



Features:

- 1U height, ETSI shelf (full front access) or ANSI shelf (front and rear access)
- Rack mount, wall mount, and standalone
- Aggregate ports
 - 2 Gigabit Optical Interface with SFP housing
 - Protection
 - Aggregate Line(1+1) protection
 - Switch
 - Switching time will be within 50 ms
 - Switching mode: manual switch, automatic switch
- Proprietary Optical Aggregate throughput: up to 940 Mbps
- Tributary ports:
 - 4 general purpose hot-swappable slots supporting any of the following cards:
 - E1/T1 card
 - 4 E1/T1 ports per card (manufacture option)
 - 8 E1 ports per card
 - Up to 16 E1/T1 ports per system
 - E1/T1 per card is software configurable
 - GbE card
 - 2 Combo Gigabit Ethernet (GbE) port (2 RJ45 and 2 SFP housing) per card
 - Up to 8 Combo Gigabit Ethernet (GbE) ports per system
 - Support Diagnostics (Loopback and Bert)
 - Functions:
 - Packet Transparency: BPDU packet transparency; IEEE 802.1q VLAN, 802.1ad (Q-in-Q)
 - QoS: 4 priority queues for packet classification; 256K bytes of packet buffer per priority queue, IEEE 802.1p CoS
 - Traffic Rate Control: Rate limited with 256K bps granularity; pause frame according to IEEE 802.3X standard.
- Power modules
 - Hot-swappable DC plug-in modules (-48 Vdc: -36 to -75 Vdc), dual for redundancy
 - Hot-swappable AC plug-in module (100 to 240 Vac), dual for redundancy
- Alarm relay
- Firmware download to the local unit and remote unit
- Configuration upload and download
- Management port and interface
 - LCD with keypad on ANSI-shelf option
 - Console port (RS232, DB9), VT100 menu-driven
 - SNMP port
 - SNMP v1, v2c
 - Telnet via SNMP port
 - LoopView/LoopView Plus GUI EMS*
 - In-band management in traffic bandwidth
- RoHS Compliant

* Future Option

Loop-O9340S Multi-Services Gigabit FOM

Description:

The Loop-O9340S Multi-Services Gigabit FOM is a flexible, cost-effective FOM (Standalone) which provides an ideal solution for 2G/3G BTS and buildings with fiber-based E1/T1 and Ethernet networks. With hot-pluggable platform, it allows service providers to carry up to 16 E1/T1, 32 E1, 8 Combo Gigabit Ethernet (GbE) or mix with both interfaces signals over proprietary Gigabit optical pipe.

To select the protection level, users can choose dual pair fiber for the line (1+1) in the point-to-point application and dual power supplies for power protection.

Loop-O9340S offers management through a console port, an Ethernet port, Telnet, and SNMP agents. It supports local control and diagnostics using console port. The unit also supports local and remote monitoring and diagnostics. Contacts for office alarms are available.

Applications for Loop-O9340S include interconnections for LAN, WAN, SONET/SDH, ATM and DLC.

Ordering Information

To specify options, choose from the list below:

Note: RoHS compliant units are identified by the letter **G** appearing immediately at the end of the ordering code.

