

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

## LVIS7-32Gx / LVIS12-32Gx / LVIS15-32Gx

Datasheet #89096702



L-VIS Touch Panels for BACnet, LonMark, and Modbus networks are ideally suited for visualization and operation of various applications in building automation. L-VIS Touch Panels visualize building systems, can be used as room operator panels, in hospital operation or isolation rooms, conference and reception areas. The fully customizable user screens can show dynamic pages that are easy to navigate.

L-VIS impresses with its timeless design, harmonic integration into modern and historical architecture, and with its extremely user friendly concept. The shallow installation depth and low thermal power loss allow mounting in almost any location.

### Different Sizes

L-VIS Touch Panels are available in the following variations:

LVIS7-32Gx	7" Touch Display	1024 x 600	16.7 million colors
	Frameless glass front and capacitive touch		
LVIS12-32Gx	12.1" Touch Display	1024 x 768	16.7 million colors
	Frameless glass front and capacitive touch		
LVIS15-32Gx	15" Touch Display	1024 x 768	16.7 million colors
	Frameless glass front and capacitive touch		

### IoT Integration

The IoT function (Node.js) allows connecting the system to almost any cloud service, either for uploading historical data to analytics services, telemetry using MQTT, delivering alarm messages to alarm processing services or operating parts of the control system over a cloud service (e.g., scheduling based on Web calendars or booking systems). Processing Internet information such as weather data in forecast-based control is also possible. Finally, the JavaScript kernel also allows implementing serial protocols to non-standard equipment in primary plant control.

### Dynamic Graphical Pages

The graphical pages may consist of multiple dynamic graphical controls that show the current plant status in real time. It is also possible to access decentralized schedules, alarm servers, or trends. The graphical projects are designed with the L-PAD/L-VIS/L-WEB configuration tool free of charge. Without any know-how in HTML or Java, user specific graphical pages can be created. Dynamic information is shown through value or text controls, changing symbols, bar charts, trend views, alarm and event lists, or schedule controls. The L-PAD/L-VIS/L-WEB configuration tool allows for using most of the pixel graphic formats (GIF, JPG, BMP, TIFF, PNG, APNG, MNG, ICO), vector graphics (SVG) and alpha blending.

### Playback of Multimedia Content

The L-VIS Touch Panel offers extensive capabilities for displaying a variety of audio/video formats and streams. The playback of stereo audio files, and streams (e.g. webradio,) is started or stopped by the respective action object. The playback of video files (e.g. reception area information) or streams (e.g. webcams) is implemented via webcam controls.

### Integration with L-STUDIO

L-VIS Touch Panels integrate seamlessly into the L-STUDIO platform. At the touch of a button, compatible projects can be deployed and managed. This significantly reduces engineering time and cost.

## L-VIS Touch Panel

# LVIS7-32Gx / LVIS12-32Gx / LVIS15-32Gx



### Connectivity and Data Points

The L-VIS Touch Panels support connectivity to BACnet networks and LonMark systems. In addition, the Touch Panels provide communication to Modbus either as Master or Slave. For this purpose, Modbus TCP is supported exclusively and Modbus RTU is available via the RS-485 terminal.

BACnet networks are connected via BACnet/IP, BACnet/SC or BACnet MS/TP. The L-VIS Touch Panels implement the BACnet Building Controller (B-BC) profile and are BTL certified. They include a fully featured built-in BACnet/IP, BACnet/SC to MS/TP router with BBMD (BACnet Broadcast Management Device) and slave proxy functionality.

L-VIS Touch Panels communicate with LonMark Systems via IP-852 (Ethernet/IP) or TP/FT-10 channels. The integrated remote network interface (Ethernet/IP) provides remote access to the TP/FT-10 channel for configuration, service and maintenance purposes.

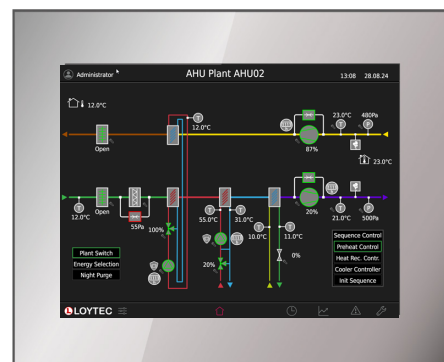
Math objects can calculate any kind of formula using data points available on the device.

