



Starline® SG4000 Scalable Modular Optical Node



MODELS

SG4000

OVERVIEW

The Motorola Starline SG4000 modular optical node provides operators with an unprecedented level of performance and flexibility. With provisions for up to nine optics modules, the SG4000 scales from its most basic version to full 4x4 capability without any loss of initial investment and with minimal service interruptions. Customers will benefit from its expandable, flexible configurations that allow station growth without any upfront price penalty. Featuring all new module designs, the SG4000 builds on Motorola's heritage of reliability and performance. As a platform for Motorola's high-speed Time Domain Multiplexed (TDM) digital return, the SG4000 effectively combines node segmentation with wavelength aggregation, conserving fiber resources. Available with a Hybrid Management Sub-Layer (HMS) compatible status monitor transponder, the SG4000 supports today's evolving HFC networks.

FEATURES:

- 870MHz E-GaAs performance
- Up to four optical receivers
- Up to four optical transmitters
- High speed Digital Return technology
- Six RF/AC port locations
- HMS compliant status monitor transponder
- Hot-swappable modules
- User-friendly fiber management (2 trays)
- Redundant powering capability (N+1)
- 15A power passing
- Ingress Control Switches
- Superior port-to-port isolation performance
- Increased reliability
- Status Monitoring
- Four Forward RF Test points accessible through housing (quick measurement)
- Signal Flow labeling

OPTICAL RECEIVER	
Optical Wavelength	1310±20 nm, 1550±30 nm
Optical Input Power Range	-3.0 to +2.0 dBm continuous
Optical Connector Type	SC/APC or E2000
Optical Input Return Loss	45 dB minimum
RF	
Operational Bandwidth	F _{min} to 1003 MHz
Flatness	±0.75 dB F _{min} to 1003 MHz
Output Slope	14.5±1.0 dB
Level Stability	±1.5 dB over operating temperature range
RF Output Test Points	-20±0.5 dB (internal)
RF Output Impedance	75 Ω
RF Output Return Loss	16 dB minimum
STATION PERFORMANCE	
Output Level	55 dBmV @ 1003 MHz with -3 dBm optical input power
Power Consumption	130 W maximum
Hum Modulation @ 15 A	(-55 dBc, 5 to 10 MHz) (-60 dBc, 11 MHz to F _{maxret} , 871 to 1003 MHz) (-65 dBc, F _{minfwd} to 870 MHz)
Isolation	65 dB, port-to-port
AC Bypass Current	15 A
Measured with 79 channels NTSC at 48 dBmV @ 54725 MHz with digital loading 6 dB below analog, 550 to 1003 MHz, 20 km optical link, 0 dBm optical input power, GX2 transmitter	
Composite Triple Beat (CTB)	-65 dBc
Composite Second Order (CSO)	-62 dBc
Carrier to Composite Noise (CCN)	51 dB
MECHANICAL/ENVIRONMENTAL	
Dimensions	22.8" L x 11" W x 10.6" D (57.9 cm x 27.5 cm x 26.9 cm)
Weight	48.0 lbs (21.77 kg)
Mounting	Aerial or pedestal
RF Connector Types	SCTE-compliant housing, accepts 1.6" 5/8 stinger
Operating Temperature Range	-40 °F to 140 °F (-40 °C to 60 °C)
1 GHZ STANDARD NODE MODELS	
600000-081-00	SG4-100SS/SXX-CNN-S
600000-077-00	SG4-100SS/SAA-EES-R
600000-079-00	SG4-100SS/SBB-CNN-R
1 GHZ RF MODEL	
525407-001-00	SG4-RF-100-S
1 GHZ RECEIVER	
525408-001-00	SG4-R-100/SC
1 GHZ FORWARD CONFIGURATION BOARDS	
503855-011-00	SG4-100-FS, Forward Split Board, 1 GHz
503855-012-00	SG4-100-FRS, Forward Redundant Split Board, 1 GHz
503855-013-00	SG4-100-FWD-2X, Forward 2X Segment Board, 1 GHz
503855-014-00	SG4-100-FWD-2X-RED, Forward 2X Segment Redundant Board, 1 GHz
503855-015-00	SG4-100-FWD-4X, Forward 4X Segment Board, 1 GHz
1 GHZ LINEAR MID-STAGE EQUALIZERS (LME)	
532002-003-00	LME-100-3
532002-004-00	LME-100-4
532002-005-00	LME-100-5
532002-006-00	LME-100-6
532002-007-00	LME-100-7
532002-008-00	LME-100-8
532002-009-00	LME-100-9
532002-010-00	LME-100-10
1 GHZ PORT ENTRY ASSEMBLY	
525412-001-00	SG4 Port Entry 1 GHz