



ISKRATEL

SI3000 Lumia G16

CORD®-compatible universal GPON OLT

Kontron's **SI3000 Lumia G16** is a compact 1U GPON OLT that delivers network services, performance and scale optimised for residential and business access networks. Intelligent fibre-access OLT provides **16 GPON OLT ports** together with **four 10GE and six GE** uplink interfaces. Using the latest-generation 100 Gbps network processor, it operates in flow-based mode and is SDN-enabled.

SI3000 Lumia G16 supports flexible 3-level hierarchical QoS with specific QoS behaviour at multiple policy levels. Every level provides a high degree of granularity in traffic management. Hierarchical policies can be applied and chained at GPON OLT port level, ONT (end-user) level and service level. Depending on rules, various traffic management techniques, such as shaping, policing, classification, and restricting are provided.

Flexible VLAN tagging enables cost-effective 1:1 (VLAN per user) architectures since operators can use simpler ONTs with a common ONT configuration.



SI3000 Lumia G16 supports wire-speed throughput, intelligent traffic processing, and ONT split ratio up to 1:128 on its 16 OLT ports. For uplink protection and fault resilience, it uses two 20GE uplink pairs (LAG) for 1+1 redundancy. The product uses two DC power-supply inlets, while an external AC/DC converter is available for AC power supply.

To facilitate integration into street cabinets, the product offers event alarms for open door, power-module failure, AC mains failure and user-defined alarms.

Fast, flexible traffic processing (BBF TR-101 and TR-156 compliant) and low power consumption are provided using the latest-generation 100 Gbps network processor.

KEY FEATURES AND BENEFITS

- Standalone 1U GPON OLT
- 16 GPON OLT interfaces
- 1:128 split ratio
- TR-101 and TR-156 compliant
- Hierarchical 3-level QoS support
- Selective Q-in-Q and flexible tagging
- User-friendly CLI with service profiles
- Standards-compliant OMCI management
- Unified OLT-ONT management with mass operations
- RESTCONF API for easy integration in OSS/BSS
- Open-door/Power/Mains/User alarms in street cabinets



