

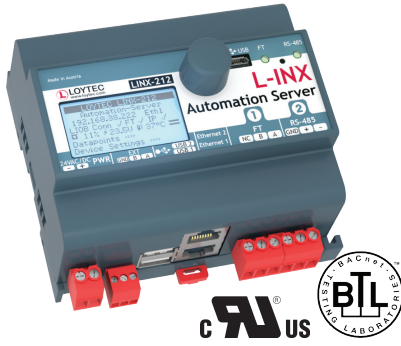
L-INX Automation Server

LINX-212, LINX-213



- ✓ BACnet
- ✓ Modbus
- CEA-709
- ✓ M-Bus
- ✓ KNX
- ✓ OPC

Datasheet #89034918



The L-INX Automation Servers LINX-212 and LINX-213 (successors of LINX-210, LINX-211) are programmable automation stations with integrated graphical visualization for central automation tasks in BACnet networks. They can integrate physical I/Os through L-IOB I/O Modules via LIOB-Connect, LIOB-FT, or LIOB-IP. Local operation and override is provided by the built-in jog dial and the backlight display (128x64 pixels). Device and data point information is shown on the display via symbols and in text format.

BACnet can be integrated via BACnet/IP or BACnet MS/TP. In addition, the Automation Servers provide connectivity to concurrently integrate KNX, Modbus, and M-Bus and connect as a gateway data points of different technological origin. Optionally, mathematical objects can be applied within a connection to calculate the data point output values depending on the formula used. Depending on the type, the Automaton Servers feature a BACnet/IP router including BBMD as well as Slave-Proxy functionality (LINX-213). LINX-212 and LINX-213 are BTL certified as B-BC (BACnet Building Controller).

The gateway functionality allows data communication between all communication technologies available on the device. Different technology data points are mapped through Local Connections on the device. The mapping of different technology data points on distributed devices is supported by Global Connections. L-INX Automation Servers also support Smart Auto-Connect™ – the automatic generation of connections to substantially reduce engineering efforts and cost. All technology data points are automatically created as OPC XML-DA and OPC UA data points.

Each L-INX Automation Server is equipped with two Ethernet ports. It can either be configured to use the internal switch to interconnect the two ports or every port is configured to work in a separate IP network.

When the Ethernet ports are configured for two separate IP networks, one port can be connected for instance to a WAN (Wide Area Network) with enabled network security (HTTPS) while the second port can be configured to be connected to an insecure network (LAN) where the standard building automation protocols like BACnet/IP, LON/IP, or Modbus TCP are present. These devices also feature fire-wall functionality of course to isolate particular protocols or services between the ports.

Using the internal switch, a daisy chained line topology of up to 20 devices can be built, which reduces costs for network installation. The IP switch also allows the setup of a redundant Ethernet installation (ring topology), which increases reliability. The redundant Ethernet topology is enabled by the Rapid Spanning Tree Protocol (RSTP), which is supported by most managed switches.

The L-INX devices provide fully featured AST™ functionality (Alarming, Scheduling, and Trending) and can be integrated perfectly into the L-WEB System.

Features

- IEC 61131-3 programmable with L-LOGICAD
- Math objects to execute mathematical operations on data points
- Programmable with L-STUDIO (requires L-STUDIO-LINX license)
- Stores customized graphical pages
- Extension with physical inputs and outputs using L-IOB I/O Modules (LIOB-10x, LIOB-15x, and LIOB-55x)
- Visualization of customized graphical pages through LWEB-900 (Building Management), LWEB-803 (Monitoring and Control), or LWEB-802 (Web Browser)
- 128x64 graphic display with backlight
- Built-in OPC XML-DA and OPC UA server
- Local and remote access to information about device status and data points
- Dual switched or separated Ethernet ports
- Manual operation using the jog dial or VNC client
- Access to network statistics
- Alarming, Scheduling, and Trending (AST™)
- Compliant with ANSI/ASHRAE 135-2012 and ISO 16484-5:2012 standard
- Event-driven e-mail notification

- Supports BACnet MS/TP or BACnet/IP
- BACnet Client Function (Write Property, Read Property, COV Subscription)
- BACnet Client Configuration with configuration tool (scan and EDE import)
- B-BC (BACnet Building Controller) functionality, BTL certified
- Integrated BACnet/IP to BACnet MS/TP Router including BBMD as well as Slave-Proxy functionality (LINX-213 only)
- KNXnet/IP, connection to KNX TP1 through LKNX-300 Interface
- M-Bus Master according to EN 13757-3, connection via optional M-Bus Converter (L-MBUS20 or L-MBUS80)
- Modbus TCP and Modbus RTU (Master or Slave)
- Gateway functions including Smart Auto-Connect™
- Integrated web server for device configuration and monitoring data points
- Configurable via Ethernet/IP
- Connection to EnOcean wireless devices via LENO-80x Interface
- Supports SMI (Standard Motor Interface) through LSMI-80x
- Supports WLAN through LWLAN-800 Interface
- Stores user-defined project documentation

