

## LON/BACnet/Modbus Touchpanel - TOUCHLBM 24" color TFT



### operating and display unit with touch for control of room climate, lighting, sunblinds and more

FEATURES
<ul style="list-style-type: none"> <li>flexible graphical Touchpanel</li> <li>high-resolution 1920x1080 LCD TFT Display (24")/16 Mio colors</li> <li>dimmbale backlight illumination</li> <li>LON-Interface EIA-709 FTT10 (optional)</li> <li>LON-Interface CEA-852 IP (optional)</li> <li>BACnet IP and Modbus TCP Server/Client</li> <li>Modbus RTU Master/Slave, BACnet MS/TP (optional)</li> <li>4096 LON-network variables, 512 LON-address entries</li> <li>LON supported static NVs and user defined NVs (UNVTs)</li> <li>4096 BACnet objects</li> <li>4096 Modbus datapoints</li> <li>display of user defined graphics, numbers, texts, diagrams, trends and more</li> <li>visualization &amp; control of any datapoints (network variables, BACnet objects, Modbus objects, OPC)</li> <li>Scheduling, Trending, Alarming, script function for free programmability</li> <li>common mathematical calculations and functions and logical operators (Boolesche Algebra)</li> <li>remote access via VNC (Virtual Network Computing) protocol (optional)</li> <li>access control via PIN-Codes</li> <li>simple graphic creation with Software TouchMaker 4.x (free of charge)</li> <li>WYSIWYG preview at PC</li> <li>Cam supported, up to 4 streams over Ethernet with Augmented reality</li> <li>project simulation on PC with TouchMaker</li> <li>power: 24V AC or DC</li> </ul>
<p>It is very easy to display and control lighting, temperature, sunblinds and much more with TOUCHLBM series.</p> <p>It's possible to request specific scenes and to switch on/off individual devices. TOUCHLBM is working across systems, can solve operating tasks and is applicable as gateway. The integrated script functionality for free and easy programmability allows realization of complete control systems similar to a PLC.</p> <p>Create and design your individual projects with TouchMaker 4.x software (free of charge). It is fast and easy to use. The screen design can be customized with individual graphics (*.JPG, *.BMP, *.PNG, *.ICO, *.TIF, *.SVG, *.GIF). Every information can be displayed as number, symbol, bar graph or text.</p> <p>You can create a LON-, BACnet- or Modbus-project even at the same time. So it's possible to have more than one communication system in one device.</p> <p>With the VNC (Virtual Network Computing) Server TOUCHLBM supplies remote access via TCP/IP connection. The display content can be seen and operated on PC, PDA or Smartphone. Use in a Browser provides LOG File download</p>

TECHNICAL DATA	
<b>Display</b>	
type	TFT color LCD, 16Mio colors, AR coated
size	24"
viewing area (mm)	531 (w) x 299 (h)
resolution	1920 x 1080 pixel (FullHD)
touch-screen	capacitive
illumination	LED, MTF 50000 h (1/2 brightness), contrast: 5000:1 (white:black) luminosity: 260 cd/m <sup>2</sup>
<b>CPU</b>	ARM Cortex A9 max. 1.2 Ghz RTC mit Backup Batterie CR2032
<b>Memory</b>	
RAM	1 GB
FLASH	256 MB
<b>external interfaces</b>	
serial (COM1)	RS485 [3pin connector] (optional)
Ethernet	1x Ethernet (10/100BaseT, RJ45)
SD-Card (optional)	up to 32 GB (Micro SD)
LON	EIA-709 FTT10 (optional) CEA-852 IP (optional) BACnet IP / MS/TP (optional)
BACnet	BACnet IP / MS/TP (optional)
Modbus	Modbus TCP Server/Client RTU Master/Slave (optional)
<b>LON</b>	
network variables	4096
address entries	512
<b>BACnet</b>	
Kommunikationsstandard	BACnet IP / MS/TP
BACnet Objekte	4096
<b>Modbus objekts</b>	4096
<b>Elektrische Daten</b>	
power	24V AC/DC
power consumption	26W @ 24V DC (illumination on) 15W @ 24V DC (illumination off)
<b>Environment</b>	
working temperature	0 °C bis +60 °C
storage temperature	-30 °C bis +80 °C
lumidity	max. 85 % RH, not condensing
<b>physical data</b>	
IP	IP52 (front)   IP20 (back)
weight	5,1 kg (without framing)
external dimensions (mm)	605 (w) x 373 (h) x 75 (d)

