

## EXTENDING YOUR LAN NETWORK UP TO 13KM

The family of SHDSL (XSLAN) and SPE (XELAN) switches enables the connection of remote Ethernet networks using a simple copper pair in order to reach data rate up to 15Mbps.

A large range of Ethernet extenders is offered :  
Point-to-point, multipoint  
up to 12 lines concentrator.

DOC\_MPR\_XSLAN\_Data sheet\_D (latest update 06/30/2023)

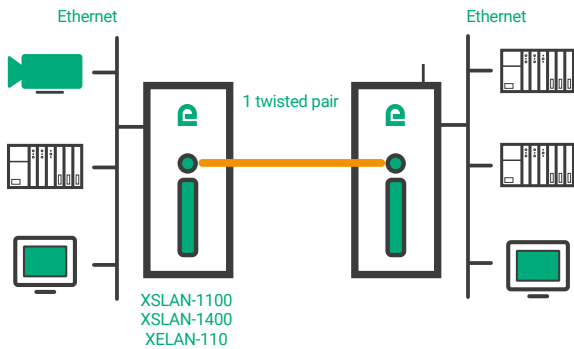
### Switch SHDSL / SPE

- From 1 to 12 WAN ports
- From 1 to 6 Ethernet ports
- Technology: SHDSL or SPE
- Up to 13 km
- Up to 15 Mb/s
- IP Router
- SNMP, QoS Diffserv, VLAN
- Bypass feature
- Failsafe ring (RSTP or proprietary protocol)
- Auto-negotiation
- Railway compatible
- AES256 encryption (MACSec)
- Authentication 802.1X



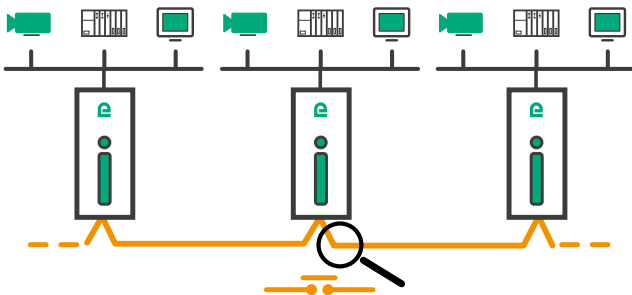
## A "PLUG AND PLAY" MODEL

Activation of a point to point connection (XSLAN-1100 or XELAN-110) or web page (XSLAN-1400).



## DAISY CHAIN NETWORK

The XSLAN-2400 or XELAN-210 can be used to build a daisy chain topology via a copper pair.

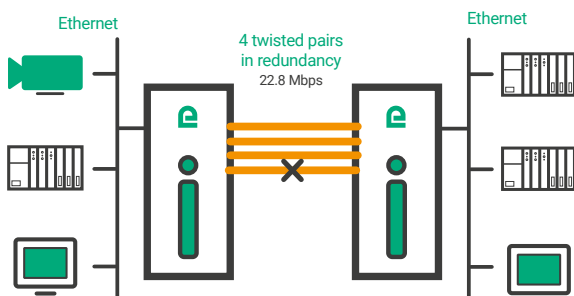


### "The Bypass"

The "By-Pass" feature is used to close the line (electro-mechanical relay) when the XSLAN or XELAN is switched off. The daisy chain is thus not cut.

## SHDSL LINE AGGREGATION TO INCREASE DATA RATE AND SECURITY

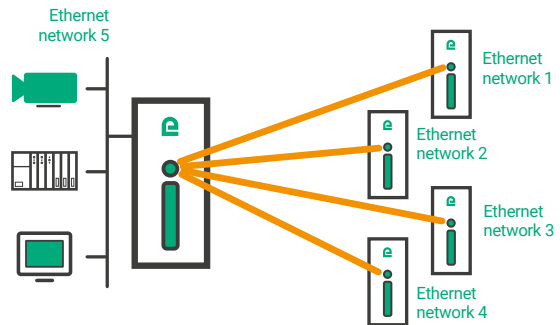
XSLAN-2xxx and XSLAN-4200 can aggregate SHDSL lines to increase the data rate or to offer a line backup.



### XELAN's strengths

- Low consumption
- Plug & Play
- Quick connexion
- Economically optimized

## SHDSL LINE CONCENTRATOR



Models : XELAN 210, XSLAN-2400, XSLAN-4200 and XSRACK-1260.