Model	Description	Note
Main Unit		
Loop-O9340-CS-CA-s1-s2-s3-s4-pp1-pp2- <u>add</u> - G	Stand alone unit with 1U height ANSI shelf (front & rear access)	<ul style="list-style-type: none"> Where s1, s2, s3, s4, pp1, pp2, and <u>add</u> are defined in tables below For allowed pp1 and pp2 combinations, refer to NOTE 1. 2 aggregate ports (GbE optical interface with SFP housing), please order separately for SFP optical modules listed in the table below (future option) Temperature range 0 to 50°C
Loop-O9340-CS-CE-s1-s2-s3-s4-pp1-pp2- G	Stand alone unit with 1U height ETSI shelf (front access)	<ul style="list-style-type: none"> 2 aggregate ports (GbE optical interface with SFP housing), please order separately for SFP optical modules listed in the table below (future option) Temperature range 0 to 50°C
Loop-O9340-CS-CA-s1-s2-s3-s4- <u>add</u> -AD- G	Stand alone unit with 1U height ANSI shelf (front & rear access), fixed hybrid AC and DC power supply (future option)	<ul style="list-style-type: none"> Where s1, s2, s3, s4, and <u>add</u> are defined in tables below 2 aggregate ports (GbE optical interface with SFP housing), please order separately for SFP optical modules listed in the table below Temperature range 0 to 50°C
Loop-O9340-CS-CE-s1-s2-s3-s4-AD- G	Stand alone unit with 1U height ETSI shelf (front access), fixed hybrid AC and DC power supply (future option).	<ul style="list-style-type: none"> Temperature range 0 to 50°C
Loop-O9340-IS-CA-s1-s2-s3-s4-pp1-pp2- G	Stand alone unit with 1U height ANSI shelf (front & rear access)	<ul style="list-style-type: none"> Where s1, s2, s3, s4, pp1, pp2, and <u>add</u> are defined in tables below For allowed pp1 and pp2 combinations, refer to NOTE 1 2 aggregate ports (GbE optical interface with SFP housing), please order separately for SFP optical modules listed in the table below (future option) Temperature hardening optional range -20°C to 70°C
Loop-O9340-IS-CE-s1-s2-s3-s4-pp1-pp2- G	Stand alone unit with 1U height ETSI shelf (front access)	<ul style="list-style-type: none"> Temperature hardening optional range -20°C to 70°C

Hot-swappable Plug-in Modules

Loop-O9340-S-4ETDB37-G	Four E1/T1 with DB37 connector (E1-120 ohms/E1-75 ohms /T1 software selectable)	<ul style="list-style-type: none"> No conversion adaptor is included Temperature range 0 to 50°C
Loop-O9340-S-2CGbEC-G	Two Combo GbE Ethernet with 2 RJ45 and 2 SFP housing	
Loop-O9340-S-4ETIDB37-G	Four E1/T1 with DB37 connector (E1-120 ohms/E1-75 ohms /T1 software selectable)	<ul style="list-style-type: none"> No conversion adaptor is included Temperature range -20 to 70°C For two combo GbE Ethernet, please order separately for SEP optical modules for SFP optical ports.
Loop-O9340-S-8EIDB37-G	Eight E1 with DB37 connector (E1-120 ohms/E1-75 ohms)	
Loop-O9340-S-2CGbECI-G	Two Combo GbE Ethernet with 2 RJ45 and 2 SFP housing	

Plug-in Power Modules

Loop-O9340-S-ISA-G	Single AC power plug-in module (100 to 240 Vac)	<ul style="list-style-type: none"> For power redundancy, order a second power module Temperature hardening optional range -20°C to 70°C For AC, choose an appropriate power cord
Loop-O9340-S-ISD48-G	Single -48 Vdc power plug-in module (-36 to -75 Vdc)	

Accessories

Power Cord

Loop-ACC-PC-USA-G	AC power cord for Taiwan/America	
Loop-ACC-PC-EU-G	AC power cord for Europe	
Loop-ACC-PC-UK-G	AC power cord for UK	
Loop-ACC-PC-AUS-G	AC power cord for Australia	
Loop-ACC-PC-CH-G	AC power cord for China	

Conversion Cable

Loop-ACC-CAP-DB37M-WW-G	DB37 male wire-wrap conversion adaptor
Loop-ACC-CAP-DB37M-8RJ45F-G	DB37 male to 8 RJ45 female conversion adaptor

Blank Panel

30.001479.A00LF-G	Blank panel for Slot 1-4
30.001455.A00LF-G	Blank panel for single DC power slot
30.001454.A00LF-G	Blank panel for single AC power slot

SFP Optical Modules

Please place your order by using 5 letters in the SFP optical module table below.