L-VIS devices are equipped with two Ethernet ports. They 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 used. These devices also feature firewall functionality 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-VIS devices provide fully featured AST™ functionality (Alarming, Scheduling, and Trending) and can be integrated perfectly into the L-WEB Building Management System.



## Features

- High resolution IPS touch display with dimmable backlight
- Frameless glass front and capacitive touch
- Flush-mounting in combination with the mounting frame
- Stores customized graphical pages
- Visualization of customized graphical pages through built-in touch panel, LWEB-900 (building management), and LWEB-802/803
- Device configuration and graphical page creation with the L-PAD/L-VIS/L-WEB configuration tool free of charge
- Supports all popular graphic file formats such as GIF, JPG, BMP, TIFF, PNG, APNG, MNG, ICO
- Support of SVG vector graphics
- Supports alpha blending
- Supports popular font types such as TrueType, Type-1, BDF, PCF, and OTF
- Supports Unicode text and complex writing systems
- Built-in OPC UA and OPC XML-DA server
- Built-in OPC XML-DA client
- Dual Ethernet/IP interface
- Alarming, Scheduling, and Trending (AST™)
- Node.js support for easy IoT integration (e.g. Google calendar, MQTT, Alexa & friends, multimedia equipment,...)
- Event-driven e-mail notification
- Math objects to execute mathematical operations on data points
- Compliant with CEA-709, CEA-852, and ISO/IEC 14908 Standard (LonMark System)
- Supports CEA-709 TP/FT-10 or IP-852 (Ethernet/IP)
- Remote Network Interface (RNI) with 2 MNI devices
- Compliant with ANSI/ASHRAE 135-2012 and ISO 16484-5:2012 standard
- Supports BACnet/IP, BACnet/SC and BACnet MS/TP
- BACnet Client Function (Write Property, Read Property, COV Subscription)
- BACnet Client Configuration with configuration tool (scan and EDE import)
- B-BC (BACnet Building Controller), BTL certified
- Integrated BACnet/IP, BACnet/SC to BACnet MS/TP Router
- BBMD (BACnet Broadcast Management Device)
- Modbus TCP and Modbus RTU (Master or Slave)
- Integrated web server for device configuration and monitoring data points
- Integrated browser to show simple web pages
- Access to network statistics
- Configurable via Ethernet/IP or TP/FT-10
- Playback of audio files and streams
- Supports LTE through LTE-800 interface
- Supports WLAN through LWLAN-800 interface
- Integrated real-time clock (10-day power-reserve)
- PoE Class 4 powered device (IEEE 802.3af)
- Supports VPN



Specifications			
Type	LVIS7-32Gx	LVIS12-32Gx	LVIS15-32Gx
Screen size	7" (178 mm)	12.1" (307 mm)	15" (381 mm)
Dimensions (mm)	223.5 x 162 x 66 (L x W x H), DIM002	333 x 272.5 x 67.1 (L x W x H), DIM003	394 x 318 x 67.1 (L x W x H), DIM004
Dimensions cut-out (mm)	195 x 143 x 61 (L x W x H)	300 x 250 x 61 (L x W x H)	354 x 295 x 61 (L x W x H)
Display resolution	IPS, 1024 x 600, 16.7 million colors, 500 cd/m <sup>2</sup>	IPS, 1024 x 768, 16.7 million colors, 700 cd/m <sup>2</sup>	IPS, 1024 x 768, 16.7 million colors, 350 cd/m <sup>2</sup>
Interfaces	2 x Ethernet (100Base-T), switched or separated networks: OPC UA (server) and OPC XML-DA (server, client), LonMark IP-852, BACnet/ IP, BACnet/SC, Modbus TCP (Master or Slave), HTTP, FTP, SSH, HTTPS, SMTP, NTP, VNC, VPN 1 x TP/ FT-10 1 x RS-485 (ANSI TIA/ EIA-485): BACnet MS/ TP or Modbus RTU/ASCII (Master or Slave) 2 x Digital Input 2 x USB-A: LTE (needs LTE-800), WLAN (needs LWLAN-800) 2 x Internal Speakers 1 x Audio Output (3.5 stereo jack socket)		
Remote Network Interface	1 RNI with 2 MNI devices		
Real-time clock	Powered by rechargeable capacitor, 10-day power reserve		
Power supply	PoE class 4, 24 V DC $\pm$ 10 %, standby 3.6 W normal use 4.1 W, full load 8 W 85-240 V AC, standby 4.2 W normal use 5.4 W, full load 9.2 W	PoE class 4, 24 V DC $\pm$ 10 %, standby 3.9 W normal use 7.2 W, full load 13 W 85-240 V AC, standby 5.1 W normal use 8.2 W, full load 14.6 W	PoE class 4, 24 V DC $\pm$ 10 %, standby 5.8 W normal use 11 W, full load 18 W 85-240 V AC, standby 7.2 W normal use 14 W, full load 19.5 W
Operating conditions	+10 °C to 40 °C, 10-90 % RH, noncondensing		
Storage conditions	-20 °C to + 70 °C		
Degree of protection	Front: IP54 / back: IP10		
Tools	L-PAD/L-VIS/L-WEB Configurator, L-STUDIO		
Programming	Node.js, Node-RED		

