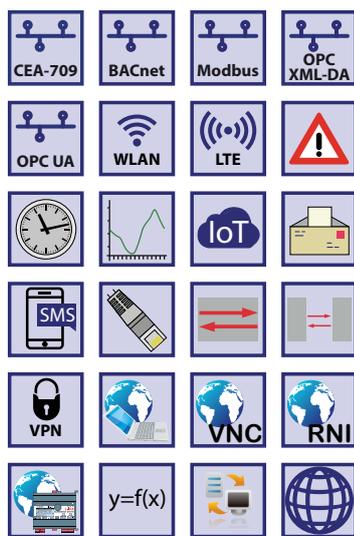


L-VIS Touch Panel

LVIS-3ME7-Gx/3ME12-A1/3ME15-A1/3ME15-Gx

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

Datasheet #89033423



L-VIS Touch Panels for LonMark, BACnet, 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 Touch Panels make use of an extremely low power embedded controller platform and operating system. This makes L-VIS resistant against problems when re-booting after power outage and also against any viruses.

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:

LVIS-3ME7-Gx	7" Touch Display Frameless glass front and capacitive touch	800 x 480	262 144 colors
LVIS-3ME12-A1	12.1" Touch Display Aluminum frame with anodized finish	800 x 600	262 144 colors
LVIS-3ME15-A1	15" Touch Display Aluminum frame with anodized finish	1024 x 768	262 144 colors
LVIS-3ME15-Gx	15" Touch Display Frameless glass front and capacitive touch	1024 x 768	262 144 colors

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-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-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 Audio Files and Streams

The L-VIS Touch Panel supports the playback of stereo MP3, WAV, and MP3 streams (for example webradio). The playback will be started or stopped by the respective action object. The action object is linked to one of the available audio files or to the URL of an MP3 stream. When accessing a playback via LWEB-802 or LWEB-803, it will be executed locally on the client.

Automatic Page Generation

Pages including data point names and values, alarm views, schedules, or trends can be created automatically by the L-VIS/L-WEB configuration tool. This significantly reduces engineering time and cost.

LVIS-3ME7-Gx/3ME12-A1/3ME15-A1/3ME15-Gx

Connectivity and Data Points

The L-VIS Touch Panels support connectivity to LonMark Systems and BACnet networks. 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.

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.

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.

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 TFT touch display with dimmable backlight
- Anodized aluminum front frame (LVIS-3ME12-A1, LVIS-3ME15-A1) or frameless glass front and capacitive touch (LVIS-3ME7-Gx, LVIS-3ME15-Gx)
- 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-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)
- Support of dynamically created network variables or static network variables
- Support of user-defined NVs (UNVTs) and Configuration Properties (SCPTs, UCPTs)
- 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
- Access to network statistics
- Configurable via Ethernet/IP or TP/FT-10
- Playback of audio files and streams
- Supports WLAN through LWLAN-800 Interface
- Supports LTE through LTE-800 Interface