User's Manual

Loop-O9340-UM	This is an optional, paper copy. A CD version of the manual is already included as standard equipment.
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■ Where **s1**, **s2**, **s3**, and **s4** are used to select plug-in modules for Slots 1- 4:

s=	Description	Note
4ETDB37	Four E1/T1 with DB37 connector (E1-120 ohms/E1-75 ohms /T1 software selectable)	<ul style="list-style-type: none"> No conversion adaptor is included. Temperature range 0 to 50°C For two combo GbE Ethernet, please order separately for SEP optical modules for SFP optical ports.
2CGbEC	Two Combo GbE Ethernet with 2 RJ 45 and 2 SFP housing	
4ETIDB37	Four E1/T1 with DB37 connector (E1-120 ohms/E1-75 ohms)	<ul style="list-style-type: none"> No conversion adaptor is included. Temperature hardening optional range -20°C to 70°C For two combo GbE Ethernet, please order separately for SEP optical modules for SFP optical ports.
8EIDB37	Eight E1 with DB37 connector (E1-120 ohms/E1-75 ohms)	
2CGbECI	Two Combo GbE Ethernet with 2 RJ 45 and 2 SFP housing	

■ Where **pp1** is used to select the 1st power module (temperature hardening optional range: -20°C to 70°C).

pp1 =	Description	Note
ISA	Single AC power plug-in module (100 to 240 Vac)	<ul style="list-style-type: none"> All plug-in power modules are interchangeable. For AC choose an appropriate power cord
ISD48	Single -48 Vdc power plug-in module(-36 to -75 Vdc)	

■ Where **pp2** is used to select the 2nd power module (temperature hardening optional range: -20°C to 70°C). If pp2 is not required, leave this field blank.

pp2 =	Description	Note
ISA	Single AC power plug-in module (100 to 240 Vac) for ANSI only	<ul style="list-style-type: none"> For redundancy purposes, ordering a second plug-in module will provide dual power. You cannot order a second SA for ETSI unit. For AC, choose an appropriate power cord NOTE 1
ISD48	Single -48 Vdc power plug-in module (-36 to -75 Vdc)	

■ Where **add** is used to select a LCD option.

add =	Description	Note
LCD	LCD front panel display	<ul style="list-style-type: none"> LCD is supported for ANSI shelf only LCD only supports the temperature range of 0 to 50°C

NOTE 1: The combinations of pp1 and pp2 power modules

* Future Option

For ANSI unit:

- **pp1=SA** (Single AC power plug-in in front or at rear)
- **pp1=SD48** (Single DC power plug-in at rear)
- **pp1=SD48, pp2=SD48** (Dual hot-swappable DC)
- **pp1=SA, pp2=SA** (Dual hot-swappable AC, one front and one rear plug-in)
- **pp1=SA, pp2=SD48** (Hot-swappable AC front and DC rear plug-in)

Note: For ANSI unit, DC power is available in rear panel only

For ETSI unit (all power modules in front):

- **pp1=SA** (Single AC power plug-in)
- **pp1=SD48** (Single DC power plug-in)
- **pp1=SD48, pp2=SD48** (Dual hot-swappable DC power plug-in)

SFP Optical Module for Gigabit Optical Interface/Gigabit Ethernet (GbE) Interface:

1.25G (mini GBIC) Dual Fiber Commercial (0 to 70°C)	MTAFW	Multi-mode optical module with dual uni-directional fiber, 1.25G, 850nm, 550m, LC connector w/o DDM, 1000Base-SX	<ul style="list-style-type: none"> Use 2 fibers for all SFP optical modules All 1.25G optical module downgrading to 622M data rate will be workable
	MTAFD	Single-mode optical module with dual uni-directional fiber, 1.25G, 850nm, 550m, LC connector with DDM, 1000Base-SX	
	MTBTD	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 2Km, LC connector with DDM, 1000Base-SX+	
	MTBTW	Multi-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 2Km, LC connector w/o DDM, 1000Base-SX+	
	PTB1W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 10Km, LC connector w/o DDM, 1000Base-LHX	
	PTB2W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 20Km, LC connector w/o DDM, 1000Base-LX	
	PTB4W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 40Km, LC connector w/o DDM, 1000Base-LHX	
	PTC5W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 50Km, LC connector w/o DDM, 1000Base-XD	
	PTC6W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 60Km, LC connector w/o DDM, 1000Base-XD	
	PTC8W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 80Km, LC connector w/o DDM, 1000Base-ZX	
	PTC9W	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 90Km, LC connector w/o DDM, 1000Base-ZY	
	PTCVW	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 110Km, LC connector w/o DDM, , 1000Base-APD	
	PTCXW	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 120Km, LC connector w/o DDM1000Base-APD	
	PTB1D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 10Km, LC connector with DDM, 1000Base-LX	
	PTB3D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 30Km, LC connector with DDM, 1000Base-LHX	
	PTB4D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1310nm, 40Km, LC connector with DDM, 1000Base-LHX	
PTC5D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 50Km, LC connector with DDM, 1000Base-XD		