Resource limits			
OPC data points	10 000	BACnet calendar objects	25
Modbus data points	2 000	BACnet scheduler objects	200 (64 data points per object)
VNC clients	16	BACnet notification classes	32
Network variables (NVs)	1 000	E-mail templates	100
Alias NVs	1 000	Math objects	2 000
Address table entries	524 (non-ECS mode: 15)	Alarm logs	100
LonMark Calendars	1 (100 calendar patterns)	Trend logs	512 (4 000 000 entries, $\approx$ 60 MB)
LonMark Schedulers	200	Total trended data points	512
LonMark Alarm Servers	1	Connections (Local/Global)	2 000/250
BACnet server objects	1 000	Number of L-WEB clients	32 (simultaneously)

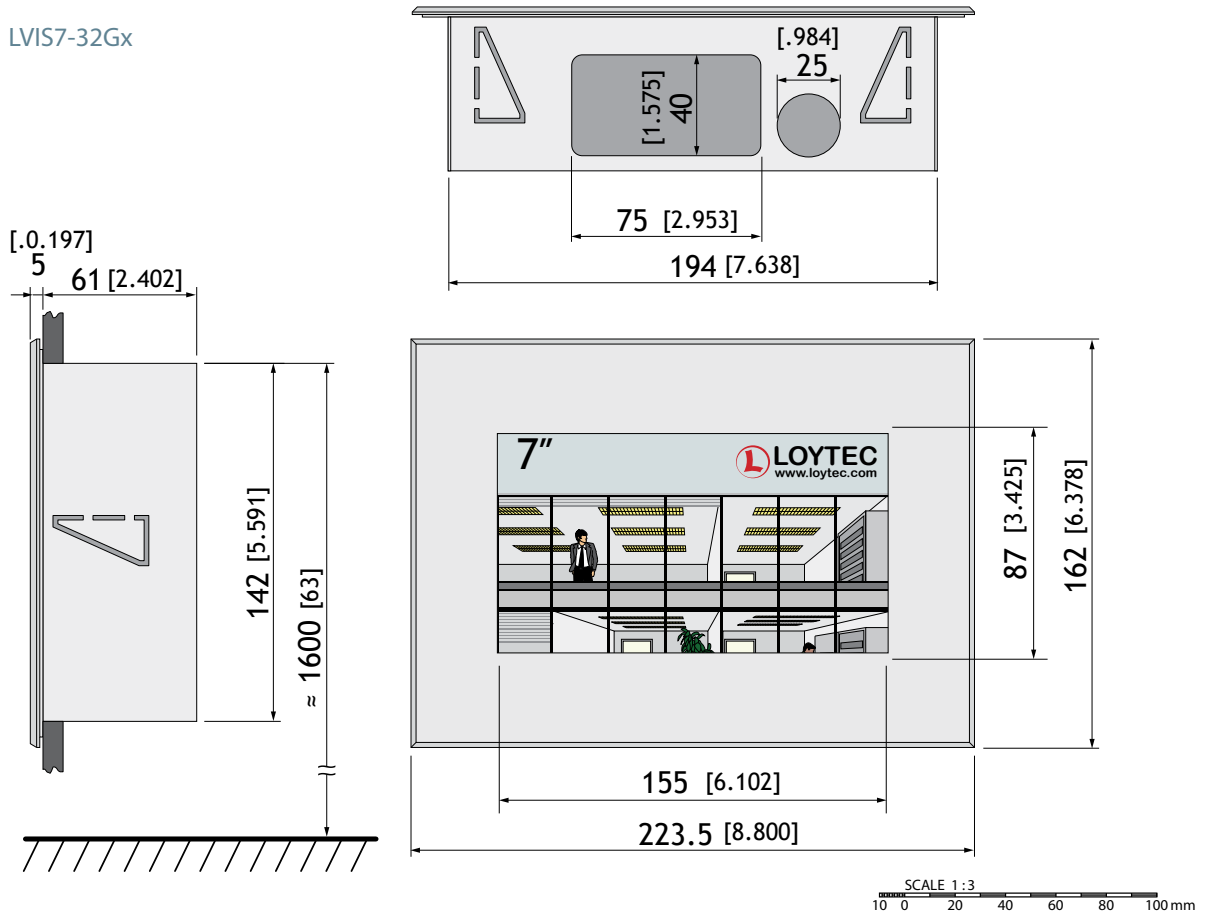
## LVIS7-32Gx / LVIS12-32Gx / LVIS15-32Gx

