

SWCE-2310 SERIES

2.5GE POE+ ETHERNET SWITCH



GigaBit POE Ethernet Switch

Ruggedized Ethernet

2X SFP
8X POE+

INDUSTRIAL
GRADE

CARRIER
ETHERNET
CE 2.0

EXTENDED
TEMPERATURE
RANGE

LOWER COST
Optimized design

SWCE-2310 series is a ruggedized Gigabit Ethernet switch with 8x gigabit POE+ interfaces and 2x SFP uplinks. It provides L2+ services but also MEF CE 2.0 Carrier Ethernet services.

SWCE-2310 is a compact product with a robust hardened design that suits most stringent integration requirements of the Carrier, Transportation, Defense, and Utility infrastructures.

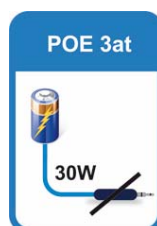
SWCE-2310 provides two multi-standard SFP uplink interfaces with 2.5GE and GE speed capabilities. This enables network upgrade to higher 2.5 Gigabit Ethernet bandwidth at very minimal cost.

SWCE-2310 delivers 8 GigaBit Ethernet RJ45 ports with POE+ power feeding ports. The 30 W per port capability enables fast deployment of video-protection, Wi-Fi, Smart-City and other services. **SWCE-2310** gives a total control of the POE power with many smart features such as power control, hourly scheduling and power monitoring.

SWCE-2310 enables Carrier Ethernet 2.0 and IP connectivity services, including EVC, E-LINE / E-LAN / E-TREE at a UNI / NNI Carrier Ethernet network access.

SWCE-2310 helps industry networks to extend to higher 2.5 Gigabit Ethernet bandwidth at minimum CAPEX/OPEX cost. It builds resilient Rings at GbE and 2.5GbE speeds and delivers high speed Ethernet connectivity to Control centers, hospitalities, video-surveillance systems, Transportation sites, water and electric utilities, etc.

SWCE-2310 is a best choice networking and communication equipment for Mission Critical Networks thanks to its resilient and ruggedized design with extended operating temperature range.



Ruggedized Ethernet

CE 2.0 CARRIER ETHERNET SERVICES

SWCE provides managed services at the UNI / NNI Ethernet network provider to deliver **EVC / E-LAN / E-TREE** services according to the **MEF CE 2.0 standard**.

SWCE is based on a **Service Aware architecture** with hardware processing of real time functions such as switching, CoS, G8032, OAM. This carrier grade architecture guarantees best performance whatever the traffic load and SLA requirements.



SWCE distinguishes from other existing products from its **compact form factor** and integration, its **CE 2.0 carrier class**, its **two redundant power supplies**, its **wide operating temperature range** and its **cost effectiveness**.

MANAGEMENT

SWCE offers many management protocols and interfaces including a user-friendly **web interface** with **help pages**. System operation is secured by strong authentication and encryption protocols such as **HTTPS** and **SNMP v3**. The product embeds a **dual IP stack** with versions v4 and v6. The Command Line Interface is based on industry standards and enables batch configuration script.

INTEGRATION

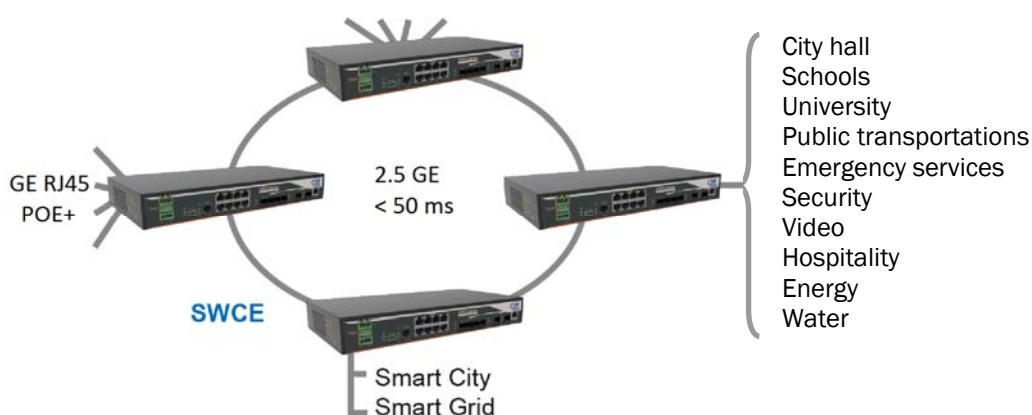
SWCE is a **1U compact and robust product**. It comes with a choice of a one or **two 24 - 48 Vdc power converters** with **fault tolerance and redundancy**. It can be installed in a standard communication rack with mounting brackets.