	PTC6D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 60Km, LC connector with DDM, 1000Base-XD
	PTC8D	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 80Km, LC connector with DDM, 1000Base-ZX
	PTC9D	Single-mode optical module, with dual unidirectional fiber, 1.25G, 1550nm, 90Km, LC connector with DDM
	PTCVD	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 110Km, LC connector with DDM, 1000Base-APD
	PTCXD	Single-mode optical module with dual uni-directional fiber, 1.25G, 1550nm, 120Km, LC connector with DDM, DDM1000Base-APD
	PKB1W	Single-mode optical module with dual uni-directional fiber, 622Mbps~1.25G, 1310nm, 10Km, LC connector w/o DDM, 1000Base-LX

NOTE: For other special optical modules, please contact your nearest Loop sales representative

1.25G (mini GBIC) Bi-directional Single Fiber Commercial (0 to 70°C)	PTD1W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 10Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD1W to use with PTE1W ▪ Use 1 fiber
	PTE1W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 10Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE1W to use with PTD1W ▪ Use 1 fiber
	PTD2W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 20Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD2W to use with PTE2W ▪ Use 1 fiber
	PTE2W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 20Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE2W to use with PTD2W ▪ Use 1 fiber
	PTD4W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 40Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD4W to use with PTE4W ▪ Use 1 fiber
	PTE4W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 40Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE4W to use with PTD4W ▪ Use 1 fiber
	PTD6W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 60Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD6W to use with PTE6W ▪ Use 1 fiber
	PTE6W	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 60Km, LC connector w/o DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE6W to use with PTD6W ▪ Use 1 fiber
	PTD1D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 10Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD1D to use with PTE1D ▪ Use 1 fiber
	PTE1D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 10Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE1D to use with PTD1D ▪ Use 1 fiber
	PTD2D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 20Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD2D to use with PTE2D ▪ Use 1 fiber
	PTE2D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 20Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE2D to use with PTD2D ▪ Use 1 fiber
	PTD4D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 40Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD4D to use with PTE4D ▪ Use 1 fiber
	PTE4D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 40Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE4D to use with PTD4D ▪ Use 1 fiber

	PTD6D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 60Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD6D to use with PTE6D ▪ Use 1 fiber
	PTE6D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 60Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE6D to use with PTD6D ▪ Use 1 fiber
	PTD8D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1310 nm / Rx 1550 nm, 80Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1310 nm from master to slave ▪ Order PTD8D to use with PTE8D ▪ Use 1 fiber
	PTE8D	Single mode optical module with single bi-directional fiber, 1.25G, Tx 1550 nm / Rx 1310 nm, 80Km, LC connector with DDM, GbE/1X fiber channel	<ul style="list-style-type: none"> ▪ 1550 nm from slave to master ▪ Order PTE8D to use with PTD8D ▪ Use 1 fiber

NOTE: For other special optical modules, please check SFP Optical Module brochure or contact your nearest Loop sales representative.

[Loop-O9340 GbE FOM Product Specifications](#)

[Optical SFP Module Characteristic for Gigabit Optical Interface/GbE Ethernet\(GbE\) Interface](#)