Order number	Product description
LVIS7-32G1	BACnet, CEA-709, and Modbus Touch Panel 7", frameless glass front and capacitive touch, silver
LVIS7-32G2	BACnet, CEA-709, and Modbus Touch Panel 7", frameless glass front and capacitive touch, black
LVIS12-32G1	BACnet, CEA-709, and Modbus Touch Panel 12", frameless glass front and capacitive touch, silver
LVIS12-32G2	BACnet, CEA-709, and Modbus Touch Panel 12", frameless glass front and capacitive touch, black
LVIS12-32G3	BACnet, CEA-709, and Modbus Touch Panel 12", frameless glass front and capacitive touch, white
LVIS15-32G1	BACnet, CEA-709, and Modbus Touch Panel 15", frameless glass front and capacitive touch, silver
LVIS15-32G2	BACnet, CEA-709, and Modbus Touch Panel 15", frameless glass front and capacitive touch, black
LVIS15-32G3	BACnet, CEA-709, and Modbus Touch Panel 15", frameless glass front and capacitive touch, white
LVIS-FRAME7	Mounting frame for 7" Touch Panels (LVIS7-32Gx / LVIS-3ME7)
LVIS-FRAME12	Mounting frame for 12.1" Touch Panels (LVIS12-32Gx / LVIS-3ME12)
LVIS-FRAME15	Mounting frame for 15" Touch Panels (LVIS15-32Gx / LVIS-3ME15)
LVIS-ONWALL7	Mounting frame side cover for LVIS-FRAME7
LVIS-ONWALL12	Mounting frame side cover for LVIS-FRAME12
LVIS-ONWALL15	Mounting frame side cover for LVIS-FRAME15
LVIS-MNTKIT-U	L-VIS Mounting Kit Universal (LVIS-FRAMEx not included)
LWLAN-800	Wireless LAN Interface IEEE 802.11bgn
LTE-800	LTE Interface
LVIS-STAND7	Demo stand for 7" Touch Panels (LVIS7-32Gx / LVIS-3ME7)
LVIS-STAND12	Demo stand for 12.1" Touch Panels (LVIS12-32Gx / LVIS-3ME12)
LVIS-STAND15	Demo stand for 15" Touch Panels (LVIS15-32Gx / LVIS-3ME15)