BESTELLDATEN		OPTIONEN	
TLBM-240-UP-SI	TOUCHLBM 24" in-wall-type, design Alu, standard	TLBM-LONIP	LON IP interface
TLBM-240-UP-CC	TOUCHLBM 24" in-wall-type, customized design	TLBM-LONFT	LON FTT interface
		TLBM-RS485	RS 485 interface
		TLBM-VNC	remote access
		PROG	creation TouchMaker customer project
TLBM-TM-4.x	TouchMaker 4.x - Software (free of charge)		

Der Einbau darf nur in Schaltschränken bzw. isolierten Untergründen ohne PE-Anschluss erfolgen! Anderenfalls ist dies bei Bestellung explizit anzugeben!



## TOUCHLBM 24"/15"/5,7"/3,5" color TFT - functions

**General functions**

- max. **1024 screens** available, objects are free placeable in 90° steps rotatable
- color mapping via fore-/background color, transparency modus
- predefined function for numeric value input (NUM BLOCK) and for **text input** via qwerty keyboard
- automatic **dim function** (256 steps) of background illumination with free time edit control
- automatic **screen saver function** with 8 predefined screen savers (e.g. DIA modus) and free time edit control
- automatic screen changing with free time edit control
- switchable **button sound**, tone output and tone pitch via script controllable
- switchable **screen fading** at screen changing
- viewing angle: 0° or 180° (6'00/12'00) switchable via software -> 180° mounting possible, site angle 70° (all sites)
- all objekts in 90° steps rotatable, vertical mounting possible
- screen selection via password defendable, **password protection: per screen (8 levels)**
- max. 512 backgrounds with a color bit depth of 262144 colors (5,7"+7" TOUCHLBM) and 16Mio colors (10"/15"/24" TOUCHLBM)
- a lot of predefined fonts, every font is invertible/scalable
- project download via Ethernet by FTP possible

**Touch**

- free creation/position of **touch buttons**; buttons can highlighted with pictures or animated pictures.  
repeating key, types of key: On-Off, changing, button. "invisible" button definable
- status normal + pressed + disabled per button with different visual indicator via change in value switchable
- **multifunction**, e.g. value assignment to data point and onscreen changing, value assignment to data point (LON variable) or internal memory cell, value assignment data point to data point or from internal memory cell to data point, integrated computation- and comparing functions.
- **bargraph** with color changing and touch function

**LON/BACnet/Modbus**

- creation of LON network variables, BACnet objects, Modbus objects
- **LON SNVT** variables and **UNVT** (Uservar) useable.  
Import function of external XIF files for automatic creation of network variables with automatic reversal of the direction. XIF Export function.

**Scheduling**

- **scheduler** with logic function and automatic timer, max. 64 scheduler á 64 switching times á 64 functions, switching time with day/week function, switching time + functions assignment are changeable online on the touch-panel!

**Calendar**

- **calendar function** year 1980-2099, 64 calendar (assigned to scheduler) range: single days, week, weekend, automatic repeating, calendar are changeable online on the touch-panel!

**Alarming**

- 32 alarms with each 16 terms

**Trending**

- **trend log**, 16 samplings á 16 samples (max 16MB/sampling), optional on SD card
- diagram-/trend-show functions on touch-panel with history, 3 predefined diagram types, up to 16 values in one diagram indicated

**Graphic**

- graphics scalable, transparency mode, import function of graphics in **file format bmp, png, jpg, gif, ico, svg** with automatic scaling
- **animation function** for graphical object animation with event control
- function for **event controlled graphic state change**
- modification of background picture/skin during operation
- use of True Type Fonts (static text elements with all available fonts in Windows)

**Script**

- **script function** for free programmability, event- or time controlled (periodical) script implementation, implementation local (in actual screen) or global
- basic commands: IF..THEN..ELSE, LOOP, reading memory/writing/copying, sound output, screen changing, set illumination
- LON commands: service PIN send message, LON send/poll datapoint, new script functions to send/receive explicit messages
- BACnet commands: ReadProperty, WriteProperty

**Other**

- variable use of NTP time server via IP with automatic time correction
- offline menu for parametrization of standard parameters, touch calibration
- slide operating function
- options: - Remote Access via VNC





