

Technical Data – Fiber Optic Module (101-201510)

Technical Data - 2 Channel Fiber Optic Module Type 1 (101-201510)	
Backplane	
PROFIBUS networks Modules Power supply Current consumption Compatible backplane units	4 (set by dipswitches or web server) 10 (positioned in the first 10 slots) Provided through the backplane ± 360 mA (510 mA max) 101-200011, 101-200012, 101-200023, 101-200024, 101-200027
Protocol specifications	
Supported Protocols	DP-V0, DP- V1, DP-V2, FDL, MPI, FMS, PROFIsafe, PROFIdrive and any other FDL based protocol
Address	No bus address required
Transmission speed	9.6 kbps .. 12 Mbps (including 45.45 kbps)
Transmission speed detection (between 2 modules, 1 direction)	Auto detect (< 10 s detection and 50 s lost time) FO cable delay = $(5 * 10^{-6}) \times \text{FO cable length} \times \text{Baudrate}$ Example: 1.5 Mbps, 3 km FO cable FO cable delay = $0.000005 \times 3 \times 1500000 = 22.5 \text{ TBit}$
Module delay time (normal mode)	1.6 TBit at 9.6 kbps .. 93.75 kbps 1.7 TBit at 187.5 kbps .. 500 kbps 1.8 TBit at 1.5 Mbps 2.0 TBit at 3 Mbps 2.75 TBit at 6 Mbps 3.75 TBit at 12 Mbps
Module delay time (redundant mode)	11.6 TBit at 9.6 kbps .. 93.75 kbps 11.7 TBit at 187.5 kbps .. 500 kbps 11.8 TBit at 1.5 Mbps 12.0 TBit at 3 Mbps 12.75 TBit at 6 Mbps 13.75 TBit at 12 Mbps
Delay time jitter	Max. ¼ TBit
Total delay between 2 modules (2 directions)	$T_{\text{delay}} = (\text{FO cable delay} + (2 \times \text{Module delay time})) \times 2$ Continued example: 1.5 Mbps, 22.5 TBit FO delay: $T_{\text{delay}} = (22.5 + (2 \times 1.8)) \times 2 = 52.2 \text{ TBit}$

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Fiber Optic specifications

Cable type	Multimode G62.5 / 125 (OM1)
Cable Length	Max. 3 km (baudrate independent)
Connectors	4 x ST/BFOC (2 channels)
Topologies	Point-to-point, Star, Bus
Fiber Optic type	Multimode 850 nm
Cascading depth	Compatible with most other vendors in 3rd party compatibility mode
Redundancy	No limit, only busparameter limitation of the master Yes, maximum 10 cables activated by switch

Dipswitches

<p><u>NW0 NW1</u> LEFT LEFT RIGHT LEFT LEFT RIGHT RIGHT RIGHT</p> <p><u>RED</u> LEFT RIGHT</p> <p><u>H/S</u> LEFT RIGHT</p>	<p><u>PROFIBUS Network</u> 1 2 3 4</p> <p><u>Redundancy</u> OFF ON</p> <p><u>Settings</u> Hardware Software</p>	
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Others

Head Station firmware	At least version 1.264
Operating temperature	0 .. 60 °C
Weight	150 g
MTBF	To be defined
Dimensions (L x W x H)	115 x 100 x 25 mm (without backplane)