ISKRATEL

Iskratel Lumia C16

Compact, energy-saving Combo OLT for XGS-PON, GPON and 10GE P2P

Iskratel Lumia C16 is a compact Combo OLT (for XGS-PON, GPON and 10GE P2P fibre access) that allows operators full flexibility to connect residential and business users via PON or P2P fibre access. While featuring record-low energy consumption and industry-leading temperature range, the world's first dual-nature Combo OLT facilitates a cost-effective virtualisation of the central-office infrastructure.

Iskratel Lumia C16 is a compact OLT optimised for smaller fibre-access deployments. With 16 Combo ports it serves up to 4,096 users and delivers performance optimised for both residential and business users.

The record-low energy consumption helps operators implement the sustainability strategy and reduce the impact on the environment.

Iskratel Lumia C16 excels in compactness and saves rack space with its ETSI-compliant 235 mm depth. Its size and industry-leading temperature range make it fit into street cabinets perfectly.

Iskratel Lumia C16 is a one-of-a-kind OLT that lets operators virtualise the network at their own pace. The dual-nature OLT operates as a conventional OLT or as a disaggregated, CORD®- and vOLTHA-compatible pOLT with vOLT software running in the cloud. Only software configuration gives two distinct characters to a box with programmable hardware. Zero hardware upgrade is needed to virtualise the central office, allowing operators to avoid an entire investment cycle.

KEY FEATURES AND BENEFITS

- Super compact Combo OLT in 1U format
- Sixteen Combo OLT ports support XGS-PON, GPON and 10GE P2P fibre access
- Flexibility to serve residential and business users simultaneously, from the same box
- Record-low power consumption saves energy costs, reduces carbon footprint
- Easy integration with management and provisioning systems; standards-compliant OMCI management
- Resilience to harsh temperatures allows deployment at the central office and street cabinets
- Dual nature: Integrated OLT or disaggregated pOLT with zero hardware upgrade for CO virtualisation
- Seamless transition to virtualised next-gen access

Two
characters: conventional or virtualised operation

One
dual-nature box for sustainable fibre access

Zero
hardware upgrade to virtualise the central office

ISKRATEL
Lumia C16

TECHNICAL CHARACTERISTICS

Network (uplink) interfaces	
25/10GE Ethernet	4× 25/10/1GE SFP+
OLT interfaces (PON and P2P)	
xPON/P2P interfaces	16 Combo OLT interfaces: XGS-PON 10/10 Gbps, GPON 2.5/1.25 Gbps and 10GE P2P 10/10 Gbps [1]
XGS-PON characteristics	G.9807 XGS-PON, split ratio max 1:265, 8k GEM port IDs
GPON characteristics	G.984.x GPON, G.988 OMCI, split ratio max 1:128, 4k GEM port IDs, TR-247 GPON certification OLT interop
10GE P2P characteristics	10GBase-LR optical, assignable in groups of four [1]
Common characteristics	TR-101, TR-156, 16k T-CONT; XGS-PON and GPON only: G.988 OMCI, AES, FEC, DBA
Forwarding and performance	
Switching capacity	150 Gbps
Packet sizes	Up to 1,600 bytes in GPON mode, 9 kB in XGS-PON mode, 9 kB in 10GE P2P mode
MAC table size and learning	32k entries, learning rate 5,000 MAC/s
VLAN	4,094 VLANs, Port-based/Native VLAN, Remarking, Provider-edge bridging (802.1ad, Selective Q-in-Q)
Link aggregation	Static LAG, LACP
Ring resiliency	ERPS (G.8032v2)
Loop prevention	802.1w RSTP, 802.1s MSTP
Virtualisation and flow provisioning	
Compatibility and compliance	R-CORD 6.0, vOLTHA, ONOS, 64k concurrent flows
Management interfaces	Northbound interfaces: Standard OpenOLT adapter, REST/YANG; local management console: CLI
Timing and synchronisation	
Frequency, phase sync	Synchronous Ethernet, Stratum3E, IEEE 1588v2 Precision time protocol
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, Tail-drop), scheduling (Strict, WFQ), 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 IPv4/6 ACL, Telnet/SSH access 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, MAC forced forwarding
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	PPPoEIA, 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. DHCP-based or static IP assignment
Management protocols	SNMPv2c, SNMPv3, ACS client, Radius client, TACACS+ client, Telnet/SSH clients, SNTP time sync
Firmware upgrade	FTP, ACS, Dual firmware image
Monitoring	Performance and quality monitoring, RMON, System resource monitoring, Port mirroring, Online debug
Counters and statistics	
OLT port	Signal strength indication (RSSI), Digital diagnostic monitoring (DDM)
OLT port alarms	LOSi, LOS, LOFi, DOWi, SFi, SDi, LCDGi, RDIi, TF, SUFi, DFi, LOAi, DGi, LOAMi, MEMi, MISi, PEEi, TIWi, TIA, LOKi
ONT alarms	Inactive ONT, LOS, LOF, DOW, DG, SF, SD, LCDG, RD, TF, SUF, LOA, MEM, PEE, OAML
Traffic counters	Per VLAN per ONT, Control-protocol counters, Traffic-type counters
Mechanical and environmental	
Physical dimensions	H 45 mm (1U) × W 447 mm × D 235 mm, ETSI or 19" rack
Safety	EN 62368-1:2014 + A11:2017; UL 62368-1; CSA C22.2 No. 62368-1:2014, 2nd edition
EMC	EN 55032:2015 + A11:2020, EN 55035:2017 + A11:2020, EN 61000-3-2:2019 and EN 61000-3-3:2013 + A1:2019; FCC: 47 CFR Part 15, Subpart B (Clauses 15.107, 15.109) in conjunction with ANSI C63.4:2014; ICES-003, Issue 7 in conjunction with ANSI C63.4:2014
Storage conditions	ETS 300 019-1-1, class 1.2, temp. –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, temp. –40..+65 °C, RH 5..90% non-condensing. Refer to user manual for details.
Power supply	
Voltage and consumption	From –42 V DC to –60 V DC, 155 W typ. (with 16 SFPs), redundant DC power supply CoC compliant, Tier 2021, 54% consumption (59% as per Tier-2023 levels)

[1] 10GE P2P available in dedicated hardware version only; see ordering codes below.

Ordering code	Description
SBB3031EA/EB	Iskratel Lumia C16 (XGS-PON/GPON/10GE P2P), 16 OLT ports, four 25/10GE uplinks, without SFP+ modules
SBB3031CC/CF	Iskratel Lumia C16 (XGS-PON/GPON), 16 OLT ports, four 25/10GE uplinks, without SFP+ modules

kontron
Kontron, d. o. o.
Ljubljanska cesta 24 a
SI 4000 Kranj, Slovenia
P +386 4 207 20 00
F +386 4 207 27 12
info@kontron.si
www.kontron-slovenia.com

ISO 9001 Q-009
ISO 14001 E-498
ISO/IEC 27001 I-046

SILVER 2022 ecovadis Sustainability Rating

© Kontron, d. o. o., November 2023. Version 107. All rights reserved. Subject to change without notice. CORD® is a registered trademark by ONF.