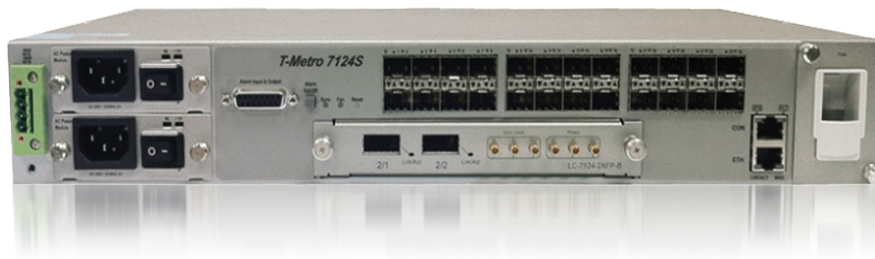


# T-Metro 7124S

## 1/10G ETHERNET/MPLS/IP Demarcation and Pre-Aggregation Platform



The T-Metro 7124S pre-aggregation and demarcation device is a member of Telco Systems' field-proven T-Metro family of Network Edge solutions. The T-Metro 7124S supports both Carrier Ethernet and MPLS carrier grade transport technologies and with a diverse set of MEF CE 2.0 OAM (operations, administration and maintenance) tools and extensive QoS and resiliency capabilities. This rich combination of technologies allows service providers to deliver assured tiered service offerings.

The T-Metro 7124S supports L2VPN advanced data services such as virtual private wire services (VPWS), virtual private LAN services (VPLS) and hierarchical virtual private LAN services (HVPLS), as well as IEEE 802.1Q and TLS (Q-in-Q) services. As one of the first devices in the industry to be certified as CE 2.0 with all four services and scenarios, the T-Metro 7124S meets the current and future needs of providers' networks.

In addition, it enables managed services via its support of MPLS L3 VPN services. This capability enables service providers to offer cost effective inter-branches connectivity services

### Flexible Control of Traffic and Services

As the demand for data bandwidth increases, providers can use the statistical multiplexing nature of packetized traffic to provide more services on the same infrastructure. At the same time, service providers want to differentiate their services and provide a proper QoE for different applications requirements. A wide set of QoS and Hierarchical QoS (HQoS) features allow service providers to

have higher granularity and hierarchical levels of QoS to control the behavior of traffic and services in the network and to provide this differentiation.

### Advanced Hardware-based OAM

T-Metro 7124S incorporates hardware-based OAM to enable the highest level of service assurance. Engineered to the latest standards for Carrier Ethernet, the T-Metro 7124S, together with Telco Systems' EdgeGenie Service Management System and demarcation devices, creates a complete network edge solution that supports the most stringent SLAs, ensuring the service providers can offer a high quality of service which will increase their revenue, while reducing their OPEX. The T-Metro 7124S supports link-level EFM industry standards, including IEEE 802.1ag Connectivity Fault Management (CFM), ITU-T Y.1731 for loss and delay measurement, Y.1731 SLM for E-LAN testing, RFC2544 for service testing and Y.1564 for service activation testing, making it one of the leading OAM supported devices on the market.

### L3 Support

T-Metro 7124S provides comprehensive solutions and services that best support IP (Internet Protocol) environment requirements— including Virtual Routing and Forwarding (VRF) support, IP static routing and dynamic routing protocols like OSPF, IS-IS and BGP. T-Metro 7124S also supports Dynamic Host Configuration Protocol (DHCP) for dynamically distributing network configuration parameters, and Virtual Router Redundancy Protocol (VRRP).

