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.

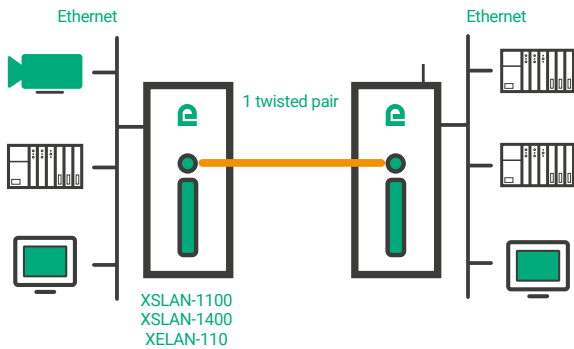A large range of Ethernet extenders is offered : Point-to-point, multipoint up to 12 lines concentrator.

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**

etic TELECOM

Since 1985, Etic Telecom designs and markets products and solutions to interconnect machines and industrial systems.

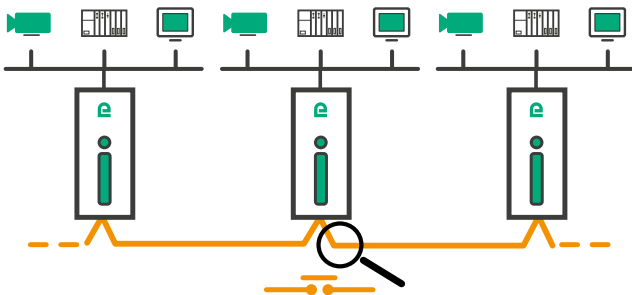**We are present in the market for water, energy, transportation, urban infrastructure and industry 4.0.**

A "PLUG AND PLAY" MODEL

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

XSLAN-1100
XSLAN-1400
XELAN-110

DAISY CHAIN NETWORK

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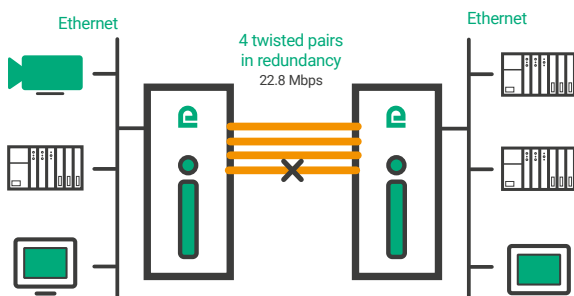

"The Bypass"
The "By-Pass" feature is used to close the line (electro-mechanical relay) when the XSLAN or XELAN is switched off. The daisy chain is thus not cut.
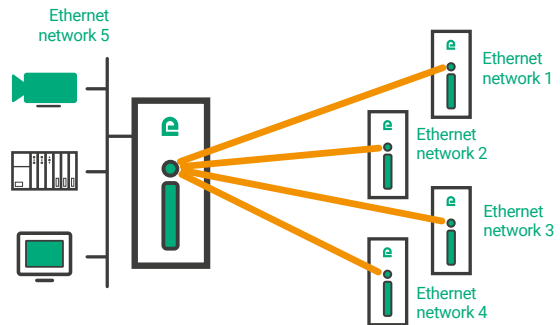
SHDSL LINE AGGREGATION TO INCREASE DATA RATE AND SECURITY

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

XELAN's strenghts
- Low consumption
- Plug & Play
- Quick connexion
- Economically optimized

SHDSL LINE CONCENTRATOR

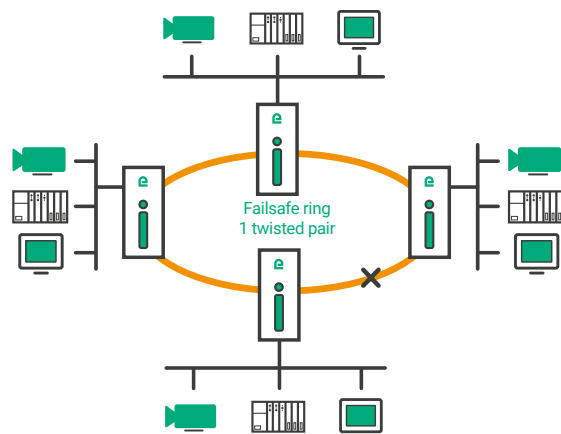Models : XELAN 210, XSLAN-2400, XSLAN-4200 and XSRACK-1260.

