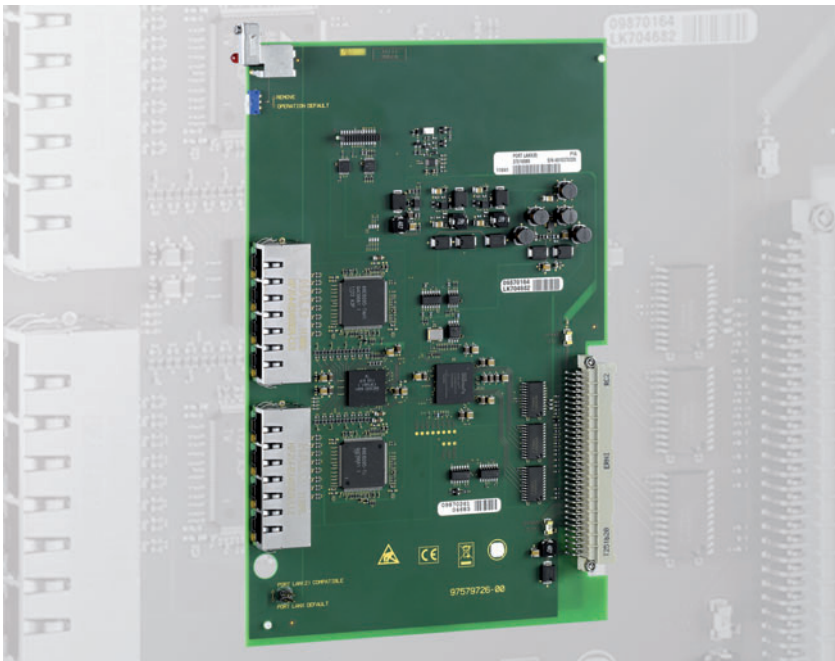


XMP1 PORT LANX (8)

Unit for PDH-transmission of Ethernet data via the XMP1 platform at $n \times 64$ kbps



- HDLC-encapsulation
- Transmission at $n \times 64$ kbps ($n = 1$ to 31)
- Layer 2 functions
 - Bridge functions
 - Point-to-Point
 - Self-learning bridge (802.1D)
 - VLAN bridge (802.1Q)
 - Double-tagging bridge (Q-in-Q)
- Port mirroring
- Quality of Service
- Supports $n \times 64$ kbps protection switching
- Fully integrated into the ServiceOn XMP1 network management system

The Port LanX (8) unit in the XMP1 platform provides 8 external 10/100BaseT LAN interfaces and 8 internal WAN interfaces to transmit Ethernet data via PDH networks.

The LAN front interfaces and the internal WAN interfaces are connected via a layer 2 switch. The Ethernet data is transmitted via PDH in $n \times 64$ kbps time slots to E1.

■ Ethernet data with XMP1

Due to the increasing usage of Ethernet services, the existing PDH networks have to be upgraded with Ethernet interfaces.

To achieve this goal, the Port LanX (8) unit with its layer 2 functions expands the XMP1 platform to transmit Ethernet data. It can be easily integrated into the existing PDH infrastructures and is fully integrated into the ServiceON XMP1 (SOX) end-to-end management system.

■ Applications

Applications for the Port LanX (8) unit are for example:

- Ethernet point-to-point
- Ethernet LAN
- Ethernet Virtual LAN

The Port LanX (8) is compatible with Port LAN (2), the sub-unit SL-LAN in the XMP1-SL and the XMP1-LCC's U-LAN interface.

■ HDLC-encapsulation

From the WAN side, the Ethernet frames are encapsulated at $n \times 64$ kbps ($n = 1$ to 31) with the

HDLC protocol (High-Level Data Link Control). There are 8 WAN ports which can be configured independently of one another.

■ Bridge functions

The bridge functions are supplied by a standard layer 2 switch. The switch can be configured in the following modes:

- Self-learning bridge (802.1D)
- VLAN bridge (802.1Q)
- Double-tagging bridge (Q-in-Q), following IEEE 802.1ad

■ Point-to-point connections

In point-to-point mode, a direct connection of the LAN and WAN interfaces is created – the switch is not used. The Ethernet frames are transmitted transparently.

■ Quality of Service

Prioritised transmission of Ethernet data with tag priority and port priority is supported. Processing is carried out according to priority using the strict priority queuing method.

■ Performance data

To monitor the transmission quality, various performance measurement points can be configured. The performance data for 15 min and 24 h intervals are read by the LCT or NMS.

■ Redundancy

The XMP1 platform's n x 64 kbps single-channel protection switching is supported. To transmit the n x 64 kbps time slots, two separate paths are configured on the E1 side. As a result, transmission reliability is increased.

■ Port mirroring

The Port LanX (8) supports port mirroring. This function allows a port's incoming and outgoing Ethernet frames to be mirrored on another port.

■ Software compatibility to Port LAN (2)

The Port LanX (8) can be operated in "Port LAN (2) compatible mode". The Port LanX (8) then registers in the system as Port LAN (2) and its software is compatible with it.

■ Management

The ServiceOn XMP1 (SOX) end-to-end management platform fully supports the configuration and monitoring of the Port LanX 8 and the XMP1 network. Local management of the Port LanX (8) is supported with the Local Craft Terminal (LCT).

Technical Data

Ethernet Interfaces (LAN)	
Number of interfaces	8
Type of interface (connector)	10/100BaseT according to IEEE 802.3 (RJ45)
Autonegotiation, MDI/MDIX	supported
Interface modes	Half/full duplex
Flow-control	On/off
Interfaces towards System Bus (WAN)	
Number of interfaces	8
Bandwidth	n x 64 kbps (n = 1 to 31)
Quality of Service	
Priority mapping	Strict priority mapping
Mapping	According to IEEE 802.1D-2004
Bridge Functions	
Encapsulation	HDLC (High-Level Data Link Control)
VLAN support	VLAN tagging (IEEE 802.1Q)
MAC address learning	Shared VLAN learning, independent VLAN learning
Queuing	Strict priority queuing
Mode of operation	Point-to-point, Self learning Bridge (802.1D), VLAN Bridge (802.1Q), double tagging Bridge (Q-in-Q)
Redundancy	
Single-channel protection switching	n x 64 kbps
Management	
SOX LCT	For local management
SOX NMS	For centralised management
Power Supply	
Supply voltage	+7V via backplane



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