PROSAFE-RS OPTICAL ESB

Product Data Sheet

SNT401-13 S1

Optical ESB Master Module

CURRENT CONSUMPTION	CONNECTION TOPOLOGIES	MAXIMUM OPTICAL STAGES	TOTAL OPTICAL DISTANCE
0.5 A	**Star and chain**	**2**	**Up to 5 km across two stages**

Yokogawa SNT401-13 S1 is an optical ESB bus repeater master module for ProSafe-RS. It converts the electrical ESB connection from a safety control unit or safety node into an optical link, allowing separated nodes to remain connected through a supported star or chain arrangement. The SNT401 master works with the corresponding SNT501 slave rather than functioning as a general-purpose Ethernet converter.

01 TECHNICAL DATA

Current consumption	0.5 A
Connection topologies	Star and chain
Maximum optical stages	2
Total optical distance	Up to 5 km across two stages
Minimum SENG revision	R1.02
Minimum SCS revision	R1.02
Duplex bus 1 slot	Odd-numbered slot
Duplex bus 2 slot	Adjacent even-numbered slot
Matched optical slave	SNT501 with final suffix 3
Optical connector	LC; IEC 61754-20

Yokogawa GS 32Q06L16-31E, seventh edition, 2019; applicable SNT401/SNT501 specifications and installation restrictions.;

02 ADDITIONAL PRODUCT DATA

Optical fiber specification	Quartz single-mode; JIS C 6835 SSMA-9.3/125 or IEC 60793-2-50 B1.1
Optical fiber cores	2 cores
Optical wavelength	1.3 micrometres
Permissible optical path loss	0 to 16 dB
Laser safety class	Class 1; IEC 60825

03 PRODUCT FUNCTION

The SNT401/SNT501 specification lists 0.5 A current consumption and a maximum of two optical stages. Standard total transmission distance is up to 5 km; the 10 km two-stage allowance requires the documented Vnet/IP R1.03 or later arrangement. A duplex pair occupies consecutive slots, with bus 1 in the odd slot and bus 2 in the even slot.

04 SYSTEM COMPATIBILITY

Plan the optical path as one or two stages and calculate the total path rather than treating the distance allowance as a per-stage figure. The general SNT401/SNT501 limit is 5 km; the longer two-stage arrangement is conditional on the Vnet/IP revision stated in the specification.

05 REFERENCE

Yokogawa GS 32Q06L16-31E, seventh edition, 2019; applicable SNT401/SNT501 specifications and installation restrictions.; Yokogawa IM 32Q06C10-31E, sections 4.5 and Table 4.5-2.

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