SWCE is an industry grade product that combines high performance Carrier Ethernet processing and **severe industry robustness and reliability**. It works over a wide temperature range from -40 to $+70^{\circ}\text{C}$.

SCALABLE ETHERNET COMMUNICATIONS FOR INDUSTRY INFRASTRUCTURES

SWCE supports higher speed communications for large infrastructures such as Public Transportation (railway, road) and Transport / Distribution Utility (electricity, oil and gas, water). It comes with a very cost effective approach for best flexibility and scalability to suit current requirements and anticipate future developments. Its two SFP optical ports can be set to 1xGbE and 2.5 GbE speeds to upscale the uplink capability at minimum CAPEX costs.

Increasing speed is not enough to Mission Critical Networks. Communication network must provide continuous control and monitoring of performance, services availability, latency, traffic load with reactivity and accuracy but no application traffic disruption. A Carrier Class equipment with compliance to the Metro Ethernet Forum CE2.0 is a guaranty for such long lasting performance and precise network monitoring.



Specifications

CE 2.0 SERVICE AWARE SWITCH

SWCE distinguishes from other products by its combined addition of a newer generation Ethernet switching solution dedicated to Carrier Ethernet Services, and extensive software features according to Ethernet industry and MEF CE 2.0 standards. A number of hardware accelerators perform real time critical functions for wirespeed switching, SLA controls and OAM test and maintenance which guaranty minimum latency whatever equipment settings and network load and type of traffic. SWCE exceeds MEF CE 2.0 specifications. Each EVC virtual connection can be assigned specific QoS and resources.

SWCE embeds all standard Ethernet protocols - VLAN, Provider VLAN, QOS, IGMP, RSTP, MSTP, GVRP, EVC, ERPS G.8032, etc. It has many security functions including Access Control List and authentication protocols - 802.1X, Radius, TACACS.

SWCE is offered to Ethernet network operators and industrial infrastructure managers with the most attractive price strategy.

SWCE gives many benefits as an industry grade and a cost effective Carrier Ethernet equipment:

- Controlled and determinist performance
- Best bandwidth and resource allocation
- 99.999% availability
- Reduced Time-To-Service
- Scalable and future-proof network
- Lower cost of provisioning, deployment, support and maintenance and best customer experience and satisfaction
- Fault and Performance monitoring with end to end OAM functions
- Sustainable solutions and technical skills thanks to widely adopted and Metro Ethernet Forum supported standards

PROTOCOLS

Layer 2 Switching

- VLAN: translation, MAC based, protocol based, IP address based, VLAN trunking, GVRP registration, Private VLAN, Voice VLAN
- Provider Bridge 802.1ad, native or translated
- EVC, MEF Layer 3 traffic classification, 4 K EV services
- E-LINE (EPL, EVPL), EPL-Access, EPVL-Access, E-LAN (EP-LAN, EVPLAN), E-TREE , E-ACCESS
- RSTP, STP
- Link Aggregation, LACP
- IGMP v2 Snooping, MLD v1 Snooping, IGMP filtering
- MVR , LLDP
- DHCP Snooping

Layer 3 Switching

- DHCP option 82 relay
- UPNP
- IP v4 unicast static routing
- IP v6 unicast routing

Protection

- Port protection: 1+1, 1:1, 1:N
- G. 8031, G.8032, G.8032v2, Y.1731, Y.1564 SAT.
- IEEE 802.3ad Link aggregation—active/standby or load balancing
- IEEE802.1Q, Q-in-Q, IEEE 802.1ag

QoS

- Traffic Classes : 8 priority levels
- Per port and per user priority
- QCL, QoS Control List
- DSCP classification, translation
- Rate limiting
- Storm control, UC / BC / unknown
- Service policing, bandwidth profiles
- WRED

