XSLAN ETHERNET EXTENDER

XSLAN

EXTENDING ETHERNET UP TO 13KM

The XSLAN family of SHDSL 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, 4 SHDSL lines concentrator.

SHDSL Switch

- **From 1 to 4 SHDSL ports**
- **From 2 to 4 Ethernet ports**
- **Serial gateway (option)** (RS232 and RS485)
- **Latency: 2 ms**
- **IP router**
- **SNMP, QoS Diffserv**
- **Bypass feature**
- **Failsafe ring** (RSTP or proprietary protocol)
- **Auto negotiation**
- **Configuration & diagnostic via web page**

DOC_MPR_XSLAN_Data sheet_C (latest update 01/15/2019)

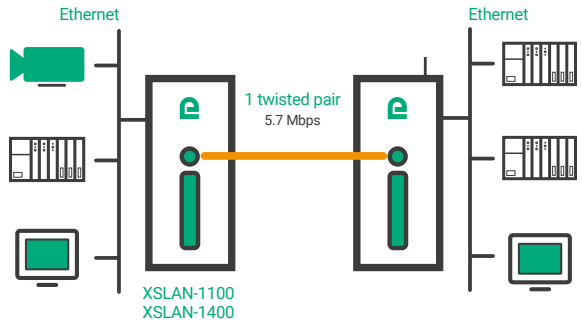
etic TELECOM

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.

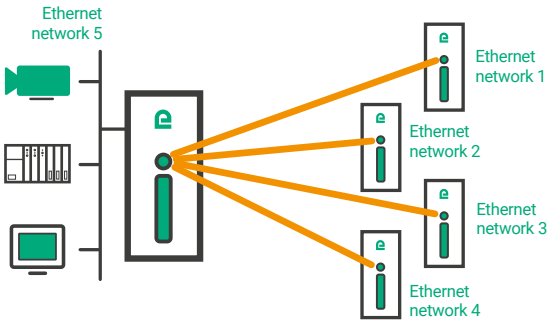
A "PLUG AND PLAY" MODEL

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



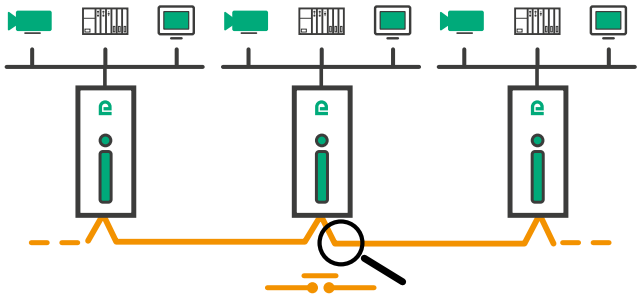
SHDSL LINE CONCENTRATOR

XSLAN-4200 is a 4 lines concentrator to interconnect 4 remote Ethernet networks. The XSLAN-XXX does concentrate 2 lines.



DAISY CHAIN NETWORK

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

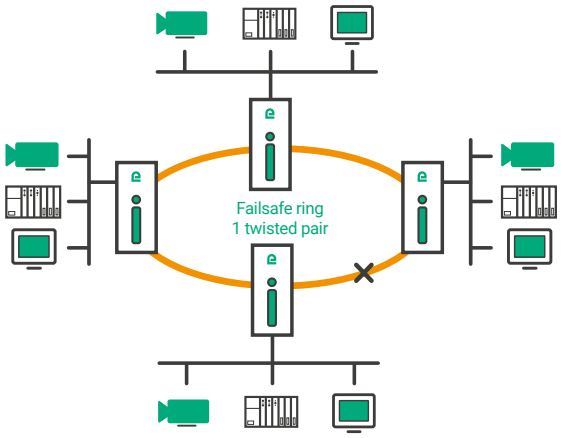


"The By-Pass"
The "By-Pass" feature is used to close the line (electro-mechanical relay) when the XSLAN is switched off. The daisy chain is thus not cut.

Auto-negociation
This configuration mode can be used to quickly plug the XSLAN to the copper pair without knowing the XSLAN status (master or slave).

FAILSAFE RING

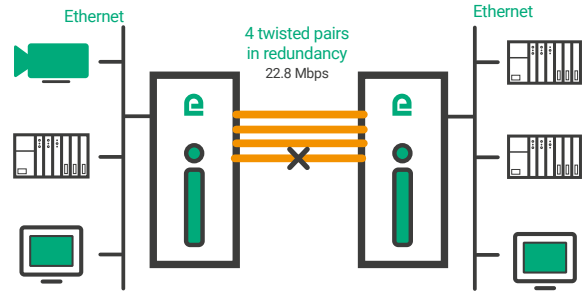
XSLAN is working with RSTP or Etic Telecom protocol in order to build any type of topology with redundancy.



Loop VPN for secured ring
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.

SHDSL LINE AGGREGATION TO INCREASE DATA RATE AND SECURITY

XSLAN-2xxx and XSLAN-42xx can aggregate SHDSL lines to increase the data rate or to offer a line backup.