## LON/BACnet/Modbus Touchpanel - TOUCHLBM 24" color TFT

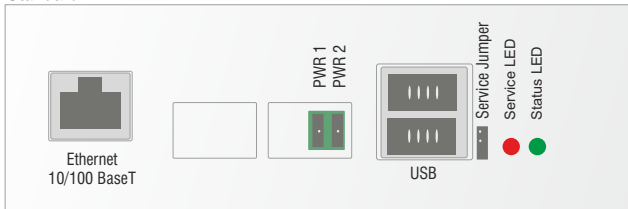
### PICS (BACnet Protocol Implementation Conformance Statement)

List all BACnet Interoperability (Building Blocks Supported (Annex K))		
object type	Supported	
DS-RP-B		☑
DS-WP-A		☑
DS-WP-B		☑
DS-COV-A		☑
DS-COV-B		☑
DM-DDB-A		☑
DM-DDB-B		☑
DM-DOB-B		☑
DM-DCC-B		☑
DM-TS-BD		☑
M-UTC-B		☑
DM-RD-B		☑

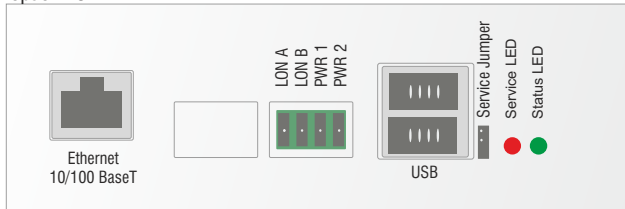
Standard Object Types Supported		
object type	Supported	
Analog Input Object		☑
Analog Output Object		☑
Analog Value Object		☑
Binary Input Object		☑
Binary Output Object		☑
Binary Value Object		☑
Device Object		☑
Multistate Input Object		☑
Multistate Output Object		☑
Multistate Value Object		☑