Auto-negociation
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 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
Managed switch	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Technology	SPE	SPE	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL	SHDSL
Number of WAN ports	1	2	1	1	1	2	2	4	12
Ethernet port (LAN)	1	1	1	4	2	4	2	2	6
Serial port (RS232/RS485)					✓		✓		
Data rate	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
2 Power inputs				✓	✓	✓	✓	✓	✓
"Plug & Play" installation	✓	✓	✓						
ByPass option		✓				✓	✓	✓	
Loop VPN				✓	✓	✓	✓	✓	✓
Latency	<0,2 ms	<0,2 ms	2 ms	2 ms	2 ms	2 ms	2 ms	2 ms	2 ms
Configuration DIP Switch = DP, Web Server = WS	Auto/DP	Auto/DP	Auto/SW	SW	SW	SW	SW	SW	SW
Diagnostic	LED	LED	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW	LED/SW
AES256 Encryption			✓	✓	✓	✓	✓	✓	✓
Railway compatibility				✓	✓	✓	✓	✓	

TECHNICAL CHARACTERISTICS

GENERAL CHARACTERISTICS

Dimensions	• XSLAN-1100, XELAN-110 and XELAN-210 : 120x37x-88mm (h,l,d) • XSRACK : 44x435x290 mm (h,l,d) • Others products : 137x51x142 mm (h,l,d)
Weight	• XELAN and XSLAN-1100 : 500g • XSRACK : 3500g • Other products : 750g
Power	• XELAN-110, XELAN-210, XSLAN-1100 : 10-30 VDC (nominal : 12-24 VDC) • Others XSLAN : 10-60 VDC (nominal : 12-48 VDC) • Phœnix type 2-point connector (removable) • Isolation : 1500 V
Consumption	• XSLAN-1100 : <2 W • XSLAN-1XXX : 3 W • XSLAN-2XXX : 4 W • XSLAN-4XXX : 6 W • XELAN-110 : 0,5 W • XELAN-210 : 0,7 W • XSRACK : 27 W
Temperature	• XSRACK : 0°C / + 50°C • Other products : -40°C / + 70°C (Humidity 5 to 95 %)
EMC	Immunity (EN 61000-6-2) • EN61000-4-2 : Electrostatic discharge (ESD) • EN61000-4-3 : RF radiated • EN61000-4-4 : EFT/Burst • EN61000-4-5 : Surge • EN61000-4-6 : RF Conducted Emission (EN 61000-6-4) • EN55032 : Radiated and conducted emission
Electrical Safety	IEC/EN 62368-1
Hazardous substances	• Directive 2011/65UE (RoHS) • REACH
Casing	Metallic case with RailDIN or RACK fixation • XELAN and XSLAN-1100 : IP31 • Other products : IP21

SHDSL TRANSMISSION

Cable	1 copper pair (shielded and diameter between 0.4mm and 1mm is recommended)
Connector	Phœnix type 2-point connector (removable)
Isolation	1500 V

DISTANCE AND DATA RATE IN SHDSL
(Estimated values without noise)

Data rate	192 Kb/s	2,3 Mb/s	5,7 Mb/s	10 Mb/s	12 Mb/s	15 Mb/s
Distance (Ø 0.9 mm)	13 Km	6 Km	3,7 Km	1,5 Km	1 Km	0,7 Km
Distance (Ø 0.4 mm)	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)

Data rate & distance	10 Mbit/s full duplex up to 2 km

ETHERNET FEATURES (LEVEL 2)

Ethernet	• RJ45 • Auto : 10/100 full & half MDI/MDI-X
SHDSL Ethernet	802.3ah : 2BaseTL
SPE Ethernet	10 Base T1L
Switch	Store and forward
VLAN	VLAN via port IEEE 802.IQ (XSLAN only)
MAC Filtering	Destination MAC adress filtering (XSLAN only)
Redundant network	RSTP Protocol and Failsafe Ring (XSLAN only)

IP FEATURES (LEVEL 3 / XSLAN ONLY)

IP Address	IPV4 and IPV6
SNMP	• SNMP V3 RFC1213 MIB II • HDSL2-SHDSL-LINE-MIB • HOST-RESOURCES-MIB • IF-MIB IP-MIB • BRIDGE-MIB
QoS	DiffServ - 5 priority levels management depending on traffic
IP Router	• IP routing between LAN interface and SHDSL interface • 25 static routes • RIP V1 and V2 • Address translation

SERIAL GATEWAY

Connectors	• RS232 : RJ45 • RS485 : removable 2-point connector
Data rate	1200 to 115 200 b/s
Gateway	• Raw TCP client & server • UDP (unicast or towards broadcast list) • Multicast, Telnet • Modbus Master & Slave, Unitelway Slave

SYSTEM AND CONFIGURATION (XSLAN ONLY)

XSLAN Configuration	Web server (configuration and diagnostic)
Backup	• Configuration file backup • Editable text file
Date and hour	NTP client and server
Upgrade firmware	Locally or via the SHDSL link
Diagnostic	LOG, Syslog, line quality monitoring
Alarms	• Digital Input • Digital Output (SHDSL default)

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INDUSTRIAL NETWORKING