GE Interlogix
Fiber Options

S712D
S7712D

**Multi-protocol Data
Repeater**

Product Specification

Features

✔ **Multi-protocol data: RS-232, RS-422, RS-485 Manchester, Biphase, TTL, SensorNet™**

✔ ***SMARTS™* Diagnostics**

✔ **Field-configurable data format**

✔ **Drop and insert repeater function**

✔ **Self-healing ring capability**

✔ **Redundant point-to-point capability**

✔ **Unique data translation function**

✔ **Standard optical budget 18 dB; higher budgets available**

✔ **Forever Warranty™**

Description

The S712D and S7712D Multiprotocal Repeater is part of Fiber Options' revolutionary family of multiprotocol data links. This link handles all major data formats in both directions, including SensorNet™. It is not necessary to order or stock different models to support different data formats. This link also features the very valuable data translation function that allows input of one data format and output of a different format.

It provides four new data functions: (1) It acts as a repeater to extend the operating distance of an S711D, or S7711D system; (2) It provides drop-and-insert capability to a linear data system with up to 32 nodes; (3) It can be configured as a redundant point-to-point system; (4) It can be configured as a self-healing ring with up to 32 nodes.

It also features *SMARTS™* Technology with extensive built-in diagnostics, including a self-test data generator that makes it possible to test a link without having to connect external data equipment.
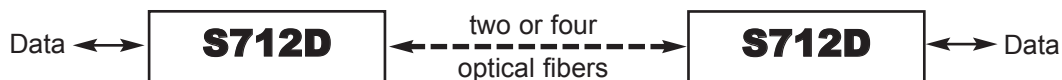
Basic Multimode Models

S712D-2	2-Fiber link, 850/1300 nm
S712D-4	4-Fiber link, 850 nm
S712D-4L	4-Fiber link, 1300 nm

Basic Single-Mode Descriptions

S7712D-2	2-Fiber link, 1310/1550 nm
S7712D-4	4-Fiber link, 1310 nm
S7712D-4L	4-Fiber link, 1550 nm

SYSTEM DIAGRAM

Data ↔ **S712D** ←---- two or four optical fibers ----→ **S712D** ↔ Data

DATA

Number of Channels:	1 bidirectional		RS-485 (2-wire and 4-wire) with 200 mV, 1 V, and 2 V offsets
Data Formats:	RS-232 (3-wire and 5-wire), TTL, RS-422, Manchester, Biphase, Sensornet™,	Baud Rate:	RS-232 = 250 kbps Manchester = 250 kbps Biphase = 250 kbps

DATA, Continued

Baud Rate:
RS-422, RS-485:	512 kbps
TTL:	512 kbps

Bit Error Rate: $<10^{-9}$

Maximum Distance: The maximum distance from the CCTV control system components to the fiber units is governed by the control system.

ELECTRICAL

Input Voltage:
Standalone Modules:	13.5 VDC, regulated
Rack Modules:	13.5 VDC, regulated
Current Requirement:	400 mA
Power Consumption:	4 W

Rack Module
Power Factor:	4
Protection:	Solid-state short circuit protection (no fuse required)
Card Replacement:	Cards are hot swappable
Power Supply:	613P

OPTICAL

Optical Mode:
S712D-2, -4, -4L:	Multimode
S7712D-2, -4, -4L:	Single Mode

Wavelength:
S712D-2:	850/1300 nm
S712D-4:	850 nm
S712D-4L:	1300 nm
S7712D-2:	1310/1550 nm
S7712D-4:	1310 nm
S7712D-4L:	1550 nm

Optical Budget:
S712D-2, -4, -4L:	18 dB standard*
S7712D-2, -4, -4L:	21 dB standard

Fiber Type:
Multimode:	62.5 μm
Single-mode:	8.3 μm

Operating Distance, Point-to-Point**:
S712D-2, S712D-4:	4.5 mi (7.2 km)
S712D-4L:	15 mi (25 km)
S7712D-2, S7712D-4:	32 mi (52 km)
S7712D-4L:	43 mi (70 km)

*Optical Budget based on 62.5/125 um fiber, for 50/125 um fiber subtract 3 dB.

** Simple point-to-point systems should use S710D or S711D/S7711D models instead of S712D or S7712D models.

***Operating distance is approximate and assumes best fiber. It will be affected by the type and number of splices in the fiber. Refer to update no. TB00-005, which can be found at www.fiberoptions.com.

Operating Distance Between Nodes, Drop/Insert/Repeat***:
S712D-2, S712D-4:	4.5 mi (7.2 km)
S712D-4L:	15 mi (25 km)
S7712D-2, S7712D-4:	32 mi (52 km)
S7712D-4L:	43 mi (70 km)

Self-Healing Ring, Maximum Circuit
Length Selections:	1, 3, 5, 10, 15, 20, 30, 50, 70, 100, 150, 250, 350, 500 km
Emitter Type:	LED
Gain Control:	Optical automatic (OAGC)
Launch Power:	-14 dBm min
Receiver Sensitivity:	-32 dBm min

ENVIRONMENTAL

Temperature Range
  in Operation:-40° to +167° F (-40° to +75° C)
  in Storage: -40° to +185° F (-40° to +85° C)
Humidity Range in Operation and Storage:
  0 to 95% relative, noncondensing

MECHANICAL

Standalone Modules
Dimensions:	Length: 5.0 in (127 mm)
	Width: 4.8 in (122 mm)
	Height: 1.5 in (38 mm)
	Weight: 1.21 lb (0.55 kg)
Construction:	Steel
Finish:	Gray textured paint
Mounting Method:	6 No. 6 (3 mm) screws

Rack Modules
Module Width:	2 slots, 2.0 in. (51 mm)
Weight:	0.55 lb (0.25 kg)
Construction:	Aluminum
Finish:	Black semigloss paint

SMARTS™ INDICATORS

Level/Loss™, Data Input/Output, Enable Configuration

AGENCY COMPLIANCE AND MTBF

Emissions:	FCC Part 15, ICES-003, AS/NZS 3548, EN55022
Immunity:	ENV50204, EN61000-4-2,3,4,5,6,11
Safety:	UL1950, CAN/CSA 22.2, NO.950-95
MTBF:	>100,000 hours

FCC PART 15 COMPLIANT   CE   cULus L   ✓

For additional information about this product, refer to the Fiber Options Web site at www.fiberoptions.com.