# **XSLAN ETHERNET EXTENDER**

### **XSLAN**



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.

**TO 13KM** 

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

DOC\_MPR\_XSLAN\_Data sheet\_C (latest update 01/15/2019)

### **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





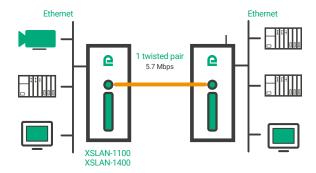
Since 1985, Etic Telecom designs and markets products and solutions to interconnect machines and industrial systems.

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



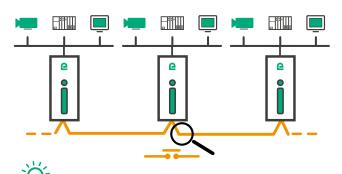
#### A "PLUG AND PLAY" MODEL

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



#### **DAISY CHAIN NETWORK**

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

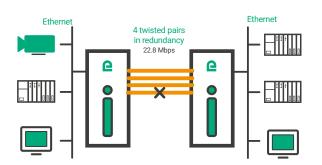


#### "The By-Pass"

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.

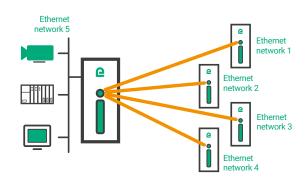
# SHDSL LINE AGGREGATION TO INCREASE DATA RATE AND SECURITY

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



#### SHDSL LINE CONCENTRATOR

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



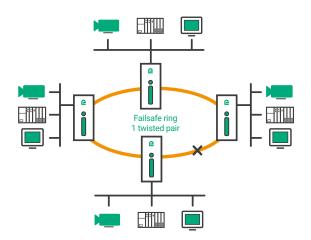


#### **Auto-negociation**

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.



## **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					~	<b>~</b>	<b>~</b>	<b>~</b>
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		<b>~</b>						
Galvanic isolation	<b>~</b>	<b>~</b>			<b>~</b>			<b>~</b>
"Plug & Play" installation	<b>~</b>							
Configuration via web server	<b>~</b>							
Diagnostic via web server	<b>~</b>							
SNMP administration	<b>~</b>							
IP routing, QoS Diffserv	<b>~</b>							
VLAN (up to 60)	<b>~</b>							
By-Pass (option)	0	0	0	0	1	1	1	1
RSTP or Etic Telecom protocol	<b>~</b>							
Auto-negociation (STU-C/STU-R)	<b>~</b>							

# **TECHNICAL CHARACTERISTICS**

	CENED	AL CHARACTERIS	etice			
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	• EN61000-4 • EN61000-4 • EN61000-4 • EN61000-4 • EN61000-4 Emission (EI	N 61000-6-2) -2: Electrostati -3: RF radiated -4: EFT/Burst -5: Surge -6: RF Conduct N 61000-6-4) adiated and co	red			
Electrical Safety	IEC-EN 6236	8-1				
Hazardous substances	• Directive 20 • REACH	002/95/CE (Ro	HS)			
Casing	Metallic IP31 with DINRail	(XSLAN-1100 mounting	) or IP20 (othe	er products)		
SHDSL TRANSMISSION						
Cable		r (shielding and 1mm is recomi		ween		
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	tency 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	(LStilliate	d value <u>s witho</u>	ut nois <u>e)                                    </u>			
	192Kb/s			5.7Mbps		
Distance (Ø 0.9 mm)	`	1.15Mbps 8Km	ut noise) 2.3Mbps 6Km	5.7Mbps 3.7Km		
	192Kb/s	1.15Mbps	2.3Mbps	· · · · · · · · · · · · · · · · · · ·		
(Ø 0.9 mm)  Distance (Ø 0.4 mm)	192Kb/s 13Km 7Km	1.15Mbps 8Km	2.3Mbps 6Km 3Km	3.7Km		
(Ø 0.9 mm)  Distance (Ø 0.4 mm)	192Kb/s 13Km 7Km	1.15Mbps 8Km 4Km DATA RATE ON A	2.3Mbps 6Km 3Km	3.7Km		
(Ø 0.9 mm)  Distance (Ø 0.4 mm)	192Kb/s 13Km 7Km DISTANCE AND (Estimate	1.15Mbps 8Km 4Km <b>DATA RATE ON A</b> d values witho	2.3Mbps 6Km 3Km TWISTED PAIR ut noise)	3.7Km 2Km		

	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.IQ				
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 0 < 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				



