the primary protocol for delivering voice, video and data services in advanced network architectures. The ADTRAN® Total Access® 5004 Management and Switch Module (MSM20) 2x10GE provides carrier-class switching capability of the ADTRAN Total Access 5004 Multi-Service Access and Aggregation Platform by offering multiple 10GE network and ring interfaces and system management operations.

With the ability to be deployed in both central office and remote terminal locations, the MSM20 provides flexible network deployment options. This module can easily scale to support applications such as Enhanced Broadband, IPTV, VoIP, Optical Networking Edge (ONE), Metro Ethernet and service aggregation using 10GE Network Interfaces and Ethernet Ring Protection Switching (ERPS) support for network transport.

The Total Access 5004 MSM 2x10GE provides two interfaces on the faceplate which may be used in a variety of ways depending on the application needs. The ports provide flexible deployment options with the ability to support 1GE, 2.5GE or 10GE network interfaces or 1GE, 2.5GE or 10GE ERPS based Ethernet rings. In addition, ports of the same speed may be configured to support LAG (IEEE 802.1ax Link Aggregation/LACP) to increase the bandwidth between nodes or toward the core network.

The Total Access 5004 MSM20 supports ITU G.8032 ERPS which provides network operators the ability to create resilient Ethernet rings with multiple Total Access 5004 Nodes. ERPS gives operators the ability to increase their network footprint and size while maintaining a single access point to their IP/Ethernet core.

In order to support the increased capacity of the technologies being used in the access slots of the Total Access 5004, such as GPON and Active Ethernet, the MSM20 supports a high capacity switch fabric and provides non-blocking connectivity to every access module slot. The increased capacity of the switch fabric for the Total Access 5004 MSM20 allows operators to scale their network support even the most bandwidth-intensive applications in a compact 2RU form factor. The MSM20 is designed specifically for the Total Access 5004 platform and supports both management and switch module functions in a single module with carrier class redundancy.

Like all other Total Access 5004 Management and Switch Modules, the MSM20 provides quality of service using IEEE 802.1p priority bits and 802.1Q VLAN tagging. Network and subscriber proxy ARP, MAC address to port binding, and DHCP Layer 2 relay functions enhance security to protect against “spoofing” attacks and service theft. The Total Access 5004 MSM20 can be deployed either simplex or redundant, with sub-100 ms failover times to support even the most critical traffic.

The MSM20 provides local and remote management through multiple interfaces covering telnet, SSHv2, SNMP, TL1. Web GUI and CLI management interfaces are supported through both local and remote access. The Ethernet interface supports a configurable DHCP server that provides a DHCP pool to connected systems. This will allow users to automatically connect to the MSM20 and manage the system through the Web-based Graphical User Interface (GUI) or Command Line Interface (CLI).

The MSM20 supports a wide range of security options for local and remote authentication. A maximum of 15 local accounts are supported with password aging, account expiration, complex password, and invalid login support. For remote authentication, the MSM20 supports Remote Authentication Dial-In User Service (RADIUS) and Terminal Access Controller Access Control System Plus (TACACS+). The system supports the ability to choose which authentication method has priority as well as the ability to choose the fall back method of authentication should one or more login operations fail.

Local and remote management is available through the RS-232 management port or Ethernet using the MSM20. Remote management is available through Telnet or SNMP using management VLANs. Additionally, the Total Access 5004 is supported by ADTRAN’s Advanced Operational Environment (AOE). ADTRAN AOE provides a Web GUI management interface and support for XML and TL1 north-bound OSS interfaces. The XML and TL1 north-bound interfaces provide customers the ability to automate flow-through services to the Total Access 5004 platform.

Product Features

- Two SFP+ connector sockets to allow for a range of optical network connections supporting 1G, 2.5G and 10G optics
- Supports a high density of triple-play service deployments
- Increases access slot capacity to support high-capacity, unblocked, FTTP services.
- Cost-effectively combines both management and switch module function in a space saving single module.
- Enhanced security to protect against “spoofing” attacks and service theft.
- Class of Service support for multi-service deployments, protecting video quality
- Allows Fiber-to-the-Premises (FTTP) convergence of both business Ethernet and residential broadband services on the same shelf
- Flexible uplink via two SFP+ provisionable (1GE, 2.5GE or 10GE) optics supporting simplex or redundant architecture
- Resilient ring protection via ERPS (ITU G.8032) support
- Complete Total Access 5000 series management support
- Multiple network management capabilities including full FCAPS support
- Supported by ADTRAN AOE
**Interfaces**
- Two 10-GE, 2.5-GE or 1-GE interfaces via SFP+ connectors
- Out of Band 10/100Base-T for remote management
- RS-232 Serial for local management
- 5 External Alarm Inputs and 2 Alarm Outputs

**Management**
- Remote management through CLI, SNMP, Telnet, Telnet SSHv2, TL1, XML, and Web GUI
- Local RS-232 craft management port
- Supported by AOE

**Quality of Service Management and Security**
- IEEE 802.1p priority bits
- IEEE 802.1Q VLAN tagging
- Eight strict priority queues
- Full range of VLAN ID support
- Support for 1:1 and N:1 VLAN topologies
- Network and subscriber proxy ARP
- MAC address to port binding
- PPPoE with Intermediate Agent
- Layer 2 DHCP Relay with Option 82

**Video Support**
- Multicast packet replication for IPTV applications
- IGMP v2, v3 and MLDv2 Support

**Applications and Services Supported**
- Fiber to the Premises (FTTP) for VoIP, IPTV and Business Ethernet
- Fiber to the Cabinet (FTTCab) for VoIP, IPTV and Business Ethernet
- Simplified FTTCab to FTP migration/transition
- Compact Optical Networking Edge (ONE) for Premium Services 10G Aggregation and Packet Optical Transport (in a management capacity only)
- Carrier Ethernet services over any medium (DS1/E1, DS3, SHDSL, ADSL2+, VDSL2, GPON, Fiber, Wavelength)

**Environmental**
- Operating Temperature: -40°F to +158°F (-40°C to +70°C)
- Storage Temperature: -40°F to +185°F (-40°C to +85°C)
- Relative Humidity: Up to 95%, at 122°F (50°C), noncondensing

**Electrical**
- DC Power: -42 to -72 VDC and +21 to +27 VDC
- Connection: Screw terminals (A and B feed)

**Mechanical**
- Dimensions: 0.96 in. H x 5.21 in. W x 10.12 in. D

**Regulatory Standards**
- RoHS 6 of 6
- NEBS Level III
- Telcordia GR-1089 CORE, Issue 4; GR-63 CORE, Issue 3
- NRTL Listed; UL 60950 and FCC Part 15, Class A
- International CE Mark
- ETSI 300 019-1-x Class 1.2, 2.3, 3.3
- ITU K.20
- IEC60950-1 CB Scheme Report including EN 60950-1 and AS/NZS60950
- ETSI EN 300-132-2 and EN 300 386
- EN 55022 Class A
- EN 61000-4-11
- ACA SO43 (PSD)

**Ordering Information**

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