

SWM-8VDPW-2CB

Features

8 ports VDSL2 PTN switch with Power feeding

- Transmission VDSL2 with 30a, 17a to 8a profiles according to standard G.993.2 and G.994.1
- Transmission PTM over DMT modulation

VDSL maximum rate over one twisted pair:

- 100/100Mbps at 300m
- 45/45Mbps at 600m
- Up to 1.2 km

VDSL maximum rate over coaxial cable:

- 100/100Mbps at 400m
- Up to 1.8 km

Remote power feeding POL:

- Remote power feeding of 8 remote modem/bridge.
- Remote modem provide Ethernet with POE

Ethernet

- 2 Combo 1000SX/LX SFP or 10/100/1000BaseT
- VLAN par port, 802.1q, stacking Q-in-Q
- QoS w 4 queues, DiffServ
- Spanning Tree STP
- Multicast, IGMP snooping/proxy v1, v2, v3,
- Transparent to 9Ko Jumbo F.

Administration/Security

- http/https, SNMP v1,2 & 3., Telnet CLI
- Client and Relay option/ 82 DHCP
- 802.1x par port
- ACL list Level 2 and 3

Transmission over coax cable

- Option cable RJ11 –to coax or panel.



LONG REACH POE/POL VDSL2—100MBPS WITH POWER FEEDING OF REMOTE POE CPE

CXR offers a concentration solution of Ethernet deployment over twisted copper pair, or coaxial cable, using the VDSL2 technology up to 100/100Mbps at 300m and up to 1.2km over pair or 1,8km over coaxial.

This Layer 2 concentrator Ethernet switch can power-feed over the VDSL lines the CPE remote in POL (Power Over the Line). In relation to the distance the remote device provide Ethernet POE ports to power feed local Ethernet devices.

This solution is particularly interesting to deploy IP-Cameras, IP-phone, Wifi-IP, Femto station at 1.8km without local power source in infrastructure for industries, transportation, energy production site or military sites.



The CO **SWM-8VDPW-2CB** is concentrating the Ethernet over VDSL2 from 8 CPE modem/Ethernet bridge POE source **VDDCOAX-H-4TPOE-S** or **VDD2-HT-4TPOE-S**. This Ethernet/VDSL2 switch is also powering the remote CPE. The technology is named POL (Power Over Line)

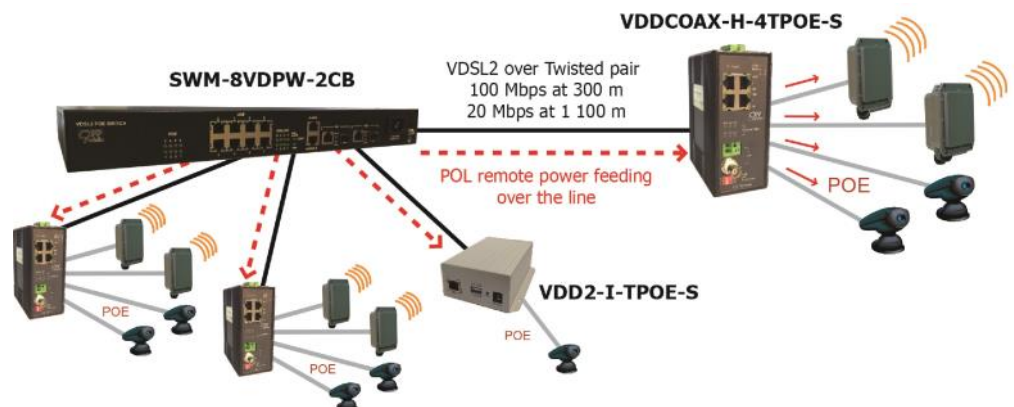
The EFM transmission over copper of the Ethernet is made in PTM transport (Packet Transfer Mode). It is faster than ATM and it optimizes the transit time. When both equipment are synchronized in 30a mode the symmetrical transmission reach 100/100Mbps up to 300m. In 17a the rate can be 100/50Mbps up to 500/600m. For high distance, we can catch up to 16/8Mbps at 1,2km.

The **SWM-8VDPW-2CB** is also transmitting Ethernet over VDSL2 over coaxial cable at longer distance. Then we single use RJ11 to BNC adapter CA-RJ11-BNC or PAN-8BNC-8RJ11-03 with 8 BNC panel.

The POL (Power Over the Line) mode and level of power can be activated port per port. Le switch is transmitting 60W over each VDSL line to the remote equipment's. Because of loss of electrical power along the line at 300m 30W will be available to share to the 4 Ethernet POE ports. At 600m, the power for POE PSE should be 15W and 5W at 1km. These measures are done with 0.5mm diameter cable. The values are much better in case the diameter of the pair will be large 0.6mm or 0.8mm or coaxial cable. The 4 POE ports of each CPE are manageable from the switch to optimize the level of consumption. CPE's can be also powered locally.

