

## TS-Series chassis

*Ruggedized platform for ease-of-use optical networks*

### Key benefits:

- Ruggedized design for easy installation and handling
- Compact and highly flexible allowing configuration to any network element type
- All TS-Series plug-in units fit in any TS-Series chassis enabling full flexibility and cost efficient handling of the units
- 1U and wall mount option offering a small footprint solution for confined spaces, e.g. in access networks
- Built-in support for AC and DC power eliminating the need for additional external power supplies
- Low Power Design for low power consumption

The TS-Series system platform contains a wide range of active and passive plug-in units optimized for cost-efficient transport networks based on CWDM and DWDM technology. These plug-in units can be mounted in any of the enclosures TS-1100, TS-100 or in the passive holder 9320.

The TS-Series system platform can be equipped with CWDM, DWDM or hybrid C/DWDM plug-in units in single-fiber or fiber-pair configurations.

All plug-in units are completely ESD protected within metal housings which means that they can be easily handled without fear of damage to the unit.

### TS-1100 chassis for larger CO installations

The TS-1100 chassis is a 6U high 19" standards based chassis with room for up to 12 TS-Series plug in units, one Node Management Board and two Power Supply Units. It consists of a body with an electrical backplane and two mounting brackets. The mounting brackets are adjustable to a preferred position, giving the chassis the desired mounting depth.

The two power supplies are mounted below the main compartment of the chassis. The TS-1100 is available in both AC and DC versions. It is also possible to mix one AC and one DC power supply in the same chassis.

The power supply unit contains fans. If one power supply is not working properly, its fans are powered from the other power supply to ensure that the active units are adequately cooled.

Slots 1-12 in the compartment are used for plug-in units and slot 13 is dedicated for the Node Management Board (NMB).

### TS-100 chassis for small footprint installations

The TS-100 chassis is a 1U high 19" standards based chassis with room for two TS-Series plug in units. One of the two slots can be used for the Node Management Board (NMB). A management board is required to enable management of the node.

It is possible to stack up to three TS-100 chassis, enabling one NMB



TS-1100



TS-100

to manage up to five slots. The TS-100 has built-in redundant fans and the chassis has dual DC inlets for redundancy. AC installations are supported via a separate AC/DC converter.

### Wall mount chassis for CPE stand-alone installations

The wall mount chassis is specifically built for boards supporting stand-alone mode, i.e. operation without Node Management Board (NMB), such as the 5820 Multi-Service Muxponder. Due to its extremely small footprint and ease of use, this chassis is ideal in Customer Premises Equipment deployments.

In this deployment scenario, the plug-in unit is managed via an in-band management channel and a remote node that does contain an NMB. For example, Performance Monitoring data and inventory information from the TS-5820 mounted in the wall mount chassis, is presented in the GUI of the remote node where the Node Management Board is present.



Fig. 1 Wall mount chassis including 5820 is ideal for CPE applications

### Passive plug in unit holder

The 1U high passive plug in unit holder can hold two TS-Series passive plug in units and has built-in fiber management. It is intended for use with passive optical plug in units such as the CWDM and/or DWDM Mux/Demuxes.



Fig. 2 TS-Series Passive plug-in unit holder

### Fiber management unit

The fiber management unit improves fiber management for the TS-Series chassis. It is an add-on and is easily attached to any of the TS-Series chassis. It can also be used for Transmode’s TM-Series chassis.



Fig. 3 TS-Series Fiber management holder

### Node Management Board

The Node Management Board (NMB) is a plug-in unit for the TS-1100 and the TS-100. It contains the Element Node Management software used to manage TS-Series network elements. Used in small to medium sized networks or in element manager mode, the

NMB presents the node information with graphical elements and easy data overview in a standard web browser.

In large fiber optical installations, the NMB is used as a node manager and a transfer agent to higher level network management systems, such as the Transmode Network Manager (TNM), using industry-standard SNMP as a network management protocol.

For advanced fault tracing or configuration, data is presented in data logs with proper date and time stamps. The NMB handles all plug-in units in the TS-Series. All active units have support for “hot swap” and the NMB automatically discovers new units and saves all configuration changes in an event log. Plug-in units may be replaced anytime without the need for manual configuration.



Fig. 4 TS-Series Node Management Board (NMB) handling all plug-in units in the TS-Series

### Low Power Design

A fully equipped TS-1100 chassis consumes a maximum of only 240W, a TS-100 chassis consumes a maximum of 50W, with many configurations requiring considerably lower power consumption. Low power consumption in combination with a small footprint reduces site costs and enables more capacity to be handled at sites with restrictions on power consumption, cooling and space.

### Technical specifications

	TS-1100	TS-100	Wall mount	Passive plug in unit holder	Fiber management unit
<b>Dimensions (HxWxD)</b>	265x483x242 mm 10.4x19.0x9.5 in	44x483x240 mm 1.7x19.0x 9.4 in	265x483x242 mm 10.4x19.0x9.5 in	44x432x228 mm 1.75x17.0x9.0 in	34x442x125 mm 1.33x17.4x4.92 in
<b>Primary Power</b>	DC or AC inlets, Redundant, Hot- swap	DC inlets, Redundant, Hot- swap	NA	NA	NA
<b>Cooling</b>	Redundant fans, Hot-swap	Redundant fans, built in	No fans	NA	NA
<b>Mounting</b>	ETSI, 19”, 23”	ETSI, 19”, 23”	Wall mount	ETSI, 19”, 23”	ETSI, 19”, 23”
<b>LAN / Management connections</b>	RJ45	RJ45	NA	NA	NA
<b>Primary power range, DC</b>	39 – 60 V DC	39 – 60 V DC	NA	NA	NA
<b>Max power at DC powering</b>	240W	50W	NA	NA	NA
<b>Primary power range AC</b>	100 -240 V AC	100 -240 V AC	NA	NA	NA
<b>Max power at AC powering</b>	240W	40W	NA	NA	NA
<b>Weight</b>	9 kg/19.8 lb	2,3 kg/5.0 lb	0,2 kg / 0.4 lb	0,7 kg / 1.5 lb	0,3 kg / 0.6 lb
<b>Operating conditions</b>	ETSI EN 300 019- 1-3 class T3.1	ETSI EN 300 019- 1-3 class T3.1	ETSI EN 300 019- 1-3 class T3.1	ETSI EN 300 019- 1-3 class T3.1	NA

The specifications and information within this document are subject to change without further notice. All statements, information and recommendations are believed to be accurate but are presented without warranty of any kind. Contact Transmode for more details.