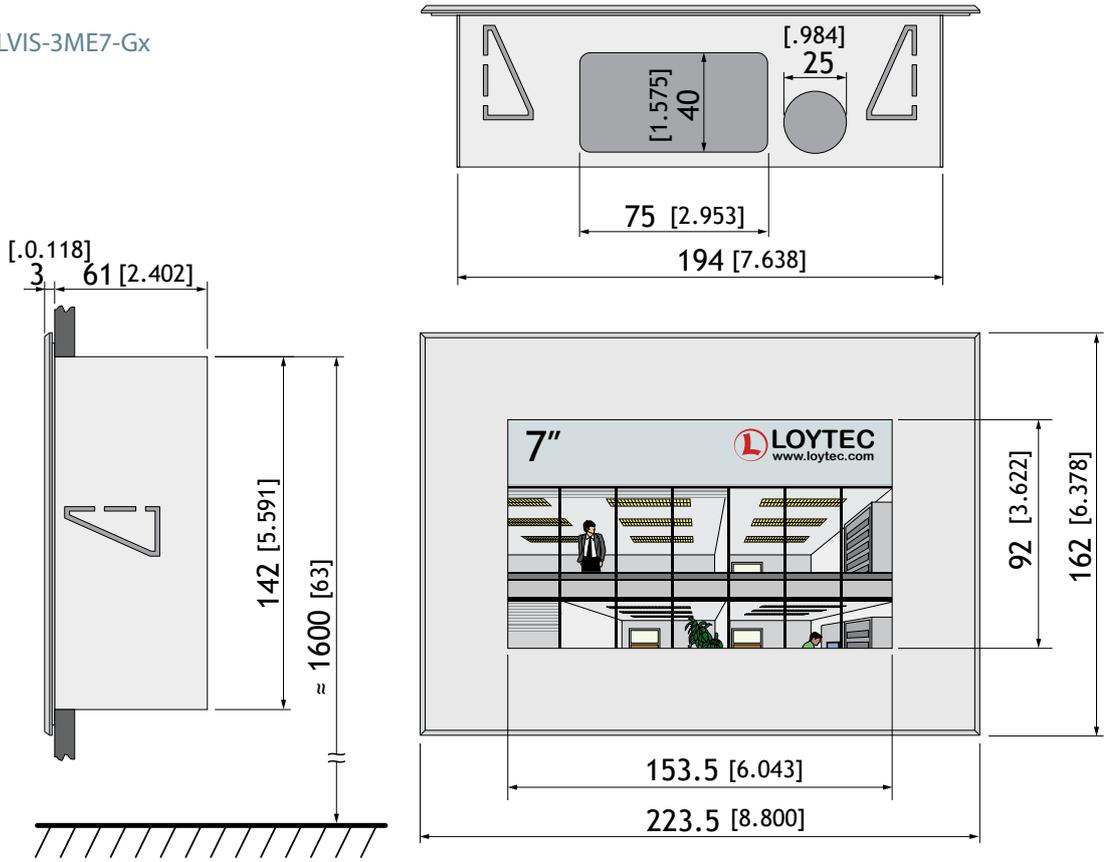
LVIS-3ME7-Gx/3ME12-A1/3ME15-A1/3ME15-Gx

Specifications			
Type	LVIS-3ME7-Gx	LVIS-3ME12-A1	LVIS-3ME15-xx
Screen size	7" (178 mm)	12.1" (307 mm)	15" (381 mm)
Dimensions (mm)	223.5 x 162 x 65 (L x W x H), DIM008	333 x 272.5 x 65 (L x W x H), DIM009	394 x 318 x 65 (L x W x H), DIM042
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	800 x 480, 262 144 colors	800 x 600, 262 144 colors	1024x 768, 262 144 colors
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: (LVIS-3ME15-Gx only 1 x USB-A) LTE (needs LTE-800), WLAN (needs LWLAN-800) 1 x USB-B (PC), speaker, audio output		
Remote Network Interface	1 RNI with 2 MNI devices		
Power supply	24 VDC \pm 10 %, 2.5 W backlight on: 5 W	24 VDC \pm 10 %, 4 W backlight on: 10 W or 85-240 V AC, 7W, backlight on: 13 W	24 VDC \pm 10 %, 4 W backlight on: 10 W or 85-240 V AC, 7W, backlight on: 13 W
Operating conditions	+10 °C to +40 °C, 10-90 % RH, noncondensing		
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)
Order number	Product description		
LVIS-3ME7-G1	CEA-709, BACnet, and Modbus Touch Panel 7", frameless glass front and capacitive touch, silver		
LVIS-3ME7-G2	CEA-709, BACnet, and Modbus Touch Panel 7", frameless glass front and capacitive touch, black		
LVIS-3ME12-A1	CEA-709, BACnet, and Modbus Touch Panel 12.1", aluminum frame with anodized finish		
LVIS-3ME15-A1	CEA-709, BACnet, and Modbus Touch Panel 15", aluminum frame with anodized finish		
LVIS-3ME15-G1	CEA-709, BACnet, and Modbus Touch Panel 15", frameless glass front and capacitive touch, silver		
LVIS-3ME15-G2	CEA-709, BACnet, and Modbus Touch Panel 15", frameless glass front and capacitive touch, black		
LVIS-3ME15-G3	CEA-709, BACnet, 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-3ME715)		
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		

Dimensions of the devices in mm and [inch]