Security

- 802.1X, per port, simple or multiple authentication
- MAC address authentication
- VLAN assignment, QoS assignment
- Guest VLAN
- Radius AAA, TACACS AAA, 802.1x
- IP / MAC binding
- WEB and CLI interface authentication
- ACL
- IP source guard

Specifications

ETHERNET INTERFACES

- 2x SFP sockets, 2.5 Gigabit and Gigabit
- 8x 10/100/1000BaseT, RJ45 with POE+
- POE+ : 802.3af/at, up to 30 W per port
- POE+ : scheduling, port control, monitoring
- MDI/MDIX automatic detection
- 802.3X flow control
- DDMI management on SFP ports
- Ethernet MAC address memory : 32 K
- Ethernet frame buffer : 32 Mb
- EEE: Green Ethernet
- Statistics : transmitted frames and interface diagnostics
- Max frame size : 9,000 bytes

MANAGEMENT

- RS232 - RJ45 local console port
- RJ45, 10/100/GE management port
- TCP-IP protocols : Telnet, http, ssh, https,
- IP v4 / v6
- Web interface, intuitive menus and on-line help pages
- CLI command line: ssh, RS232 port
- Snmp : v1/v2/v3
- Diagnostics : ping, traceroute
- Port Mirroring, Syslog , LLDP
- Statistics, RMON , NTP client
- 2x banks of firmware
- Alarm relay

MAINTENANCE

- Link OAM: hardware based, 4K services, Loop-back
- RFC2819 RMON Group 1,2,3,9
- RFC.2544 LBM/LMR + Y.1564
- 802.3ah, TWAMP
- VeriPhy function for port diagnostic

LIGHT INDICATORS

- Power
- Link / Activity for each Ethernet port

POWER SUPPLY

- -D model : 18 to 60 Vdc power input
- -2D model : 2x 18 - 60 Vdc power inputs and converters
- Max power consumption : 18 W without POE
- Typical power consumption : 15 W without POE

ENVIRONMENTAL

- Stainless metallic enclosure, Fanless
- Protection Class : IP-40
- Dimensions : 320 x 170 x 44 mm
- Weight : 1.9 kg
- 19" bracket weight : 0.25 kg
- Operating temperature range : -40 to +70 °C
- CE compliance : EN60950, EN55022, EN55024, EN50121-4
- MTBF : 380.000 hours

Product References

Reference	Description	RJ45 Mngt	Giga POE+	2.5 Giga SFP	Power Supply
SWCE-2310-P-D	L3 Carrier Ethernet Demarcation Device, Giga and 10G, 1588v2 and PTP, Fanless, 1 RJ45 Mngt, Temp -40 / +70 °c	1	8	2	48 Vdc
SWCE-2310-P-2D	L3 Carrier Ethernet Demarcation Device, Giga and 10G, 1588v2 and PTP, Fanless, 1 RJ45 Mngt, Temp -40 / +70 °c	1	8	2	2x 48 Vdc
<i>Option</i>					
<i>ACDC-H-48V-xxxW</i>	<i>Industry grade 110-230 Vac to 48 Vdc adapter with 60 / 120 / 240 / 480 W</i>				
<i>SFP-GSX-MM</i>	<i>SFP Gigabit, multi-mode, 850 nm, 550 m</i>				
<i>RACK19-SWCE2310</i>	<i>19" mounting brackets and screws for SWCE-2310</i>				
<i>SFP-GLX-SM30</i>	<i>SFP Gigabit, single-mode, 30 km</i>				
<i>SFP-GZX-SM50</i>	<i>SFP Gigabit, single-mode, 50 km</i>				
<i>SFP-STM16-SM5</i>	<i>SFP 2.5 Gigabit, single-mode, 5 km</i>				
<i>SFP-STM16-SM20</i>	<i>SFP 2.5 Gigabit, single-mode, 20 km</i>				
<i>SFP-STM16-SM50</i>	<i>SFP 2.5 Gigabit, single-mode, 50 km</i>				
<i>Other SFP</i>	<i>Please contact CXR for more SFP options</i>				



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