

V5808 and V5816

Mini GPON OLTs for small passive optical networks



DZS V5808 (above) and V5816 (below)

Network operators increasingly want to provide high-performance broadband services to subscribers in rural areas. With the OLT network nodes V5808 and V5816, network operators can connect subscribers to their network cost efficiently.

Thanks to the small footprint the GPON system is easy to install also in case of limited space.

The interfaces can be flexibly adapted to the network requirements.

■ Interfaces

V5808 and V5816 are compact GPON OLTs, providing 8 respectively 16 GPON ports. They enable network operators to provide optical fibre based broadband services also in low density areas with a minimum of investment.

For the uplink it offers four SFP+-based 10/1 GbE and four electrical GbE ports.

All interfaces are accessible on the front of the robust 1 HU high network node. Both mini OLTs fulfil the high requirements of

- 8/16 GPON ports
- Uplink 4x 10/1 GbE (SFP+), 4x 1 GbE (electrical)
- Uplink/subscriber interfaces with 2.5 Gbps downstream and 1.25 Gbps upstream
- 128 Gbps (3031), 168 Gbps (3032) switching capacity
- Cost effective in low density areas
- Supports IGMP for IPTV applications
- Complete management support via the INAS element manager
- SNMPv2/v3 with remote monitoring and alarming

network operators regarding flexibility and availability.

The redundant power supply protects the OLTs of failures in case of power brake-downs and ensures an uninterrupted operation.

The PON layer is terminated on the V5808 and V5816 and translated to an Ethernet uplink in order to be transported through an Ethernet/IP environment. Both OLTs are deliverable with AC or DC power supplies.

■ PON benefits

V5808 and V5816 offer cost-efficient FTTx services thanks to the point-to-multipoint concept realised with PON technology.

The use of passive optical splitters in opposite to active switch systems makes passive optical networks a cost-efficient solution.

■ Network architecture

The mini GPON OLTs offer all needed adaption functions for providing a wide range of service like Ethernet, IP telephony and IP-based video services.

For IPTV applications the ONTs support IGMP. Adding or removing ONUs from the splitter does not affect the PON service.

Up to 128 termination points can be connected to each GPON port via the splitter.

There are different deployment topologies for PON networks possible, which differentiate themselves from the place the optical fibre is terminated. Depending on the subscriber type and desired network topology, the operator may adopt FTTH, FTTB or FTTC.

In case of very high bandwidth requirements of a user, single users can be connected without a splitter. Thus, data rates of up to 2.5 Gbps downstream and 1.25 Gbps upstream can be realised.

■ Management

V5808 and V5816 are completely managed via the INAS element manager.

In addition SNMPv2/v3 for alarming and remote management is available.

Technical data

| General | |
|---|--|
| Function | GPON OLT |
| Number of GPON interfaces | V5808: 8, V5816: 16 |
| Switch capacity | V5808: 128 Gbps, V5816: 168 Gbps |
| GPON interfaces | |
| Standard | ITU-T G.984 |
| Laser type | Laser diode Class 1 (defined in IEC 60825-1) |
| Transmission range | Up to 20 km (Class B+ SFPs), up to 30 km (Class C+ SFPs) |
| GPON OLT compliancy | Class B+ according to ITU-T G.984.2, Class C+ according to ITU-T G.984.2 |
| Network interfaces | |
| Interfaces | Optical: 4 x 1/10GBase-R (SFP+); electrical: 4 x 1 GbE (RJ45) |
| Standards supported | Standard Ethernet bridging, 802.3ad link aggregation based on MAC, 4k active VLANs, flow control |
| Spanning Tree Protocol supported | STP, RSTP, MSTP |
| Layer-3 features | 1.5k/768 routing entries for IPv4/IPv6, 512/512 LPM for IPv4/IPv6, RIPv1/v2, OSPFv2, BGPv4, Virtual Router Redundancy Protocol (VRRP) static routing |
| Multicast features | IGMPv1/v2/v3, IGMP snooping, IGMP filtering and throttling, Multicast VLAN Registration (MVR), 1k L2 Multicast |
| Cyber security | |
| Standards supported | Storm control, 802.1x Radius, TACACS+ authentication, Secure SHell (SSH) |
| Management | |
| Ethernet interface for local management | 10/100/1000Base-T (RJ45) |
| Other interfaces | Serial: RS-232; external: 1 x USB 2.0 |
| Standards supported | Serial/Telnet (CLI), SNMPv1/v2/v3, DHCP server, client, relay with option 82, RMON (remote monitoring), syslog, port mirroring |
| ONT management | ITU-T G.984.4 ONT Management and Control Interface (OMCI); remote ONT/ONU management; automatical ONT ranging |
| Mechanics | |
| Dimensions (W x H x D) | 440 mm x 44 mm x 300 mm |
| Power supply | |
| Input voltage | -48/60 V DC; 100-240 V AC (50/60 Hz) |
| Operation environment | |
| Operation temperature | -20 to 60°C |
| Humidity | 0 % to 90 % (non-condensing) |

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