SFP Optical Module	Direction	Data Rate	Wavelength(nm)	Connector	Distance
MTAFW	dual uni-directional fiber	1.25G	850	LC without DDM	550 m
MTAFD	dual uni-directional fiber	1.25G	850	LC with DDM	550 M
MTBTD	dual uni-directional fiber	1.25G	1310	LC with DDM	2 km
MTBTW	dual uni-directional fiber	1.25G	1310	LC without DDM	2 km
PTB1W	dual uni-directional fiber	1.25G	1310	LC without DDM	10 km
PTB2W	dual uni-directional fiber	1.25G	1310	LC without DDM	20 km
PTB4W	dual uni-directional fiber	1.25G	1310	LC without DDM	40 km
PTC5W	dual uni-directional fiber	1.25G	1550	LC without DDM	50 km
PTC6W	dual uni-directional fiber	1.25G	1550	LC without DDM	60 km
PTC8W	dual uni-directional fiber	1.25G	1550	LC without DDM	80 km
PTC9W	dual uni-directional fiber	1.25G	1550	LC without DDM	90 km
PTCVW	dual uni-directional fiber	1.25G	1550	LC without DDM	110 km
PTCXW	dual uni-directional fiber	1.25G	1550	LC without DDM	120 km
PTB1D	dual uni-directional fiber	1.25G	1310	LC with DDM	10 km
PTB3D	dual uni-directional fiber	1.25G	1310	LC with DDM	30 km
PTB4D	dual uni-directional fiber	1.25G	1310	LC with DDM	40 km
PTC5D	dual uni-directional fiber	1.25G	1550	LC with DDM	50 km
PTC6D	dual uni-directional fiber	1.25G	1550	LC with DDM	60 km
PTC8D	dual uni-directional fiber	1.25G	1550	LC with DDM	80 km
PTC9D	dual uni-directional fiber	1.25G	1550	LC with DDM	90 km
PTCVD	dual uni-directional fiber	1.25G	1550	LC with DDM	110 km
PTCXD	dual uni-directional fiber	1.25G	1550	LC with DDM	120 km
PKB1W	dual uni-directional fiber	622Mbps~1.25G	1310	LC with DDM	10 km

NOTE: For other special optical modules, please contact your nearest Loop sales representative.

SFP Optical Module	Direction	Data Rate	Wavelength(nm)	Connector	Distance
PTD1W	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC without DDM	10 km
PTE1W	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC without DDM	10 km
PTD2W	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC without DDM	20 km
PTE2W	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC without DDM	20 km
PTD4W	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC without DDM	40 km
PTE4W	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC without DDM	40 km
PTD6W	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC without DDM	60 km
PTE6W	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC without DDM	60 km
PTD1D	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC with DDM	10 km
PTE1D	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC with DDM	10 km
PTD2D	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC with DDM	20 km
PTE2D	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC with DDM	20 km
PTD4D	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC with DDM	40 km
PTE4D	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC with DDM	40 km
PTD6D	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC with DDM	60 km
PTE6D	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC with DDM	60 km
PTD8D	bi-directional fiber	1.25G	Tx1310/Rx1550 nm	LC with DDM	80 km
PTE8D	bi-directional fiber	1.25G	Tx1550/Rx1310 nm	LC with DDM	80 km

Aggregate – Gigabit Optical Interface

Number of Ports	2
Speed	1000M bps
Connector	SFP housing with LC

Tributary - E1 Interface

Line Rate	2.048M bps ± 50 ppm
Line Code	AMI/ HDB3
Framing	ITU G.704 framing monitoring only (framing transparency)
Output Signal	ITU G.703
Input Signal	ITU G.703
Connector	DB37 (optional DB37 to wire-wrap and DB37 to 8 female RJ45 adapter available)
Jitter	ITU G.823
Surge Protection	IEC 61000-4-5 class 3

Tributary –T1 Interface

Line Rate	1.544M bps ± 32 ppm
Line Code	AMI / B8ZS(selectable)
Framing	D4 / ESF(selectable) framing monitoring only (framing transparency)
Output Signal	DS1 with 0, -7.5, -15 dB LBO
Input Signal	DS1 with 0 dB to -26 dB ALBO
Connector	DB37 (optional DB37 to wire-wrap connector available)
Pulse Template	Per AT&T TR 62411
Surge Protection	IEC 61000-4-5 class 3

Tributary-Combo Gigabit Ethernet(GbE) Interface

Speed	10/100/1000M bps
Connector	RJ45 for twisted pair GbE, LC for optical GbE, auto detection
Surge Protection	IEC 61000-4-5 class 3