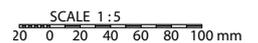
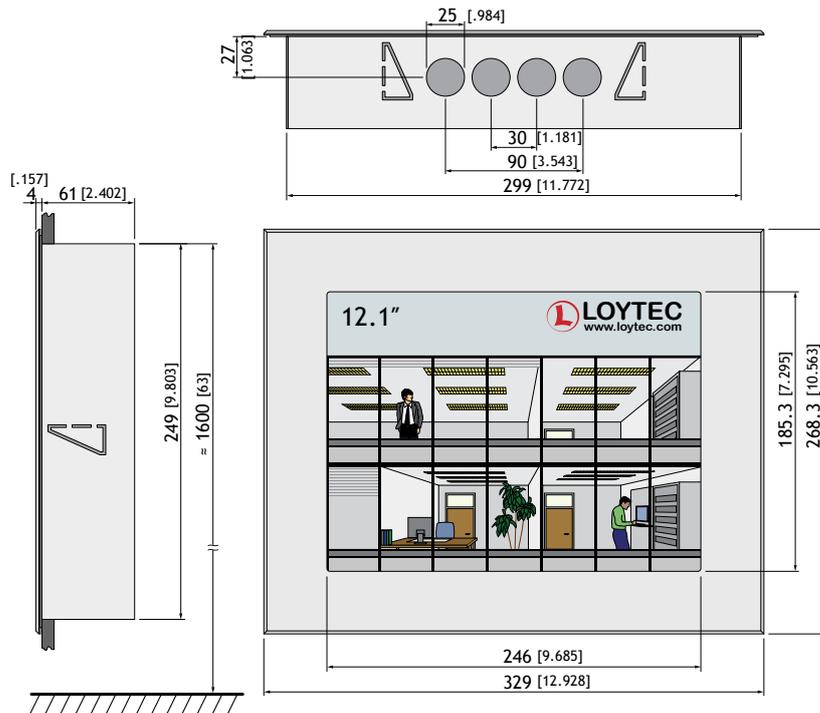
DIM008

LVIS-3ME7-Gx



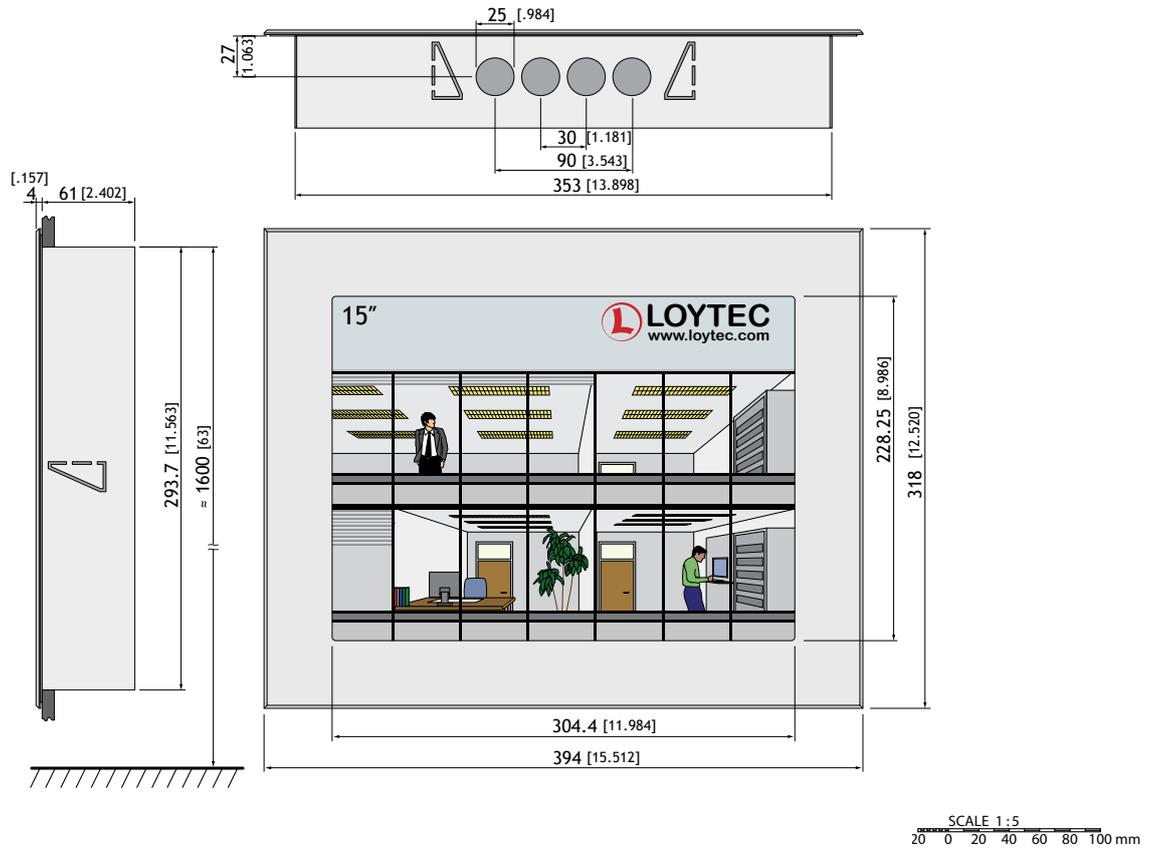
DIM009

LVIS-3ME12-A1



Dimensions of the devices in mm and [inch]

DIM042 LVIS-3ME15-xx



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.