Specifications

Dimensions (mm)	107 x 100 x 75 (L x W x H), DIM045		
Installation	DIN rail mounting following DIN 43880, top hat rail EN 50022		
Power supply	12 – 35 VDC / 12 – 24 V AC ±10 %, typ. 2.5 W		
Operating conditions	0 °C to 50 °C, 10 – 90 % RH, non condensing, degree of protection: IP40, IP20 (terminals)		
Interfaces	2 x Ethernet (100Base-T): OPC XML-DA, OPC UA, BACnet/IP*, LIOB-IP, KNXnet/IP, Modbus TCP (Master or Slave), HTTP, FTP, SSH, HTTPS, Firewall, VNC, SNMP	1 x LIOB-FT 1 x EXT: M-Bus, Master EN 13757-3 (needs L-MBUS20 or L-MBUS80) or KNX TP1 (needs LKNX-300) or SMI (needs LSMI-800)	
	1 x LIOB-Connect 1 x RS-485 (ANSI TIA/EIA-485): BACnet MS/TP* or Modbus RTU (Master or Slave)	2 x USB-A: WLAN (needs LWLAN-800), EnOcean (needs LENO-80x) SMI (needs LSMI-804)	
	<i>LINX-212: * Either BACnet/IP or BACnet MS/TP</i> <i>LINX-213: * Router between BACnet/IP and BACnet MS/TP</i>		
L-IOB I/O Modules	Up to 8 L-IOB I/O Modules in any combination of type LIOB-10x, LIOB-15x, and LIOB-55x		
BACnet/IP Router	1 (LINX-213 only)		
Program cycle time	Down to 10 ms		
Programming, Tools	L-LOGICAD software (IEC 61131-3), L-INX Configurator		

Resource limits

Total number of data points	10 000	Alarm logs	10
OPC data points	2 000	M-Bus data points	1 000
BACnet objects	750 (analog, binary, multi-state)	Modbus data points	2 000
BACnet client mappings	750	KNX TP1 data points	250
BACnet calendar objects	25	KNXnet/IP data points	250
BACnet scheduler objects	100 (64 data points per object)	Connections (Local / Global)	1 000 / 250
BACnet notification classes	32	Number of L-WEB clients	32 (simultaneously)
Trend logs (BACnet or generic)	256 (4 000 000 entries, ≈ 60 MB)	L-IOB I/O Modules	8
Total trended data points	256	Number of EnOcean devices	25
E-mail templates	100	EnOcean data points	250
Math objects	100	SMI devices (per channel)	16

L-INX Automation Server

LINX-212, LINX-213

Order number	Product description
LINX-212	BACnet Automation Server, B-BC, IEC 61131-3 programmable
LINX-213	BACnet Automation Server, B-BC, IEC 61131-3 programmable, built-in BACnet/IP to MS/TP Router
LINX-START-M	Starter kit: 1 x LINX-11x/21x, 2 x L-IOB I/O Module, 1 x LPOW-2415A, and L-LOGICAD software license
L-STUDIO-LINX	Single license to activate L-STUDIO runtime on LINX 11x/21x
L-LOGICAD-USB	IEC 61131-3 programming tool, single license, includes USB dongle
L-STUDIO	L-ROC programming and configuration software
LIOB-100	LIOB-Connect I/O Module: 8 UI, 2 DI, 2 AO, 9 DO (5 x Relay 6 A, 4 x Triac 0.5 A)
LIOB-101	LIOB-Connect I/O Module: 8 UI, 16 DI
LIOB-102	LIOB-Connect I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)
LIOB-103	LIOB-Connect I/O Module: 6 UI, 6 AO, 5 DO (5 x Relay 16 A)
LIOB-150	LIOB-FT I/O Module: 8 UI, 2 DI, 2 AO, 8 DO (4 x Relay 6 A, 4 x Triac 0.5 A)
LIOB-151	LIOB-FT I/O Module: 8 UI, 12 DI
LIOB-152	LIOB-FT I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)
LIOB-153	LIOB-FT I/O Module: 6 UI, 6 AO, 5 DO (4 x Relay 16 A, 1 x Relay 6 A)
LIOB-154	LIOB-FT I/O Module: 7 UI, 4 AO, 7 DO (5 x Relay 6 A, 2 x Triac 0.5 A), 1 Pressure Sensor
LIOB-550	LIOB-BIP I/O Module: 8 UI, 2 DI, 2 AO, 8 DO (4 x Relay 6 A, 4 x Triac 0.5 A)
LIOB-551	LIOB-BIP I/O Module: 8 UI, 12 DI
LIOB-552	LIOB-BIP I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)
LIOB-553	LIOB-BIP I/O Module: 6 UI, 6 AO, 5 DO (4 x Relay 16 A, 1 x Relay 6 A)
LIOB-554	LIOB-BIP I/O Module: 7 UI, 4 AO, 7 DO (5 x Relay 6 A, 2 x Triac 0.5 A), 1 Pressure Sensor
LPOW-2415A	LIOB-Connect power supply unit, 24 VDC, 15 W
LPOW-2415B	Power supply unit with power connector 24 VDC, 15 W
L-MBUS20	M-Bus level converter for 20 M-Bus devices
L-MBUS80	M-Bus level converter for 80 M-Bus devices
LKNX-300	KNX interface to connect KNX TP1 devices
LENO-800	EnOcean Interface 868 MHz Europe
LENO-801	EnOcean Interface 902 MHz USA/Canada
LENO-802	EnOcean Interface 928 MHz Japan
LWLAN-800	Wireless LAN Interface IEEE 802.11bgn
LSMI-800	Standard Motor Interface for 16 motors via EXT port
LSMI-804	Standard Motor Interface for 64 motors, 4 SMI channels via USB