Ethernet Function

Basic Features	MDI/MDIX for 10/100/1000M BaseT auto-sensing Ethernet Leased Line Transmission with Hard-segmentation among Ethernet ports Support Packet length up to 2000 bytes Link Fault Propagation (LFP)
Packet Transparency	Packet transparency support for all types of packet types including IEEE 802.1q VLAN and 802.1ad (Q-in-Q) BPDU packet transparency Pause Frame transparency
QoS	Packet classification based on the 802.1p CoS 4 priority queues for packet classification Support Strictly Priority or WRR Scheduling of the 4 priority queues
Traffic Control	Ingress packet Rate limiting with granularity of 256kbps Pause frame issued when the traffic exceeding the limited rate before packet dropped following IEEE802.3X
Aggregate throughput	256Kbytes of packet buffer per priority queue Up to 940 Mbps

SNMP Ethernet

Ethernet Functions	10/100BaseT, IEEE802.3 Auto-negotiation(10/100M) Auto MDI/MDIX Full or half duplex
Connector	RJ45

Alarm Relay

Alarm Relay	Fuse alarm and performance alarm
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System Clock

Clock Source	Internal clock Aggregate line clock
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Management

ACO	A button of alarm cut-off
RST	System Reset Button (Non-traffic affecting)
Console Port	Electrical: RS232, DCE Protocol: Menu driven VT-100 Connector: DB9S, female
Telnet	Access via SNMP Ethernet port
SNMP	SNMP v1, v2c; Up to 5 Trap IPs
Inband Management	Inband management in traffic bandwidth

Aggregate Diagnostics

Aggregate Loopbacks Bert Aggregate Local Loopback, Aggregate Remote Loopback Off/PRBS 2¹⁵-1

Tributary Diagnostics

E1/T1 Loopbacks Local Loopback, Remote Loopback
E1/T1 Bert Off/PRBS 2¹⁵-1 (to aggregate)
GbE Loopbacks Local Loopback, Remote Loopback
GbE Bert Off/PRBS 2¹⁵-1 (to aggregate)

Performance Monitor

Alarm History Alarm Type (i.e. RAI, AIS, LOS, BPV, ES, UAS)
Alarm Queue Maximum 500 alarm records which record the latest alarm type, location, and date & time
Alarm Threshold BPV, ES, UAS

Aggregate Performance

Performance Store Last 24 hours performance in 15-minute intervals and last 7 days in 24-hour intervals.
Performance Reports Date & Time, Errored Second, Severe Errored Second count, Unavailable Second.

E1/T1 Performance

Performance Store Last 24 hours performance in 15-minute intervals and last 7 days in 24-hour summary line, user
Performance Reports Date & Time, Errored Second, Unavailable Second, Bursty Errored Second, Severe Errored Second count.

GbE Performance

Performance Store Last 24 hours performance in 15-minute intervals and last 7 days in 24-hour intervals.
Performance Reports Date & Time, Errored Second, Severe Errored Second count, Unavailable Second.

Power

AC Module 100 to 240 Vac
-48 Vdc Module -36 to -75 Vdc
AC and DC Module* 100 to 240 Vac and -48 Vdc (-36 to -75 Vdc) fixed on panel
Power Consumption Max. 20W

Physical and /Environmental

Dimensions 438 mm x 44 mm x 226 mm (WxHxD)
Temperature 0 -50°C (operation) or -20 -70°C (Industrial)
Humidity 0-95% RH(non condensing)
Mounting Desk-top stackable, wall mount, rack mount