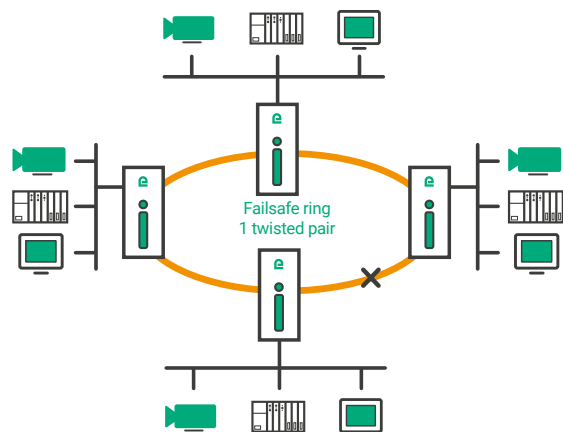


### Auto-negotiation

This configuration mode can be used to quickly plug the XSLAN or XELAN without configuration.

## FAILSAFE RING

XSLAN is working with RSTP or Etic Telecom protocol in order to build any type of topology with redundancy.



### Loop VPN for secured ring ( XSLAN only)

When the SHDSL network forms a daisy chain ring and when it is not possible to form a secured ring, the "loop VPN" function allows a network redundancy if an Internet or a private (MPLS) connection is available at each end of the SHDSL network.

## SELECTION GUIDE



PRODUCT DESIGNATION	XELAN 110	XELAN 210	XSLAN 1100	XSLAN 1400	XSLAN 1220	XSLAN 2400	XSLAN 2220	XSLAN 4200	XSRACK-1260
<b>Managed switch</b>	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Technology</b>	SPE	SPE	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL
<b>Number of WAN ports</b>	1	2	1	1	1	2	2	4	12
<b>Ethernet port (LAN)</b>	1	1	1	4	2	4	2	2	6
<b>Serial port (RS232/RS485)</b>					✓		✓		
<b>Data rate</b>	10 Mbps	10 Mbps	CF page 4	CF page 4	CF page 4	CF page 4	CF page 4	CF page 4	CF page 4
<b>2 Power inputs</b>				✓	✓	✓	✓	✓	✓
<b>"Plug &amp; Play" installation</b>	✓	✓	✓						
<b>ByPass option</b>		✓				✓	✓	✓	
<b>Loop VPN</b>				✓	✓	✓	✓	✓	✓
<b>Latency</b>	<0,2 ms	<0,2 ms	2 ms	2 ms	2 ms	2 ms	2 ms	2 ms	2 ms
<b>Configuration DIP Switch = DP, Web Server = WS</b>	Auto/DP	Auto/DP	Auto/SW	SW	SW	SW	SW	SW	SW
<b>Diagnostic</b>	LED	LED	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW
<b>AES256 Encryption</b>			✓	✓	✓	✓	✓	✓	✓
<b>Railway compatibility</b>				✓	✓	✓	✓	✓	

