



## 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

## Genesis 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 / TFTP, PCLTI, 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 /  $\mu$ -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 $\Omega$
AGC optical input power	-9 ... 0 dBm
RF output level (AGC on)	
· Pure-F510	80 ± 2.5 dB $\mu$ V
· Pure-F530	86 ± 2.5 dB $\mu$ V
Remote enabling of CATV	

### Status LEDs

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



\* Applicable to selected models only

## Genesis 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) (dB $\mu$ V)
						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-F510	4x 10/100/1000	2x	1x	11n	11ac	1310 nm	1490 nm	1550 nm	80 ± 2.5 dB $\mu$ V
Pure-F530	4x 10/100/1000	2.	1x	11n	11ac	1310 nm	1490 nm	1550 nm	86 ± 2.5 dB $\mu$ V

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

## Genesis 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

- IEEE 802.11 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	