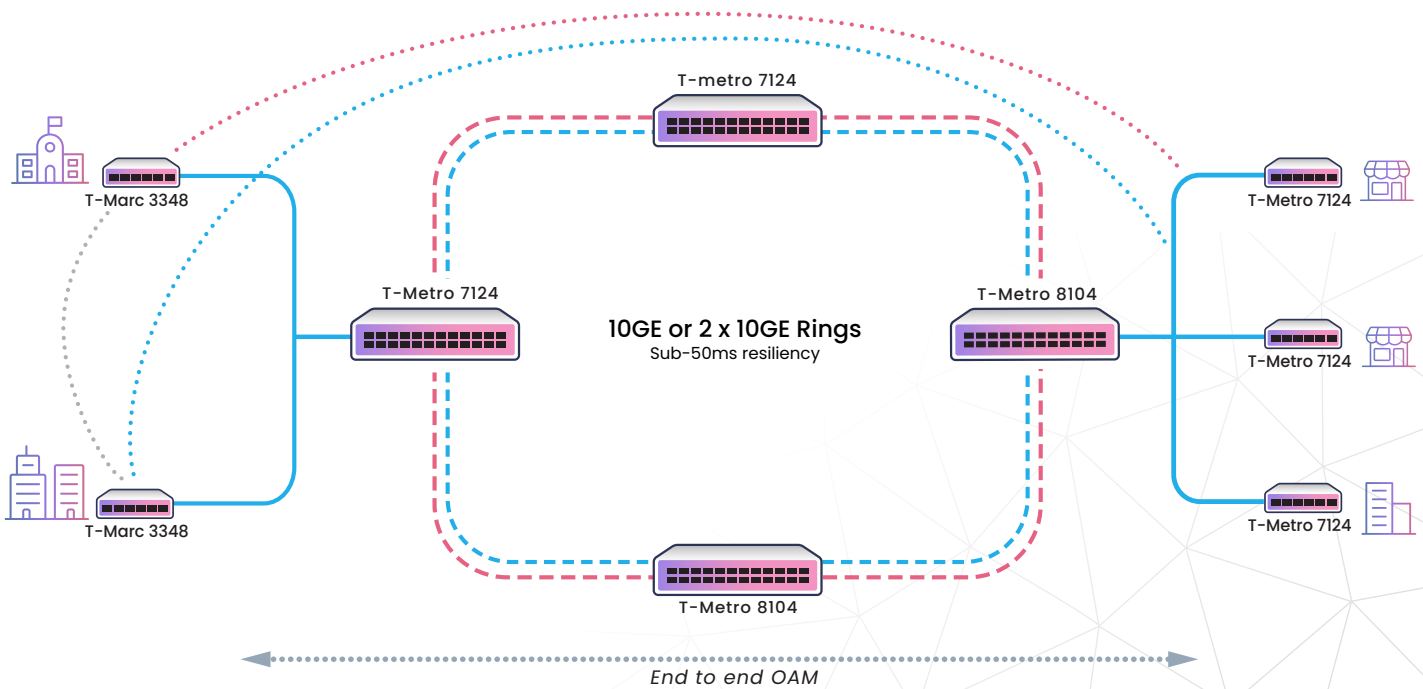
### Carrier Grade Resiliency

T-Metro 7124S was designed to provide a carrier grade level of resiliency, both in physical design and by implementing a wide variety of resiliency protocols. With a high port count, the T-Metro 7124S allows for the use of LAG and LACP as a port resiliency option as well as support for link-level protection mechanisms, network-wide mechanisms and service-level mechanisms.

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**PRODUCT HIGHLIGHTS**

- 1/10GE, wire speed non-blocking MPLS/Carrier Ethernet demarcation, pre-aggregation and aggregation device
- Carrier-grade and highly resilient, including dual-homing, FRR, G.8031, G.8032, xSTP
- Carrier Ethernet, MPLS & IP transport technologies
- Layer 3 features support: HW-based L3 forwarding with VRF support using static route, OSPF, IS-IS and BGP routing protocols
- MPLS provider edge (PE) and customer edge (CE)
- Hierarchical Quality of Service (HQoS) and high service granularity support
- ISSU (In Service Software Update)
- L2/L3 VPN
- Extensive field-proven operations, administration and maintenance (OAM) support including embedded RFC2544 test head and Y.1564
- Extended operation temperature
- ETSI 300 compliant, 1.5RU height, 10" deep, 19" rack mountable
- MEF, IEEE, ITU-T and IETF standards compliance for multivendor interoperability
- EdgeGenie Service Management for full lifecycle support of Ethernet services
- NEBS Level 1 certified