## TECHNICAL CHARACTERISTICS

GENERAL CHARACTERISTICS							
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>XSLAN-1100, XELAN-110 and XELAN-210 : 120x37x-88mm (h,l,d)</li> <li>XSRACK : 44x435x290 mm (h,l,d)</li> <li>Others products : 137x51x142 mm (h,l,d)</li> </ul>						
<b>Weight</b>	<ul style="list-style-type: none"> <li>XELAN and XSLAN-1100 : 500g</li> <li>XSRACK : 3500g</li> <li>Other products : 750g</li> </ul>						
<b>Power</b>	<ul style="list-style-type: none"> <li>XELAN-110, XELAN-210, XSLAN-1100 : 10-30 VDC (nominal : 12-24 VDC)</li> <li>Others XSLAN : 10-60 VDC (nominal : 12-48 VDC)</li> <li>Phoenix type 2-point connector (removable)</li> <li>Isolation : 1500 V</li> </ul>						
<b>Consumption</b>	<ul style="list-style-type: none"> <li>XSLAN-1100 : &lt;2 W</li> <li>XSLAN-1XXX : 3 W</li> <li>XSLAN-2XXX : 4 W</li> <li>XSLAN-4XXX : 6 W</li> <li>XELAN-110 : 0,5 W</li> <li>XELAN-210 : 0,7 W</li> <li>XSRACK : 27 W</li> </ul>						
<b>Temperature</b>	<ul style="list-style-type: none"> <li>XSRACK : 0°C / + 50°C</li> <li>Other products : -40°C / + 70°C (Humidity 5 to 95 %)</li> </ul>						
<b>EMC</b>	Immunity (EN 61000-6-2) <ul style="list-style-type: none"> <li>EN61000-4-2 : Electrostatic discharge (ESD)</li> <li>EN61000-4-3 : RF radiated</li> <li>EN61000-4-4 : EFT/Burst</li> <li>EN61000-4-5 : Surge</li> <li>EN61000-4-6 : RF Conducted</li> </ul> Emission (EN 61000-6-4) <ul style="list-style-type: none"> <li>EN55032 : Radiated and conducted emission</li> </ul>						
<b>Electrical Safety</b>	IEC/EN 62368-1						
<b>Hazardous substances</b>	<ul style="list-style-type: none"> <li>Directive 2011/65UE (RoHS)</li> <li>REACH</li> </ul>						
<b>Casing</b>	Metallic case with RailDIN or RACK fixation <ul style="list-style-type: none"> <li>XELAN and XSLAN-1100 : IP31</li> <li>Other products : IP21</li> </ul>						
SHDSL TRANSMISSION							
<b>Cable</b>	1 copper pair (shielded and diameter between 0.4mm and 1mm is recommended)						
<b>Connector</b>	Phoenix type 2-point connector (removable)						
<b>Isolation</b>	1500 V						
DISTANCE AND DATA RATE IN SHDSL (Estimated values without noise)							
<b>Data rate</b>	<table border="1"> <tr> <td>192 Kb/s</td> <td>2,3 Mb/s</td> <td>5,7 Mb/s</td> <td>10 Mb/s</td> <td>12 Mb/s</td> <td>15 Mb/s</td> </tr> </table>	192 Kb/s	2,3 Mb/s	5,7 Mb/s	10 Mb/s	12 Mb/s	15 Mb/s
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<b>Distance (Ø 0.9 mm)</b>	13 Km   6 Km   3,7 Km   1,5 Km   1 Km   0,7 Km						
<b>Distance (Ø 0.4 mm)</b>	7 Km   3 Km   3,7 Km   0,9 Km   0,6 Km   0,4 Km						
DISTANCE AND DATA RATE IN SPE (Estimated values without noise)							
<b>Data rate &amp; distance</b>	10 Mbit/s full duplex up to 2 km						
ETHERNET FEATURES ( LEVEL 2 )							
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>RJ45</li> <li>Auto : 10/100 full &amp; half MDI/MDI-X</li> </ul>						
<b>SHDSL Ethernet</b>	802.3ah : 2BaseTL						
<b>SPE Ethernet</b>	10 Base T1L						
<b>Switch</b>	Store and forward						
<b>VLAN</b>	VLAN via port IEEE 802.IQ (XSLAN only)						
<b>MAC Filtering</b>	Destination MAC adress filtering (XSLAN only)						
<b>Redundant network</b>	RSTP Protocol and Failsafe Ring (XSLAN only)						
IP FEATURES ( LEVEL 3 / XSLAN ONLY )							
<b>IP Address</b>	IPV4 and IPV6						
<b>SNMP</b>	<ul style="list-style-type: none"> <li>SNMP V3 RFC1213 MIB II</li> <li>HDLSL2-SHDSL-LINE-MIB</li> <li>HOST-RESOURCES-MIB</li> <li>IF-MIB IP-MIB</li> <li>BRIDGE-MIB</li> </ul>						
<b>QoS</b>	DiffServ - 5 priority levels management depending on traffic						
<b>IP Router</b>	<ul style="list-style-type: none"> <li>IP routing between LAN interface and SHDSL interface</li> <li>25 static routes</li> <li>RIP V1 and V2</li> <li>Address translation</li> </ul>						
SERIAL GATEWAY							
<b>Connectors</b>	<ul style="list-style-type: none"> <li>RS232 : RJ45</li> <li>RS485 : removable 2-point connector</li> </ul>						
<b>Data rate</b>	1200 to 115 200 b/s						
<b>Gateway</b>	<ul style="list-style-type: none"> <li>Raw TCP client &amp; server</li> <li>UDP (unicast or towards broadcast list)</li> <li>Multicast, Telnet</li> <li>Modbus Master &amp; Slave, Unitelway Slave</li> </ul>						
SYSTEM AND CONFIGURATION ( XSLAN ONLY )							
<b>XSLAN Configuration</b>	Web server (configuration and diagnostic)						
<b>Backup</b>	<ul style="list-style-type: none"> <li>Configuration file backup</li> <li>Editable text file</li> </ul>						
<b>Date and hour</b>	NTP client and server						
<b>Upgrade firmware</b>	Locally or via the SHDSL link						
<b>Diagnostic</b>	LOG, Syslog, line quality monitoring						
<b>Alarms</b>	<ul style="list-style-type: none"> <li>Digital Input</li> <li>Digital Output (SHDSL default)</li> </ul>						