Certification

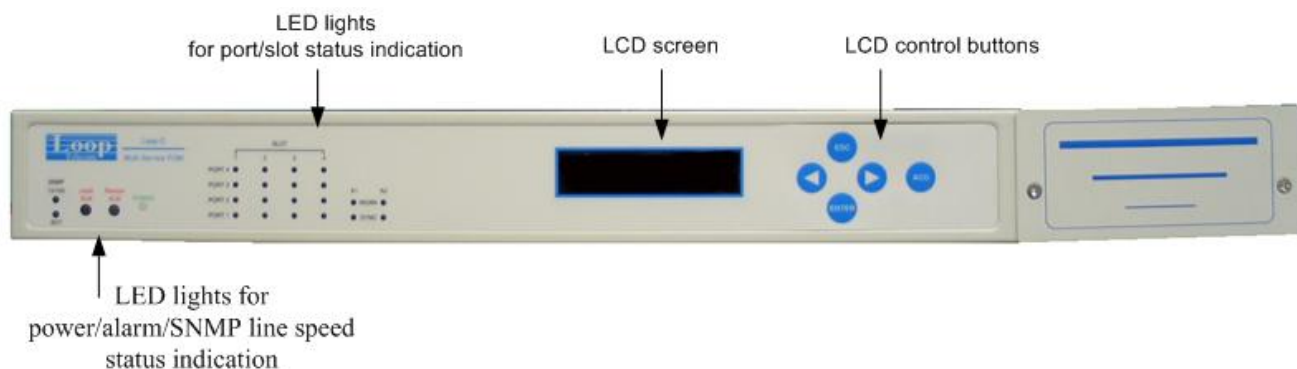
EMC EN55022 Class A, EN55024, FCC Part 15 Class A
Safety EN60950-1, IEC60950-1

Standards Compliance

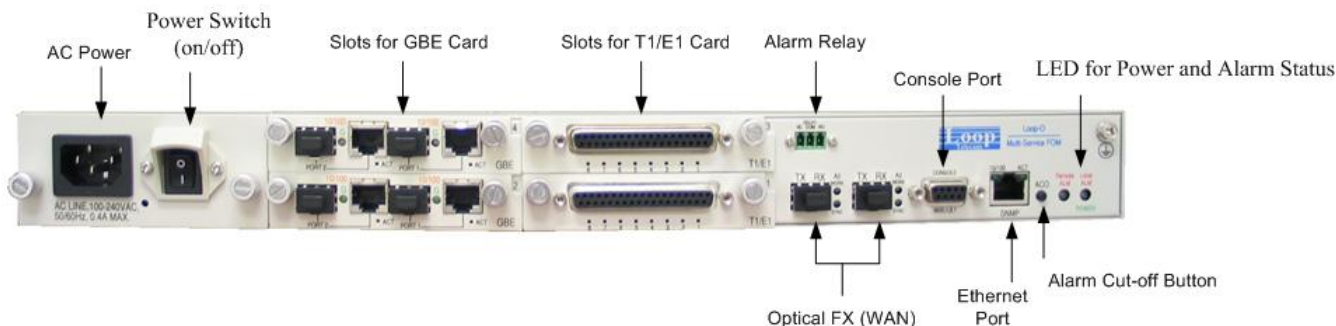
ITU-T G.703, G.704, G.823
IEC 61000-4-5 class 3
IEEE 802.3, 802.3u, 802.3z, 802.3X, 802.1q, 802.1ad

*Future Option

O9340 Front Panel View

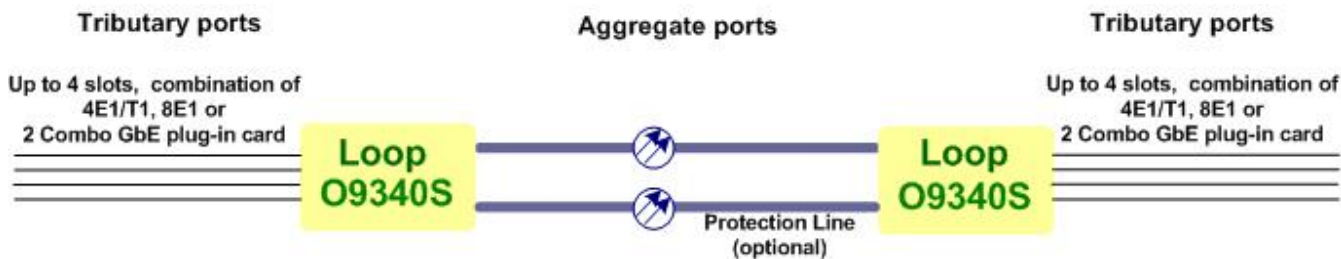


O9340 Rear Panel View



Application Illustration

Point-to-point application



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