

Modicon Premium platform automation

Fipio/Fipway optic transceiver

Presentation

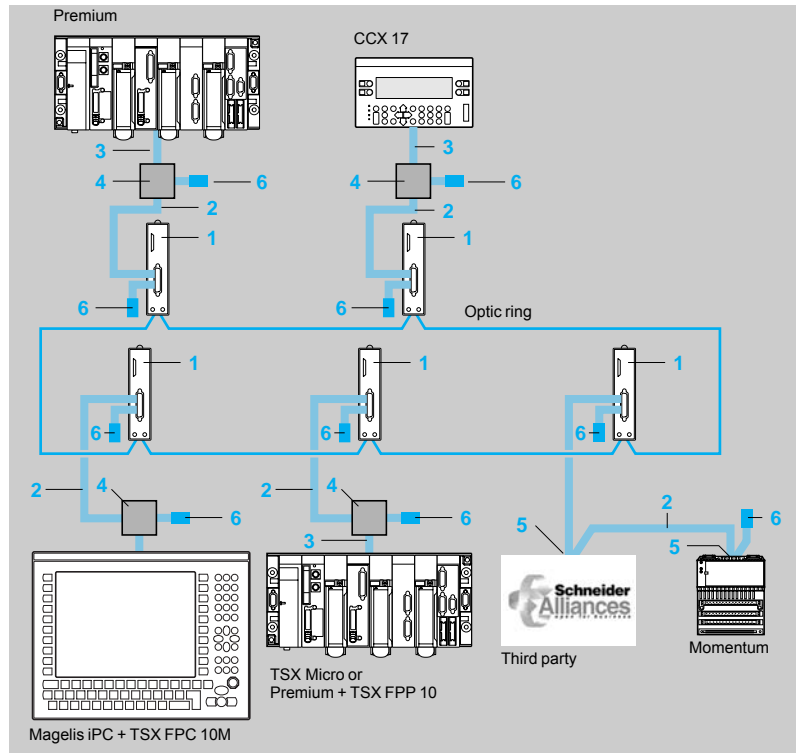
The OZD FIP G3 optic transceivers are particularly adapted for use with applications which are subject to harsh electrical environments or which are distributed over large areas:

- Public buildings.
- Large-scale industrial sites.
- Water treatment and distribution.
- Transport and highway tunnel infrastructures, etc.

The OZD FIP G3 optic transceiver enables conversion of a FIP electric interface to 2 FIP optic interfaces and vice versa. As a result, it allows redundant ring topologies to exist; these improve installation availability even when a line is broken at a point in the medium.

In these situations, the length of the bus or the Fipio/Fipway ring can reach 20 Km, with a maximum of 32 Fipio or 20 Fipway transceivers. See characteristics on page 43590/3. These characteristics may be increased using mixed topologies such as 2 serial optic rings or 2 serial optic buses; please consult our regional office.

Wiring system



- 1 **OZD FIP GG3:** Fipio/Fipway optic transceiver.
- 2 **TSX FP CA●00:** 150 Ω shielded twisted pair trunk cable (diameter 8 mm) for use in standard environments and inside buildings.
- 3 **TSX FP CG 0●0:** tap-off connection cable for TSX FPP 10/20 PCMCIA module card for TSX Micro/Premium PLCs.
- 4 **TSX FP ACC 3/4:** T-junction box. It also has two 9-way female SUB-D connectors for connecting any device which connects to the bus by a PCMCIA card.
- 5 **TSX FP ACC 2/12:** 9-way female SUB-D connector for Fipway/Fipio connection using daisy chaining or tap link connection.
- 6 **TSX FP ACC 7:** line terminator to be placed at each segment end.
TSX LES 65: terminal block for TSX Series 7 PLC, which performs the address coding.

Performances

Fipio bus operating mode and performance on fiber optics

After configuration in Fipio mode, the processor scans the various application devices according to the software configuration:

- Image variables of the input values and of the output command values of a configured device are scanned as quickly as possible on the bus, whilst respecting the existing relationships between periods of different tasks which use these devices.
- Appearance or disappearance of a configured device is detected on the bus within a maximum time of 200 ms.
- Exchanges occur at the rate defined by the programmer, from 10 to 20 Uni-TE messages per second.

The network cycle time is double that of the electrical bus when OZD FIP G3 transceivers are used.

Fipway bus operating mode and performance on fiber optics

The operating principle is identical to that on an electrical network, in that the number of stations is limited to 32 and the transmission time is as follows:

- For the Common words and Shared Table services, updating of the entire database is carried out every 40 ms maximum.

For Uni-TE message handling, the network characteristics are used to transmit a maximum of 230 messages of 128 bytes per second.

Characteristics (with OZD FIP G3 optic transceivers) (1)

Type of bus/network		Fipio bus	Fipway network
Structure	Type	Open industrial support conforming to Fip standard	
	Topology	In redundant rings or in a line with simple redundant links	
	Access method	Producer/consumer principle Management by a fixed arbitrator	Producer/consumer principle Management by an automatically elected arbitrator
Transmission	Mode	Multimode (860 nanometres)	
	Data rate	1 Mbit/s	
	Medium (2)	Fiber optic 50/125 - 17 dBm or 62.5/125 - 15 dBm	
	Inter-repeater distance	2,500 m for 50/125 and 2,800 m for 62.5/125	
Configuration	No. of connection points	32 optic transceivers	20 optic transceivers
	Maximum no. of devices	16 Fipio devices can be connected to the same fiber optic transceiver	16 stations can be connected to the same fiber optic transceiver but the maximum number of stations is 32
	No. of segments	The loop (or fiber optic line) is similar to a non cascable segment	
	Length	Maximum circumference of the ring (or length of the line): 20 km	
	Maximum optic distance between 2 OZD FIP G3 transceivers	1,500 m, with the following on the ring or the line: 32 optic transceivers 2,000 m, with the following on the ring or the line: < 32 optic transceivers 3,000 m, with the following on the ring or the line: 2 optic transceivers	
	Tap links	From the OZD FIP G3 fiber optic transceiver, the maximum length of the electrical tap link is 100 m	
	Services	Same as page 43301/2 except for the Telegram service, which is not available with OZD FIP G3 fiber optic transceiver.	

References



OZD FIP G3



TSX FPP 20/10

Description	Max. number of transceivers	Connectable devices Fipio bus	Fipway network	Reference	Weight kg
Optic transceiver Fipio/Fipway (3)	32 with Fipio 20 with Fipway	- TSX Micro/Premium/Atrium - TBX remote I/Os with TBX LEP 30 - Remote Momentum I/O - CCX 17 panels (version 2.4) - Magelis iPC industrial PCs - Lexium drives, etc.	TSX Micro, Premium, Atrium (with TSX FPP 20 PCMCIA card)	OZD FIP G3	0.500

TSX Micro/Premium PLC connection components (4)

Description	Use	Composition	Reference	Weight kg
Fipway card	TSX 37 21/22 Micro PLC, Premium processor, Atrium slot-PLC	1 type III PCMCIA card	TSX FPP OZD 200	0.110
Fipio card agent function	TSX 37 21/22 Micro PLC, Premium processor, Atrium slot-PLC	1 type III PCMCIA card	TSX FPP 10	0.110

(1) These characteristics can be increased using mixed topologies; please consult our regional office.

(2) Devices connected on electrical tap links are compatible with the WorldFip physical layer.

(3) For TSX FP ACC 8M fiber optic electrical repeater, see page 43597/4.

(4) For accessories and connection cables, see pages 43597/4 and 43597/5.