



L-STUDIO 3

L-STUDIO is the ultimate development and integration platform for programmable LOYTEC controllers, such as the L-INX automation servers, L-ROC room control system or programmable visualization solutions such as the LPAD-7. It combines the major building automation disciplines -programming, communication, and visualization - into a single tool. Together with the LWEB-900 building management system, it covers all phases of building automation, from prototyping to programming, configuration, and maintenance.

Achieving the highest levels of energy-efficiency and room comfort is only possible by forging all conventional controls into a single integrated building automation application. L-STUDIO helps to develop these applications in a timely and cost-effective manner. Template-based prototyping, reusable libraries and integrated testing tools support the project engineer's efforts.

Programming

L-STUDIO speaks your language, ranging from the industry-proven PLC language IEC 61131 and its event-based successor IEC 61499 up to modern IoT applications using Node.js and Node-RED.

Using the cycle-based IEC 61131 language, classic applications such as boiler plants, air handling units or heating/cooling circuits can be easily automated. The LOYTEC building automation library already contains many sample applications that can be used as starting point for your application.

Room control applications can be implemented using the LOYTEC L-ROC room automation library. It provides an integrated solution for HVAC, lighting, and sunblinds solution as well as many other functions required in the modern living space. The room automation library uses the IEC 61499 event-based language to create low-latency and fully networked applications that eliminate the need for classical network integration.

Communication

In L-STUDIO logic blocks, called CATs, can contain technology objects, such as BACnet objects or OPC tags as templates. Data points are then automatically created when a CAT is instantiated on a device. This makes the creating of network interfaces of different technologies almost automatic. A CAT can also contain technology level objects, such as alarms, schedules or trends which are also automatically instantiated and linked to the logic program. The L-STUDIO CATs support all LINX automation server technologies: BACnet, OPC XML/DA, Bluetooth, DALI, EnOcean, SMI, CEA-709, KNX, Modbus, M-Bus and will support future technologies yet to come.

State-of-the-art buildings require Internet of Things services, such as public transport information, office booking systems or building information systems. These can be integrated using Node.JS or Node-RED. Their integration allows classical PLC programming to be combined with latest web technologies.

Visualization

L-STUDIO CATs can also contain graphical symbols. These visualize the data points of the CAT and represent the logic object in a graphical way, such as a pump diagram, a room overview, or an entire plant display.

These symbols can be combined into graphical projects that can be used on L-VIS or L-PAD devices. The graphical projects can also be used on a PC with LWEB-802/803 or on mobile devices using the LWEB-APP. All visualizations are fully editable by the user and support all features of the L-VIS technology.

Management

L-STUDIO projects can be imported into LWEB-900. All devices and graphical views are imported automatically. The parameter views of LWEB-900 allow to configure

and optimize the devices that have been created by L-STUDIO. The graphical views can be used in LWEB-900 together with the access control functions to provide the building maintainers and end-users with a secure and consistent interface to the building.

L-STUDIO provides documentation and versioning features to keep track of the project. All library blocks can be documented in HTML-style. Libraries can also be versioned, distributed in binary form or managed in a source versioning tool to track and document changes.

Supported programmable controllers

Controller	Programmable with L-STUDIO (IEC 61499)	Programmable with L-STUDIO (IEC 61131-3)
LINX-153, LINX-154	■	■
LINX-215	■	■
LROC-400, LROC-401, LROC-402, LROC-102	■	-
LIOB-585, LIOB-586, LIOB-587, LIOB-588, LIOB-589	■	■
LIOB-590, LIOB-591, LIOB-592, LIOB-593, LIOB-594, LIOB-595, LIOB-596	■	■
LDALI-PLC2, LDALI-PLC4	■	■
LPAD7-31G2, LPAD7-31G3, LPAD7-41G2, LPAD7-41G3	■	■

Supported configurable devices

Device
LDALI-3E101-U, LDALI-3E102-U, LDALI-3E104-U
LDALI-ME201-U, LDALI-ME202-U, LDALI-ME204-U
LGATE-902, LGATE-952
LINX-102, LINX-103, LINX-202, LINX-203
LPAD7-30G2, LPAD7-30G3
LVIS-3ME7-G1, LVIS-3ME7-G2
LVIS-3ME12-A1, LVIS-3ME15-A1
LVIS-3ME15-G1, LVIS-3ME15-G2, LVIS-3ME15-G3