SELECTION GUIDE

XSLAN	1100	1400	1220	1230	2400	2220	2230	4200
Number of SHDSL ports	1	1	1	1	2	2	2	4
Aggregated max. data rate diam. 0.9 mm 3.7 km - Mbps	5.7	5.7	5.7	5.7	11.4	11.4	11.4	22.8
Aggregated max. data rate diam. 0.9 mm 0.7 km - Mbps	15	15	15	15	30	30	30	60
SHDSL concentrator					2 ports	2 ports	2 ports	4 ports
SHDSL line aggregation					✓	✓	✓	✓
Number of Ethernet ports 10/100BT	1	4	2	2	4	2	2	2
Serial port RS232			1	2		1	2	
Serial port RS485			1	0		1	0	
2 power inputs		✓	✓	✓	✓	✓	✓	✓
Galvanic isolation	✓	✓			✓			✓
“Plug & Play” installation	✓							
Configuration via web server	✓	✓	✓	✓	✓	✓	✓	✓
Diagnostic via web server	✓	✓	✓	✓	✓	✓	✓	✓
SNMP administration	✓	✓	✓	✓	✓	✓	✓	✓
IP routing, QoS Diffserv	✓	✓	✓	✓	✓	✓	✓	✓
VLAN (up to 60)	✓	✓	✓	✓	✓	✓	✓	✓
By-Pass (option)	0	0	0	0	1	1	1	1
RSTP or Etic Telecom protocol	✓	✓	✓	✓	✓	✓	✓	✓
Auto-negociation (STU-C/STU-R)	✓	✓	✓	✓	✓	✓	✓	✓

TECHNICAL CHARACTERISTICS

GENERAL CHARACTERISTICS	
Dimensions	• XSLAN-1100: 120x37x88 (h,l,d) • Other products: 136 x 47 x 142 mm (h,l,d)
Weight	Between 500 and 750 g depending on model (without packaging)
Power	• XSLAN-1220, 2220, 4220: 10-30 VDC (nominal: 12-24 VDC) • Others XSLAN: 10-60 VDC (nominal: 12-48 VDC) • Phoenix connector 2 points • Isolation: 1500 V
Consumption	• XSLAN-1100: <2 W • XSLAN-1XXX: 5 W • XSLAN-2XXX: 6 W • XSLAN-4XXX: 9 W
Temperature	-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 2002/95/CE (RoHS) • REACH
Casing	Metallic IP31 (XSLAN-1100) or IP20 (other products) with DINRail mounting
SHDSL TRANSMISSION	
Cable	1 copper pair (shielding and diameter between 0.4mm and 1mm is recommended)
Connector	Phoenix connector (2 points)
Isolation	1500 V
Data rate for 1 pair	• 192 Kb/s up to 15.2 Mbps • SHDSL modulation bis ITU-T G.991.2 (2005) • data rate adaptation: automatic or configurable • up to 60km on coax cable
Latency	2ms between Ethernet ports of 2 SHDSL switches (Ethernet frame of 100b at 5.7 Mbps)

DISTANCE AND DATA RATE ON A TWISTED PAIR (Estimated values without noise)				
Data rate	192Kb/s	1.15Mbps	2.3Mbps	5.7Mbps
Distance (Ø 0.9 mm)	13Km	8Km	6Km	3.7Km
Distance (Ø 0.4 mm)	7Km	4Km	3Km	2Km

DISTANCE AND DATA RATE ON A TWISTED PAIR (Estimated values without noise)				
Data rate	6.7Mbps	10Mbps	12Mbps	15Mbps
Distance (Ø 0.9 mm)	2.5Km	1.5Km	1Km	0.7Km
Distance (Ø 0.4 mm)	1.3Km	0.9Km	0.6Km	0.4Km

ETHERNET FEATURES (LEVEL 2)	
Ethernet	• RJ45 • Auto: 10/100 full & half MDI/MDI-X
SHDSL Ethernet	802.3ah: 2BaseTL
Switch	Store and forward
VLAN	VLAN via port IEEE 802.lQ
MAC Filter	Destination MAC adress filter
Redondant network	Protocol VRRP RFC 3768 and Failsafe Ring
IP FEATURES (LEVEL 3)	
IP Adress	IPV4 and IPV6
SNMP	• SNMP V2 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 Routing	• Ip routing between LAN interface and SHDSL interface • 25 static routes • RIP V1 and V2 • Adress translation
SERIAL GATEWAY	
Serial link	2 serial links (RS232 and RS485)
Connectors	• RS232: RJ45 2 pts • RS485**:** removeable 2 points connector
Data rate	1200 up to 115 200b/s
Gateway	• Raw TCP client & server • UDP (unicast or towards broadcast list) • Multicast, Telnet • Modbus Master & Slave, Unitelway Slave
DIGITAL INPUT AND OUTPUT	
Digital Input	• 1 input • value O < 1 V and 1 > 3 V • Removeable connector
Digital Output	• 1 output • voltage / max. current: 54 VDC / 0,5A • Removeable connector
SYSTEM AND CONFIGURATION	
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
LOG	Last 300 events. Syslog

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