The **SWM-8VDPW-2CB** is powerful Layer2 manageable switch with all features of VLAN, Q-in-Q, QoS with 4 priority queues, RSTP, the security feature: DHCP relay, Access List Control Layer 2 and 3, authentication to control all VDSL links over two Gigabit Ethernet toward the server. It is supporting IGMP multicast IGMP particularly for Video applications.

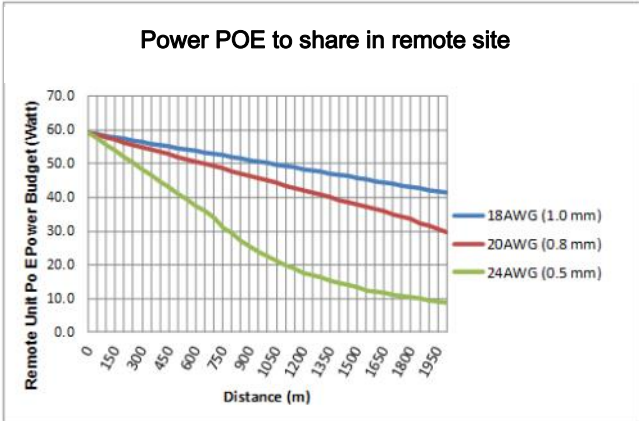
The **SWM-8VDPW-2CB** can optimize the Ethernet/VDSL2 transmission as "Interleave mode" with transmission delay and select the maxi level of noise admitted on the line (SNR margin). This give the solution to transmit even we have noise over the line and different services in multi-pairs cables.



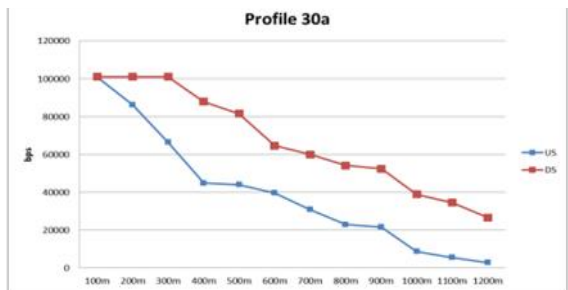
Concentrateur VDSL2 POL

RATE, DISTANCE AND POE POWER

Transmission sur une paire de cuivre torsadée AWG24 de Ø 0,5mm						Transmission sur une paire de cuivre torsadée AWG22 de Ø 0,65mm			
SNR	6dB		6dB		POE disponible	SNR	6dB		POE disponible
Profil/SNR	Asymetrique		Symetrique			Profil/SNR	Asymmetric		
Distance(m)	US(Mbps)	DS(Mbps)	US(Mbps)	DS(Mbps)	Puissance sur CPE	Distance(m)	US(Mbps)	DS(Mbps)	Puissance sur CPE
300	65	100	100	100	30W	100	100	100	60 W
400	45	95	70	70	20W	200	100	100	52 W
600	30	65	45	45	15W	300	100	100	45 W
800	10	45	27	27	7W	400	95	100	36 W
1000	6	35	18	18	5W	500	86	100	30 W
1200	1	20	8	16	4W	600	72	100	24 W



The Ethernet rate is available according to the VDSL2 transmissions: Profile 30a, 17a... to 8a, symmetrical or asymmetrical, over twisted pair AWG24 of 0.5mm diameter, AWG22 or AWG20 of 0.65mm or .8mm diameter.



Concentrateur VDSL2 POL

SWM-8VDPW-2CB SPECIFICATIONS

Interfaces :

- 2 Gigabit Ethernet Combo 10/100/1000BaseT RJ45 and SFP 1000SX/LX
- 8 RJ11 connection toward subscriber in VDSL
- 1 RJ45 port console
- 1 RJ45 port for 4 alarms

Standards :

- Ethernet: IEEE802.3/802.3u/802.3ab/802.3z

Power and POL

- Complies to IEEE 802.3at/af POE
- Simultaneous transmission of Ethernet data and POE Power over UTP wire/coaxial cable
- Centralized management of power supply
- Eliminated the need for local power supply at remote sites
- Long transmission distance up to 1000 m
- Smart detection for presence of remote devices

Transmission VDSL2 :

- VDSL2: IUT G.993.2,
- Profile 30a, 17a, 12a, 12b, 8a, 8b, 8c and 8d
- 802.1d L2 Bridging
- Functions "Interleave" active/un-active and selection of Ration signal on noise (SNR) at 6 or 9dB to optimize the transmission.