Next-generation
broadband access



Complete portfolio of
solutions and products



Prolonged lifecycle and
lowest five-year TCO

TECHNICAL CHARACTERISTICS

Network interface	
GPON interface	16x GPON (2.5/1.25 Gbps)
10GE Ethernet	4x 10GE SFP+
1GE Ethernet	4x GE SFP + 2x GE SFP/RJ-45 (Combo)
PON interface	
GPON interface	G.984.x GPON, G.988 OMCI, TR-247 GPON certification OLT interop, TR-101, TR-156, AES, FEC, DBA
OLT port characteristics	1:128 split ratio, 4,096 GEM port IDs, 1,024 T-CONT, 128 ONT
Switching and performance	
Switching	IPv4, IPv6, Support for packets up to 1600 bytes
Switching capacity	86 Gbps
MAC table size and learning	32k entries, learning rate 5,000 MAC/s
Link aggregation	Static LAG
Ring resiliency	ERPS (G.8032V2)
Loop prevention	802.1w RSTP, 802.1s MSTP
VLAN	4,094 VLANs, Port based/Native VLAN, Remarking, Provider-edge bridging (802.1ad, Selective Q-in-Q)
Synchronisation	Synchronous Ethernet, Stratum3E, IEEE 1588v2 Precision time protocol (only in SBB2880BJ and SBB2880BR)
Service models	
VLAN service models	1:1 and N:1 (TR-156), 8k VLAN remarking rules
IP multicast	2k groups, IGMP v2/v3 snooping with suppression, Fast leave, IGMP filtering, IGMP proxy, Multicast CAC, Multicast group ACL, Static groups, MVR, IGMP forking, Static client
Quality of service	Hierarchical QoS, L2-L4 classification (PCP/CoS, MAC, VLAN, ToS/DSCP, DiffServ, IP, TCP/UDP port), marking, policing, queuing (32 per ONT, RED, Tail-drop), scheduling (Strict, WFQ, LLQ), shaping, CAC
Traffic management	Dynamic buffer management, 8k queues with dynamic allocation
Software-defined networking	Flow awareness L1-L4, Per-service flow policing and shaping, Profile-based management
Security	
User-port isolation	Protected port, Private port
Filtering and DoS prevention	Wire-speed L2-L4 IPv4/IPv6 ACL, Telnet/SSH filtering, App rate limiting, Selective overload protection
Storm control	Per ONT packet-rate control for broadcast, multicast and unicast DLF traffic
MAC spoofing and flooding	Port security, Port security per VLAN, MAC source guard
Port-based security	DHCP snooping, IP source guard, Dynamic ARP inspection
Unauthorised DHCP server	Prevention with DHCP filtering, DHCP options 60 and 43 (for ACS)
User-line traceability	PPPoA, DHCP RA with flexible option 82, DHCPv6 RA with interface ID option
Management	
Local management console	RS232 (over µUSB connector, adapter needed)
Management interfaces	CLI (Console, Telnet, SSH), SNMP, Web (RESTCONF) element manager
IP assignment	DHCP or static
Management protocols	SNMPv2c, SNMPv3, ACS client, Radius client, TACACS+ client, Telnet client, SSH client
Firmware upgrade	FTP, ACS, Dual firmware image
Time synchronisation	SNTP
Monitoring	Performance and quality monitoring, RMON, System resource monitoring, Port mirroring, Online debug
Event collection	Event log, Error log, Syslog client
Counters and statistics	
OLT port	Signal strength indication (RSSI), Digital diagnostic monitoring (DDM)
OLT port alarms	LOS, PON link downstream invalid packets threshold, PON link downstream Rx CRC error threshold
ONT alarms	LOS _i , SFi, SDi, LCDGi, RD _{ii} , SUFi, DFi, LOAi, DGi, LOAMi, MISi, PEEi, Inactive ONT (OMCC error)
Traffic counters	Per VLAN per ONT, Control-protocol counters, Traffic-type counters
Mechanical, Environmental, Power supply	
Physical dimensions	H 45 mm (1U) x W 447 mm x D 235 mm, ETSI or 19" rack
Safety	EN 62368-1:2014 + A11:2017
EMC	EN 55032:2015 + A11:2020, EN 55035:2017 + A11:2020, EN 61000-3-2:2019 and EN 61000-3-3:2013 + A1:2019
Storage conditions	ETS 300 019-1-1, class 1.2, temperature -50..+70 °C, RH 10..100%
Transport conditions	ETS 300 019-1-2, class 2.3
Operating conditions	ETS 300 019-1-3, class 3.1E, temperature -40..+65 °C, RH 5..90% non-condensing
Voltage and consumption	From -42 V DC to -60 V DC SELV/ES1, 77.8 W typ. (with 16 SFPs), CoC compliant, Tier 2019, 61% consumption (62% as per Tier-2023 levels)

Ordering codes

SBB2880AA	Lumia G16, GPON 1U, 16 OLT ports, 4x 10GE + 4x GE + 2x GE Combo ports (SFP/RJ-45), w/o SFP/SFP+
SBB2880BJ	Lumia G16, GPON 1U, 16 OLT ports, 4x 10GE + 4x GE + 2x GE Combo (SFP/RJ-45) ports, SyncE/PTP, pOLT SW, w/o SFP/SFP+
SBB2880BR	Lumia G16, GPON 1U, 16 OLT ports, 4x 10GE + 4x GE + 2x GE Combo (SFP/RJ-45) ports, SyncE/PTP, w/o SFP/SFP+
SBB2880SA	License for extension of 8-port SBB2880AB to 16 ports
SBB2122BA	GPON OLT SFP B+, digital RSSI, -40..+85 °C, SC/PC simplex connector
SBB2122CA	GPON OLT SFP C+, short reset, digital RSSI, -40..+85 °C, SC/PC simplex connector
SBB2122CA	GPON OLT SFP C++, short reset, digital RSSI, -40..+85 °C, SC/PC simplex connector

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