### connectors

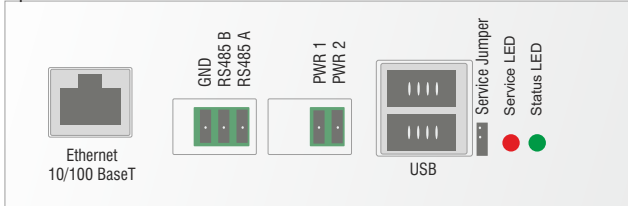
#### Standard



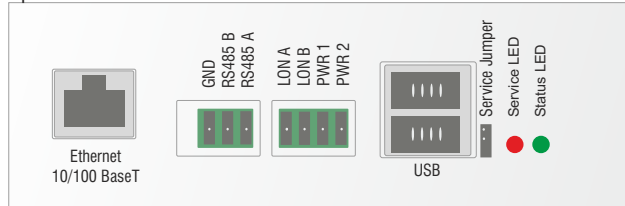
#### option LON FT



#### option RS 485



#### options LONFT and RS 485

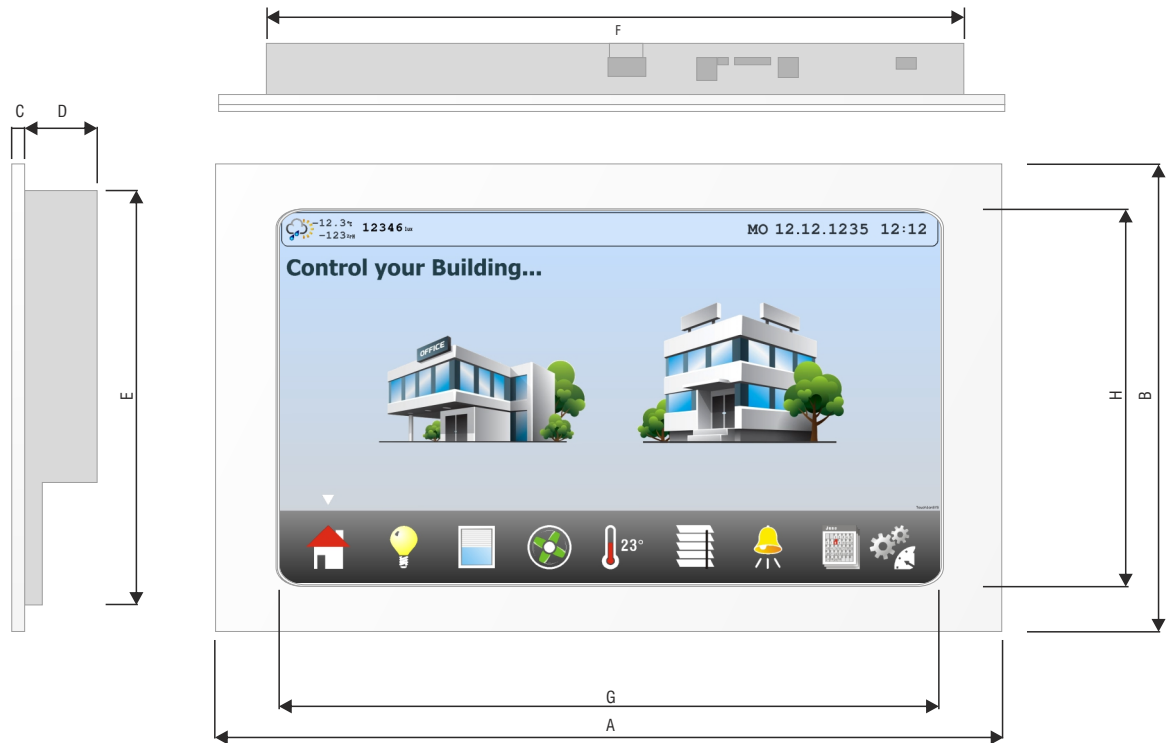


Power LON				Ethernet							
1	LON A	LON FTT Line A (optional)		10/100 BaseT, RJ45 8pin connector standard assignment							
2	LON B	LON FTT Line B (optional)									
3	PWR 1	PWR 24V AC/DC Line A									
4	PWR 2	PWR 24V AC/DC Line B									
connections 1+2 und 3+4 are polarity reversible.											
<b>Caution!</b> There may be a connection between housing and ground! Do not put power supply or earth ground to housing!											
<b>Hardware-Options</b>											
<b>LON</b> LON E/A-709 FTT 10				<b>RS 485</b>							
<b>SD-Karte</b> (Micro SD Card max 32 GB)				<table border="1"> <tr><td>1</td><td>GND</td></tr> <tr><td>2</td><td>RS 485 B</td></tr> <tr><td>3</td><td>RS 485 A</td></tr> </table>		1	GND	2	RS 485 B	3	RS 485 A
1	GND										
2	RS 485 B										
3	RS 485 A										

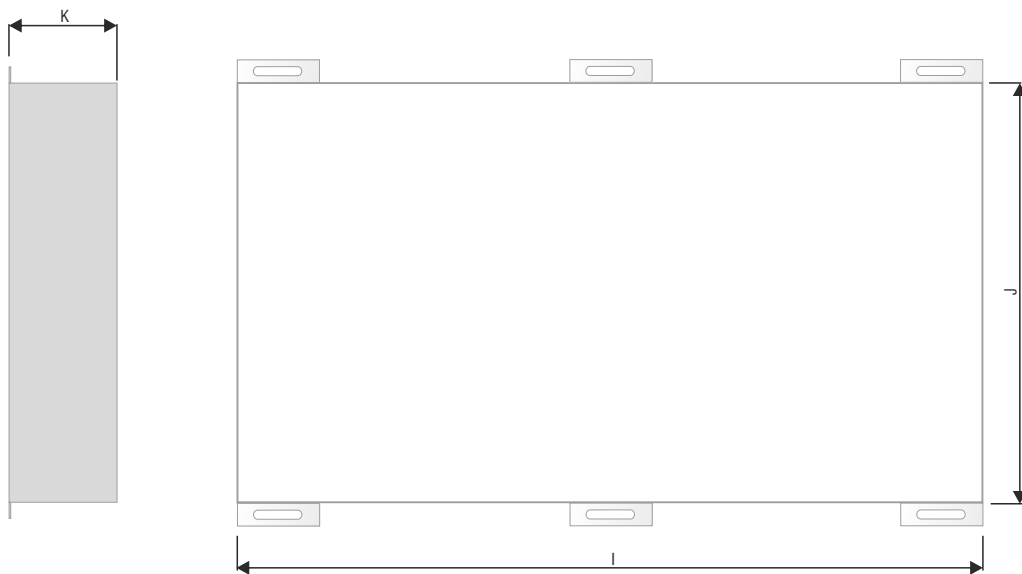


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external dimensions - TOUCHLBM 24" (in-wall mounting type)



in-wall-mounting frame TOUCHLBM 24"