# Dimensions of the devices in mm and [inch]

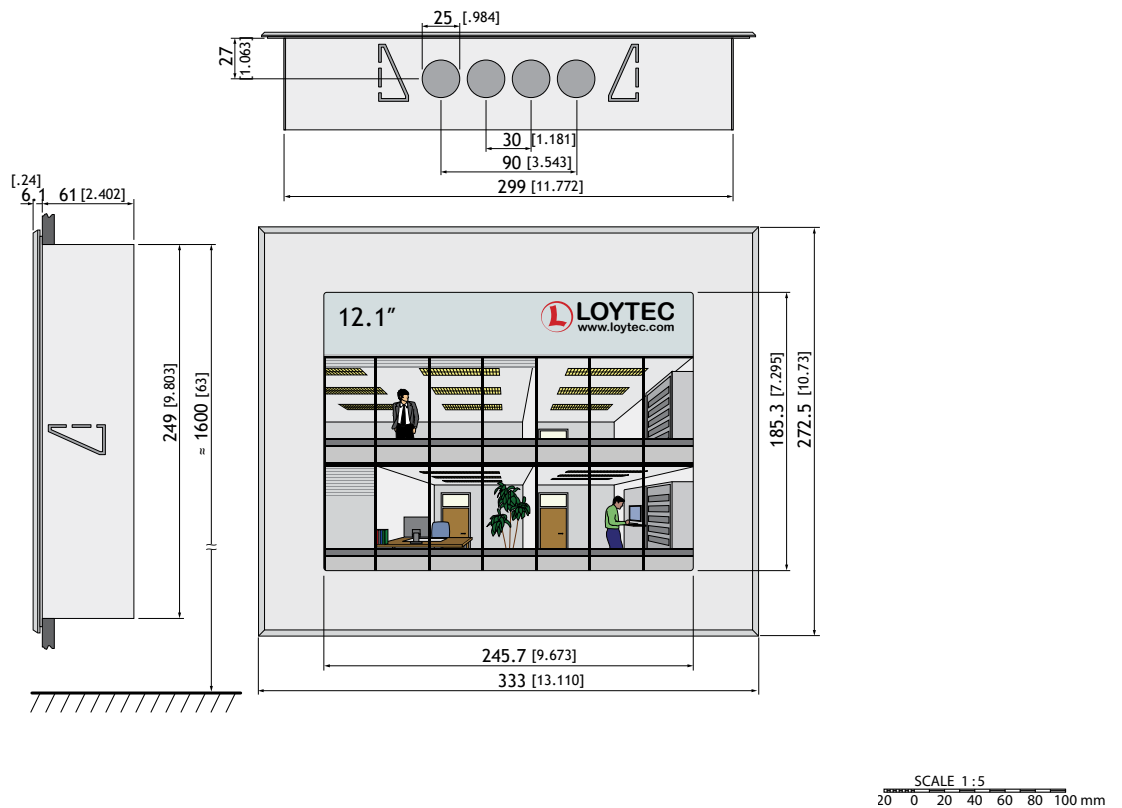
## DIM002

LVIS7-32Gx



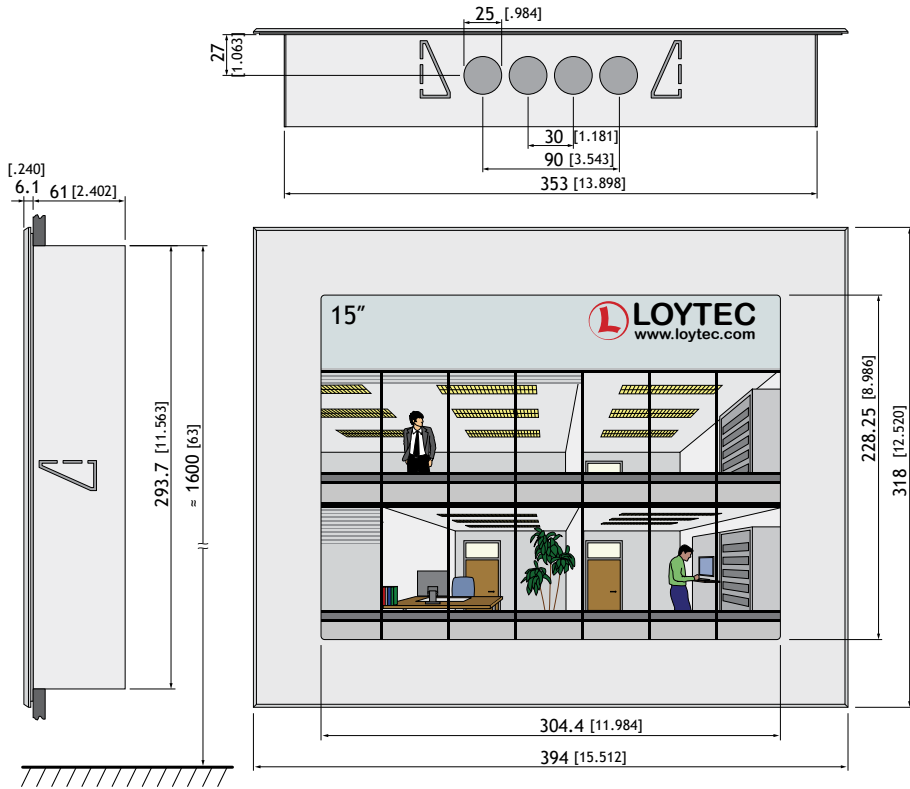
## DIM003

LVIS12-32Gx



# Dimensions of the devices in mm and [inch]

**DIM004** LVIS15-32Gx



SCALE 1:5  
20 0 20 40 60 80 100 mm

The products of LOYTEC electronics GmbH are subject to constant development. Therefore, LOYTEC reserves the right to modify technical specifications at any time without prior notice. The most recent datasheet can be downloaded from [www.loytec.com](http://www.loytec.com).