Ethernet :

- VLAN: IEEE 802.1Q tag-based VLAN, up to 256 VLANs groups
- VLAN Stacking (Q-in-Q)
- IGMP Snooping/Proxy V1, V2 & V3
- Multicast forwarding Snooping v1 and v2
- Up to 512 Multicast Channels

- Profile-based Multicast Access Control (Up to 8 profiles)
- IEEE 802.1d STP
- IEEE 802.3ad Link Aggregation
- DHCP client and Relay Option 82.

Management :

- Console Port RS232
- Telnet CLI, Web HTTP / SNMP management
- Remote In-Band management : Web/Snmp/Telnet.
- TFTP for firmware upgrade.
- Support SNMP v1/v2/v3

LED indicators :

- System Power
- Gigabit Port *2 : Link/ACT, Speed 100/1000
- Alarm : Run / Alarm
- VDSL Link * 8 : VDSL Link/Sync
- POE * 8 : POE Link / Off

Physical and Power supply :

- Rack 19" 1U 404mm x 274mm x 44,5mm
- Operating temperature : -10°C to +50°C
- Storage temperature : -20°C to +70°C
- Power supply AC 110/230V
- Maxi consumption 500W with full 8 VDSL POL
- Automatic short circuit protection
- Power usage statistics and monitoring

Regulatory Compliance :

- Certification: CE, FCC part 15 class B
- Future certification*: 61000-6-2*, 61000-6-4* and EN51012-4 for Railway stations.



VDSL2/POL MODELS

SWM-8VDPW-2CB	8 ports VDSL2 PTM Layer2 switch, 2 wires, master/CO, POL of 8 remote devices VDDCOAX-H-4TPOE-S or VDD2-HT-4TPOE-S, 2 uplinks: Combo 10/100/1000BaseT & SFP, 8 x RJ45 to modems. 1U 19", AC power, 500W.
CA-RJ11M-RJ45M-2W50	RJ11-M to RJ45-M, 2 wires AWG22 0.65mm, length 50cm
PAN19-1U-16RJ45RJ45	1U 19" Panel, 16 RJ45/RJ45 Voice, DSL application
CA-8RJ11M-RJ45M-2W30	8 *RJ11-M to RJ45-M, 2 wires AWG22 .0.65mm, length 30cm
CA-RJ11-BNC	RJ11 to BNC with impedance adaptation, 5cm of coaxial cable.
PAN-8BNC-8RJ11-03	1U 19" pan, 8 BNC-F on front, back 30cm cable with 8 RJ11 terminaison.
<i>CPE modems</i>	
VDDCOAX-H-4TPW-M	VDSL2 PTM modem CO, 2 wire and coax BNC, Ethernet bridge 100/100Mbps at 300m,65Mbps at 600m, 4 10/100BT port, VLAN transparent. Give the Power over the line (in POL) to the distant modem brige VDDCOAX-H-4TPW-S. Power supply 48Vdc or with optional AC/DC converter.
VDDCOAX-H-4TPOE-S	VDSL2 PTM modem CPE, 2 wire and coax BNC, Ethernet bridge 100/100Mbps at 300m,65Mbps at 600m, 4 10/100BT port POE PsE 802.3at (30W for 4 ports), VLAN transparent. Power by CO/Master VDDCOAX-H-4TPW-M or SWM-8VDPW switch. Or local 48Vdc port.
VDD2-HT-4TPW-M	VDSL2 PTM modem CO, 2 wire twisted pair, Ethernet bridge 100/100Mbps at 300m,65Mbps at 600m, 4 10/100BT port, VLAN transparent. Give the Power over the line (in POL) to the distant modem brige VDD2-HT-4TPW-S. Power supply 48Vdc or with optional AC/DC converter. Compliant to EN50121-4.
VDD2-HT-4TPOE-S	VDSL2 PTM modem CPE, 2 wire twisted pair, Ethernet bridge 100/100Mbps at 300m,65Mbps at 600m, 4 10/100BT port POE PsE 802.3at (30W for 4 ports), VLAN transparent. Power by CO/Master VDDCOAX-H-4TPW-M or SWM-8VDPW switch. Or local 48Vdc port. Compliant to EN50121-4.
VDD2-I-TPOE-S	VDSL2 PTM modem CPE, 2 wire twisted pair, Ethernet bridge 100/100Mbps at 300m,65Mbps at 600m, 1* 10/100BT port POE PsE 802.3at (30W), VLAN transparent. Power by CO/Master SWM-8VDPW switch. Or locally 48Vdc port. Industrial environment from -20°C to +65°C.



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