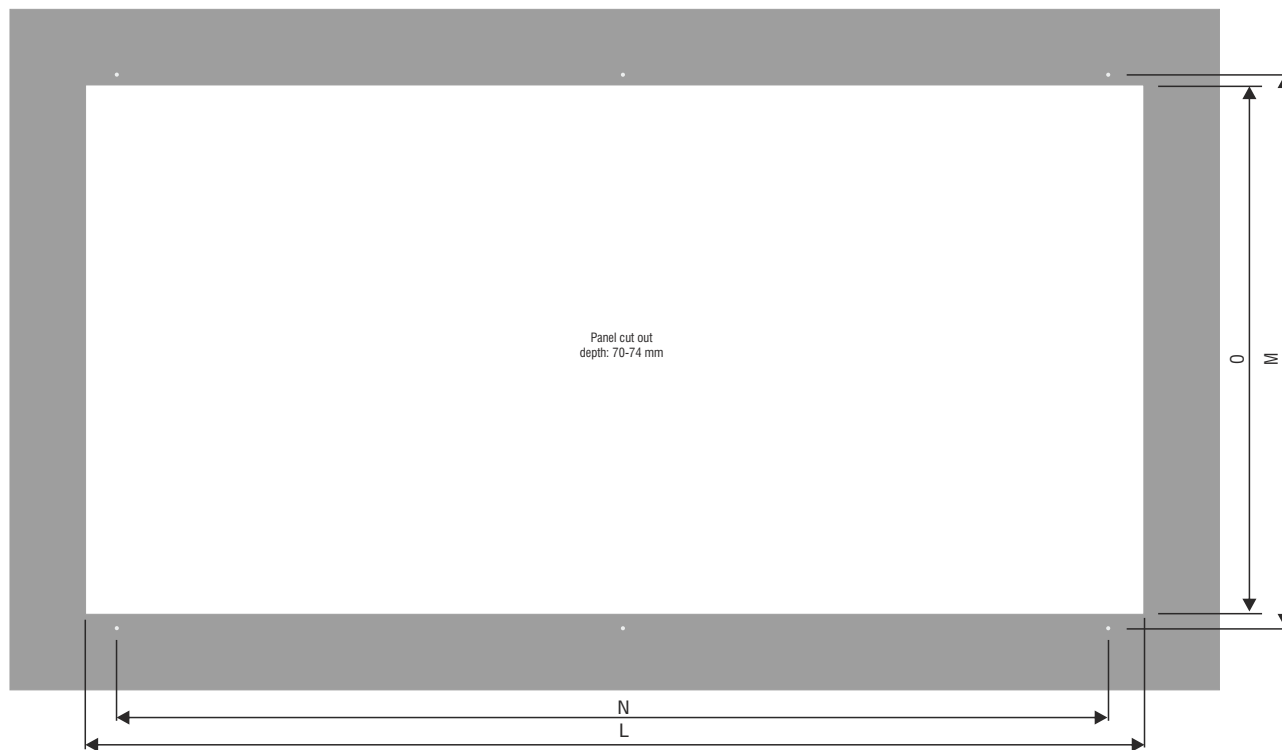
BACnet

CE

RoHS  
COMPLIANT

LON/BACnet/Modbus Touchpanel - TOUCHLBM 24" color TFT

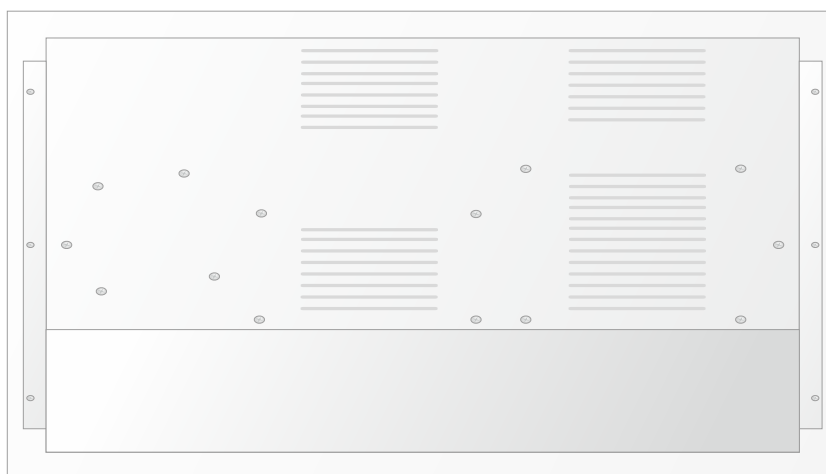
Panel cut out - for in-wall mounting type



dimensions(in mm)

DIM	TL 24"
A	605
B	373
C	8
D	51
E	325
F	560
G	535
H	303
I	564
J	329
K	67
L	567
M	342
N	508
O	332

back



BACnet

CE

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