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INSIDE

Genexis FiberTwist

P3000B-Series Point-to Point (PtP)

Compact network demarcation with optional

routing

The highly successful FiberTwist P2000 and P3000-Series have proven themselves as flexible, reliable and fully manageable Point-to-Point Network Terminators. To further meet future market demands, a new platform generation will provide even more possibilities, like upgrading the device to a router using the same hardware.

With the FiberTwist product range, Genexis introduces a unique broadband connectivity solution that redefines size, ease of installation and flexibility for the distribution of fiber bandwidth throughout the entire home.

Key features

· Compact, fully managed Point-to-Point network demarcation

· Patented FiberTwist twist-on interface that fits all FiberTwist FTUs and Bracket; enabling a trouble-free, real DIY end-user installation

· Up to 4 Gigabit LAN ports to connect external devices, such as a Residential Gateway and various Layer 2 services

· Optional integrated CATV receiver or FXS port

· Flexible management via i.a. TR-069 and CloudSight

· ITU-T K.21 Basic level (Surge Protection)

· Halogen-free PCB

· Dying gasp support

· Enhanced LED dimming

· Upgradable to L3/routing via license fee

A perfect Match for every deployment scenario

The Genexis FiberTwist product family has been developed in such a way that it can be integrated into various deployment models, including single-dwelling and multi-dwelling scenarios. Using products from the FiberTwist FTU family, the demarcation point can be extended to any desired location in the home, enabling easy access and installation of services.

Its small size (110 x 110 x 46 mm) makes the FiberTwist a perfect fit in any environment, be it a living room, metering cabinet or basement.

The FiberTwist P3000B-Series is using the open and flexible GenXOS operating system, based on ioWrt. This offers operators maximum software flexibility in every deployment scenario.

Product features and specifications

Genexis FiberTwist P3000B-Series Point-to Point (PtP)

General specifications

Dimensions (H x W x D)	110x110x46 mm
Weight	
· P3410B/P3411B/P3416B	162 gr
· P3420B	212 gr
Operating temperature	0 - 45 ºC
Storage temperature	-20 - 75 ºC
Operating/storage humidity	5% -95%
Flame retardants	Halogen free
Power supply voltage	12 Vdc ± 5%

Power consumption (EU-CoC-BBE)

Model	Idle Mode	On Mode
FiberTwist P3410B	2.8 W	4.4 W
FiberTwist P3411B	2.8 W	4.4 W
FiberTwist P3416B	3.2 W	5.3 W
FiberTwist P3420B	5.5 W	6.9 W

Fiber (WAN) interface

Optics compliant with 1000BASE-BX20-U	
TX (upstream) power	-4 ... 0 dBm
RX sensivity	-27 dBm
TX wavelength (typical)	1310 nm
RX wavelength (typical)	
· FiberTwist P3410B	1490 & 1550 nm
· FiberTwist P3411B	1490 nm
· FiberTwist P3416B	1490 & 1550 nm
· FiberTwist P3420B	1490 nm (CATV 1550 nm)
Single mode fiber	ITU-T G.657.A2
Optical connector	SC/APC
Optical Range	Up to 20km
Digital Diagnostic Monitoring (DDM)	
Configurable optical blackout (for OTDR)	

LAN interfaces

4x 10/100/1000Base-T RJ45 ports

LED indicators for speed and activity

IEEE802.3az Engery Efficient Ethernet (EEE)

Voice features*

SIP based Voice-over-IP

G.711 A-law / µ-law codec

G.729 codec

5 REN support

Line Echo Cancellation

DTMF: In-band, RFC2833, SIP-Info

Class 5 features

User interfaces

1 x Unlock button

1 x LED dimming button

4x LAN interface

1 x Power connector

1 x Reset button

1x FXS*

1 x CATV output coaxial F-female*

CATV*

Wavelength (typical)	1550 nm
Optical return loss	min 45 dB
RF passband	45-900 MHz
RF output impedance	75 Ω
F-Connector length	11 mm
AGC optical input power	-9 ... 0 dBm
RF output level (AGC on) according to CENELEC-42	80 ± 2.5 dBµV 4% OMI / ch
RF flatness	max 2 dB
Output return loss	max -10 dB
Slope / tilt	1 ... 4 dB
CNR min	47 dB@-8 dBm
CSO / CTB	max -57 dBc
Spurious to carrier	max -57 dBc
MER QAM-64	> 34
MER QAM-256	> 36
Remote enabling of CATV	

Product features and specifications

Genexis FiberTwist P3000B-Series Point-to Point (PtP)

Layer 2 features

Jumbo up to 2K supported on WAN and LAN

Non-blocking switching performance

Up to 8K MAC addresses

Automatic learning and aging

IEEE 802.1Q VLAN support for 4096 VLANs

VLAN classification and retagging (VLAN mapping)

Port-based VLANs

IEEE 802.1ad QinQ VLAN tagging

Port Trunking and Monitoring/Mirroring

Layer 2 loop prevention

Quality of Service (QoS)

4 QoS traffic classes

Port based QoS

IEEE 802.1p tagged frames

IPv4 QoS Type of Service (ToS)

IPv4 QoS Differentiated Services (DS)

IPv6 QoS Traffic Class

Strict, weighted, or mixed mode per port

Management

DHCP/TFTP, HTTP

TR-069, TR-181

CLI

CloudSight

Ethernet OAM including dying gasp

GUI

GIGMP

GIGMP/MLD (v2/v3) snooping and proxy

Configurable parameters for e.g. robustness, fast leave and snooping behavior

Emissions and safety regulations

CE approved

LVD safety standard:

· IEC EN 62368-1:2014

· A11 2017 (Second Edition)

Laser safety standard:

· IEC EN 60825-1: Class 1 laser

Emissions & Immunity standards:

· EN 55032/CISPR 32:2015 ED2.0, Class B

· EN 55035:2017

· EN 55024:2010 / A1:2015

· EN 50083-2

RoHS/WEEE marking

Surge protection:

· Compliant with ITU-T K.21 basic level

Status LEDs

System/Status

Fiber uplink

CATV status*

FXS status*

* Applicable to selected models only

Genexis FiberTwist P3000B-Series product models

Model	Type	WAN (Mbps)	LAN interface	Wavelength			
				TX	RX	CATV	Voice (FXS)
FiberTwist P3410B	Network termination with router functionality	1000	4x	1310 nm	1490 nm & 1550 nm	-	-
FiberTwist P3411B	Network termination with router functionality	1000	4x	1310 nm	1490 nm	-	-
FiberTwist P3416B	Network termination with router functionality	1000	4x	1310 nm	1490 nm & 1550 nm	-	Yes
FiberTwist P3420B	Network termination with router functionality	1000	4x	1310 nm	1490 nm	1550 nm	-

Note: More features are available and not listed in this document. Not every listed feature may be included in the shipping product.

Genexis reserves the right to make changes of technical specifications, housing or design without prior notice.