genexis
PART OF INTENO GROUP

For more information, please scan this code:

Genexis Pure

Pure Fiber-Series

Full speed, seamless connectivity

The Pure residential gateway is ready to provide a reliable and stable WiFi connection to all of your wireless devices at home.

Being the core of your complete In-Home network, Pure supports advanced WiFi features, such as band steering, 802.11 k,v roaming and airtime fairness.

Key features

- High-speed gateway with 4 managed Gigabit Ethernet ports
- WLAN Access Point (2.4GHz 11/b/g/n & 5.0GHz 11a/n/ac concurrent dual band)
- Two telephony ports (SIP-based VoIP)
- Management via TR-069, CLI, DHCP/TFTP/SNMP and/or Cloud
- Operator controlled, end-user friendly HTTP(S) GUI
- IPv4 and IPv6 support
- Advanced WiFi technology with band steering, airtime fairness, 802.11 k,v.

Advanced software platform: GenXOS

GenXOS provides a full enterprise solution with security enhancements and feature rich services such as local and remote management, enhanced WiFi experience, VoIP. GenXOS is based on the best from the open source community combined with knowledge gained from building innovative gateway solutions for more than a decade.

With GenXOS, the service provider benefits from a proven software platform and is able to add modules based on openWRT standards independently at the same time. The Pure can be connected to cloud solutions such as CloudSight, making the life of the ISPs helpdesk easier, while supporting WiFi analytics and self-help via a mobile APP as well.

Product features and specifications

Genexis Pure Fiber-Series

General specifications

Dimensions (H x W x D)	38x156x232 mm
Weight approx.	420 g
Power supply voltage	12 Vdc ± 10%
Power consumption	typ. 18W
Operating temperature	0 - 40 °C
Storage temperature	0 - 70 °C

Fiber interface

Optics compliant with 1000BASE-BX20-U
SC/APC interface

TX wavelength (typical)	1310 nm
RX wavelength (typical)	
· Pure-F500	1490 & 1550 nm
· Pure-F501	1490 nm
· Pure-F510 & F530	1490 nm (CATV 1550 nm)
Optical output range	-9 ... -3 dBm
Optical input range	-23 ... -3 dBm
Maximum distance	20 km

Single mode fiber (ITU-T G.652)
Auto sensing 1 Gb/s and 100 Mb/s

LAN interface

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

Buttons and USB

Power button
Reset button (recessed)
WPS/Pair button
1x USB 2.0

Management and control

TR-069, TR-098/TR-181, TR-104
SNMP, DHCP / TFT, PCLI, IUP and CLI

Routing

Line-speed (1000 Mbps) routing performance for packets > 256 byte.
DHCP server / DNS proxy
NAT / PAT
UPnP
VPN pass-through
SPI Firewall
DMZ and port forwarding/translation
IGMP(v2/v3) snooping and proxy
RTSP proxy for Video on Demand
Static IPv4 Routing

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

Protocols

IPv4/IPv6 dual stack concurrent
DHCP(v4/v6) client
PPPoE client

WiFi interface

Intel® GRX350-1200 SoC; WAV513 (2,4GHz), WAV524 (5GHz)
IEEE 802.11b/g/n, 2.4GHz 3x3
IEEE 802.11a/n/ac, 5.0 GHz 4x4
Internal antennas

Software and WiFi Features

iopsysWRT open source software
Operator and end-user GUI/APP
Band steering
Airtime fairness
Guest WiFi
Seamless roaming (802.11 k,v)
Auto channel/bandwidth selection
Automatic channel selection
WEP, WPA, WPA2
Multiple SSIDs supported

CATV*

Wavelength (typical)	1550 nm
RF passband	45-900 MHz
RF output impedance	75 Ω
AGC optical input power	-9 ... 0 dBm
RF output level (AGC on)	
· Pure-F510	80 ± 2.5 dBμV
· Pure-F530	86 ± 2.5 dBμV

Remote enabling of CATV

Status LEDs

Status
Uplink status(Fiber/DSL)
Internet
Telephony status
WiFi status
TV*

* Applicable to selected models only

Genexis Pure Fiber-Series product models

Model	LAN ports (Mbps)	VoIP	USB 2.0	WLAN 3x3 2.4 GHz	WLAN 4x4 5.0 GHz	Wavelength			RF output Level (AGC) (dBμV)
						TX	RX	CATV	
Pure F500	4x 10/100/1000	2x	1x	11n	11ac	1310 nm	1490nm & 1550nm	-	-
Pure F501	4x 10/100/1000	2x	1x	11n	11ac	1310 nm	1490 nm	-	-
Pure 510	4x 10/100/1000	2x	1x	11n	11ac	1310 nm	1490 nm	1550 nm	80 ± 2.5 dBμV
Pure F530	4x 10/100/1000	2.	1x	11n	11ac	1310 nm	1490 nm	1550 nm	86 ± 2.5 dBμV

Note: Not every listed feature may be included in the shipping product. We reserve the right to make changes of technical specifications, housing or design without prior notice.
The Pure Ethernet DSL-Series specifications are included in a different datasheet

Product features and specifications

Genexis Pure Fiber-Series

This document aims to describe the main technical details for Pure Fiber-Series. Please note that not all features or functions are added to this document.

Main components

DDR RAM	256 Mbyte
NAND Flash	128 Mbyte
CPU	Intel GRX350
WIFI 2.4GHz	Intel WAV513
WIFI 5GHz	Intel WAV524

WiFi 2.4GHz – WAV513
Supported standards and features

IEEE 802.11 b/g/n compliant

3 Spatial streams @ 20 or 40 MHz bandwidth

3 TX/RX antennas (3x3)

Advanced QoS

Auto channel selection

Offloading/accelerator

Power consumption follow EU COC

WiFi 5GHz – WAV524

The WAV524 provide advanced 4x4 802.11a/n/ac in the 5150MHz-5950 MHz frequency band.Advanced offloading accelerator enables high throughput, low latency with minimal CPU load impact on host processor GRX350.

Supported standards and features

- IEEE802.11 a/n/ac compliant
- IEEE 802.11k
- IEEE 802.11v
- 4 Spatial streams @ 20,40 or 80 MHz bandwidth
- 4 TX/RX antennas (4x4)
- Multi User MIMO
- Implicit / Explicit beam forming for any client
- Advanced QoS
- OFDM Modulation up to QAM-256, LDPC, STBC RX, STBC TX
- Auto channel selection
- Offloading/accelerator
- PHY Rates
- 802.11a up to 54 Mbit/s
- 802.11n up to 600 Mbit/s
- 802.11ac up to 1733 Mbit/s
- Power consumption follow EU COC

CATV detail specification

Wavelength range	1545 - 1565 nm
RF passband	45-900 MHz
RF output impedance	75 Ω
AGC optical input power	-9 ... 0 dBm
RF output level (Pure-F510) AGC on, OMI 4%	
• For analog channel	80 dBµV
• For 64- QAM	70 dBµV
• For 256- QAM	76 dBµV
RF output variance (AGC on)	±2,5 dB
RF output level (Pure-F530) AGC on, OMI 4%	
• For analog channel	86 dBµV
• For 64- QAM	76 dBµV
• For 256- QAM	82 dBµV
RF output variance (AGC on)	±2,5 dB
RF flatness	max 2 dB
Output return loss	max -10 dB
Slope / tilt	1 ... 4 dB
CNR (-8 dBm input)	min 47 dB
CSO / CTB	max -57 dBc
Carrier to spurious	max -57 dBc
Remote enabling of CATV	