## TECHNICAL SPECIFICATIONS

<b>Hardware Characteristics</b>	24 x 100BaseFX/1000BaseX SFP ports Optional: 2 x 10GE XFP expansion module Non-blocking 44Gbps full-duplex (FD) platform Dual AC or wide range -24VDC to -60VDC power supply
<b>Services</b>	MEF Services: E-LINE, E-LAN, E-TREE, and E-ACCESS (MEF CE 2.0)L2 Services: IEEE 802.1Q bridging, IEEE 802.1ad Q-in-Q and TLS MPLS Services: VPWS, VPLS and HVPLS MPLS Signaling: RSVP-TE, LDP/T-LDP and Static MPLS IP Services: L3VPN IP/MPLS*, VRF, VRF-Lite, NAT*, DHCP client//server*, VRRP, BFD, BFD* and NetFlow IP Routing: Static routing, OSPFv2, IS-IS and BGPv4
<b>Resiliency</b>	G.8031, Sub-50ms ITU-T G.8032v2 RAPS and MSTP Fast Ring, Sub-50ms RSVP- TE FRR, HVPLS dual homing, secondary LSP, xSTP, resilient link, LAG (static/IEEE 802.3ad LACP) Hot swappable, redundant AC/DC power supply
<b>Quality of Service</b>	Service classification per port/EVC/flow single/dual rate limiting, Hierarchical rate limit per EVC, SP, WRR and hybrid frames scheduling, CoS marking and mapping per EVC, IPv6 data path support*
<b>Multicast Management</b>	IGMP snooping v1/v2/v3, IGMP proxy, Multicast VLAN registration (MVR)
<b>OAM</b>	IEEE 802.3ah EFM, Hardware-based IEEE 802.1ag CFM, OAM over VPLS, BFD*, MPLS Ping
<b>Testing &amp; Monitoring</b>	Hardware-based ITU-T Y.1564 and RFC 2544 test head, loopback and service performance analyzer, in-service testing capabilities, ITU-T Y.1731 PM, SM and SLM per-port/ EVC/VLAN/COS, hardware-based MAC Swap loopbacks, TWAMP
<b>Management</b>	Console, Telnet, SSHv2, RADIUS, TACACS+, SNMP v1/2/3, xFTP, NTP, DHCP client/server*, NAT*, and Zero Touch Provisioning
<b>Security</b>	ACLs, RADIUS, SSHv2, SNMPv3, SFTP, port security, Broadcast storm prevention, secured access, ARP protection
<b>General Specifications</b>	Dimensions (W x H x D): 440mm (19" racks) x 67mm (2.625") x 253mm (10") Weight: 5.2 kg (11.5lb) Operating Temperature: TM-7124S-AC-x: -20°C to 65°C / -4°F to 149°F TM-7124S-DC and TM-7124S- DC-W: -40°C to 65°C / -40°F to 149°F Humidity: 5% to 95% non-condensing Input power: 100-240VAC, 50/60 Hz, -48VDC, -60VDC and +24VDC nominal
<b>Regulatory Compliance</b>	NEBS Level 1 certified Safety: NRTL certified: C-UL 60950, CSA 22.2, No.950, EN/IEC 60950, TUV/GS (EN60950),CB, EN, 60825-1/2 EMC: CE Mark: EN50081-1: EN55022 Class A, EN60555-2/3; North America: FCC 47 CFR, Part 15 Class A; ICES-003 Issue 4 Class A (Canada); Japan: VCCI Class A, Australia/NZ: CISPR 22 Class A Immunity: EN50082-1, EN/IEC 61000-4-2/3/4/6/11 RoHS compliant

## ORDERING INFORMATION

Part Number	Description
TM-7124S-AC-x	Base system including fan tray, one (1) AC PSU, blank plates (PSU & module slot), AC power cord, x = Plug type
TM-7124S-DC-W	Base system including fan tray, one (1) wide range DC PSU -24VDC to -60VDC, with DC feed connector, blank plates (PSU & module slot)
LC-7124-2XFP-B	Plug-in line card with 2x10GE XFP ports, sync clock and phase clock
TM-7124S-ACPS-x	AC PSU, x = Plug Type
TM-7124S-DCPS-W	Wide range -24VDC to -60VDC PSU with DC feed connector

## KEY APPLICATIONS

- MEF CE 2.0 certified (E-Line, E-LAN, E-Tree, E-Access)
- 1/10GE NID (E-NNI application)
- Hub & Spoke Layer 2 aggregation or pre-aggregation device
- Multi-tenant, multi-service HVPLS spoke (using MPLS or Q-in-Q)
- Data center consolidation
- L2/L3 VPN

## ABOUT TELCO SYSTEMS

Telco Systems delivers a portfolio of Network Edge (Carrier Ethernet and MPLS) demarcation, aggregation, and uCPE solutions that enables service providers to create intelligent, service-assured, CE 2.0-compliant networks for mobile backhaul, business services, and cloud networking. Telco Systems end-to-end Ethernet, SDN/NFV-ready product portfolio delivers significant advantages to service providers, utilities, and city carriers competing in a rapidly evolving telecommunications market. Telco Systems is a wholly owned subsidiary of BATM Advanced Communications.

To learn more, visit Telco Systems at <http://www.telco.com>