

## Description

The L-SwitchXP is the solution to interconnect multiple EIA-709 channels. It provides up to five ports and routes packets between these ports. In spite of its small size the L-SwitchXP router provides best class performance and flexibility in use. In order to provide the optimal router configuration the L-SwitchXP supports 2 to 5 ports as well as the 2 operating modes "Smart Switch Mode" and "Configured Router Mode".

## Features

- For physical separation and logical connection of up to 5 ANSI/EIA-709 network segments
- Can be used as configured router
- Can be used as learning switch or repeater\*
- Plug & Play installation\*
- Forwards packets of up to 256 bytes length
- Supports up to four domains\*
- Forwarding decision based on subnet/node and group addresses\*
- Short propagation delays between ports
- Processes up to 3500 packets/sec
- Supports firmware update and external configuration through each channel interface
- Supports multiple transceivers: FT-10/LPT-10, TP-1250, RS-485
- Bit-rates between 300 bps and 2.5 Mbps
- Automatic bit-rate detection for RS-485 channels
- Diagnostic LEDs for each channel showing network activity, overload, and error conditions
- Network diagnostic functions and L-SwitchXP Management via LSD-Tool from remote
- Supply voltage and CPU temperature monitor
- 9-35 V DC / 9-24 V AC supply voltage
- 157x86x60 or 105x86x60 (L x W x H in mm)
- DIN-rail (EN 50 022) or wall mountable

\* Smart Switch Mode

## Smart Switch Mode

The Plug & Play installation capability of the L-SwitchXP allows connecting the L-SwitchXP to the network without any further configuration. The Smart Switch technology automatically detects the bit-rates of the connected channels, learns the configuration of the network (domains, subnet/node addresses, group addresses) and forwards the packets between the different ports of the L-SwitchXP router.

## Configured Router Mode

In this mode the L-SwitchXP behaves like a standard router. Network Management tools must configure the router.

## Built-in Diagnostics

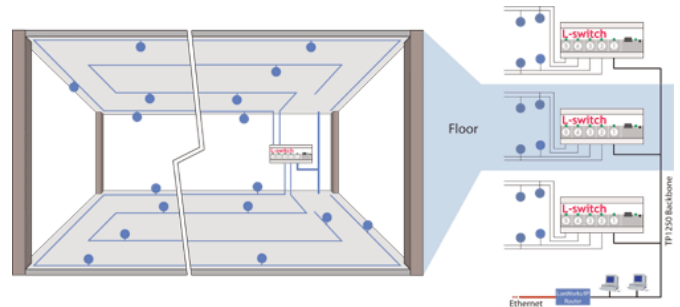
The L-SwitchXP permanently collects statistics information from the attached network channels (channel load, CRC errors, forwarding statistics, etc.). Using this data the L-SwitchXP software is able to detect problems on these channels (overload, connections problems, etc.) and warns the system operator via LEDs. For detailed analysis of the network status on each channel the collected statistical information can be uploaded from the L-Switch and can be displayed in the LOYTEC System Diagnostics Tool (LSD-Tool).

## Order Numbers

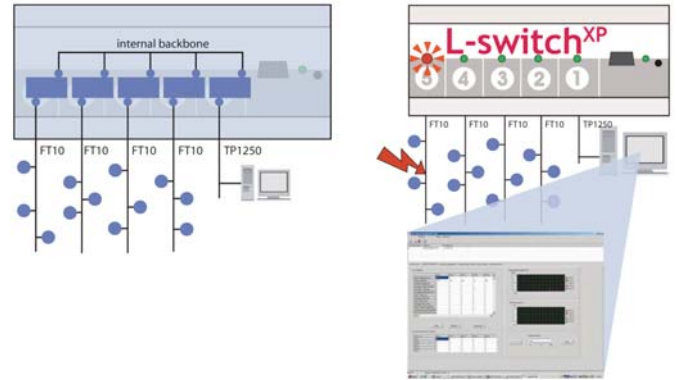
Bestellnummer	Konfiguration
LS-33CB	2 x FT-10
LS-13CB	1 x TP-1250 / 1 x FT-10
LS-11CB	2 x TP-1250
LS-33300CB	3 x FT-10
LS-13300CB	1 x TP-1250 / 2 x FT-10
LS-13333CB	1 x TP-1250 / 4 x FT-10
LS-11333CB	2 x TP-1250 / 3 x FT-10

## Installation

The installation is quite simple as shown in the building automation example below. Typically the network cables run in the ceiling and under the floor as an inner and an outer ring. This totals to 4 FT-10 channels on every floor leaving one L-SwitchXP port available to connect to the high-speed backbone channel. The nodes for HVAC, lighting, room control, sun blinds, etc. are then connected to the 4 FT-10 channels. In this example there is one LS-13333C L-SwitchXP router on every floor of the building. Multiple floors are connected either with a TP-1250 channel or using L-IP routers over an Ethernet IP-852 backbone. Preferably the building management system and the Internet are connected to the backbone channel as well.



New possibilities arise from the unique design feature of the L-Switch. With its 5 network ports it can directly connect 4 FT-10 channels and still leave one port available to connect to a high-speed backbone channel. In larger networks this high-speed TP-1250 backbone channel can be used to connect multiple L-Switches. The communication between the different network segments happens completely transparent to the nodes on the different segments. Continuous monitoring of the health condition of your entire network happens as a background task in the L-Switch besides routing data packets between ports. Each network port has a multi-color LED that indicates valuable status information about the network. Flashing green means network activity, flashing or steady red means trouble on this network segment, where trouble can be a traffic overload condition, noise on the network cable, etc.

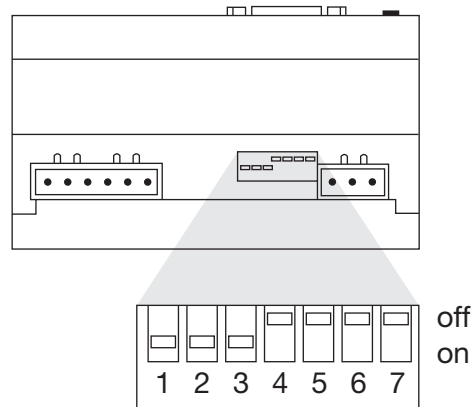


## Dip Function

DIP1	DIP2	Function
ON	ON	Smart switch mode
ON	OFF	Repeater mode
OFF	ON	Smart switch mode/ subnet learning
OFF	OFF	Configured EIA-709 router

DIP3	Function (RS-485 version only)
ON	Bit-rate auto detection on
OFF	Bit-rate auto detection off

DIP4	Must be OFF
DIP5	Must be OFF
DIP6	Must be OFF
DIP7	Must be OFF



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