

Touch Panels

HMI Touch 4,3", HMI Touch 7"



1. Technical data

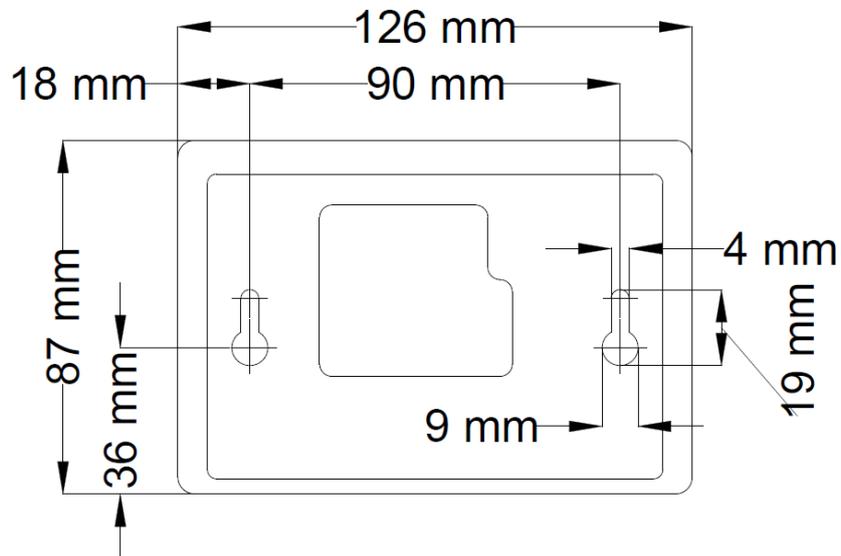
HMI TOUCH 4,3"

- Supply voltage: 24 V AC/DC +/- 10%
- Power consumption max.: 2,5W
- Power consumption in standby mode: 1W
- Display resolution: 480x272 px
- Color depth: 18 bit
- Touch panel: capacitive multitouch
- Communication link: RS 485
- Cooperation with ELP series controllers
- BACnet MS / TP or Modbus protocol
- Built-in temperature sensor
- Operating temperature: +10 ... 40 °C
- Storage temperature: -20 ... 70 °C
- Degree of protection: IP30
- Dimensions: 126 x 87 x 16 mm

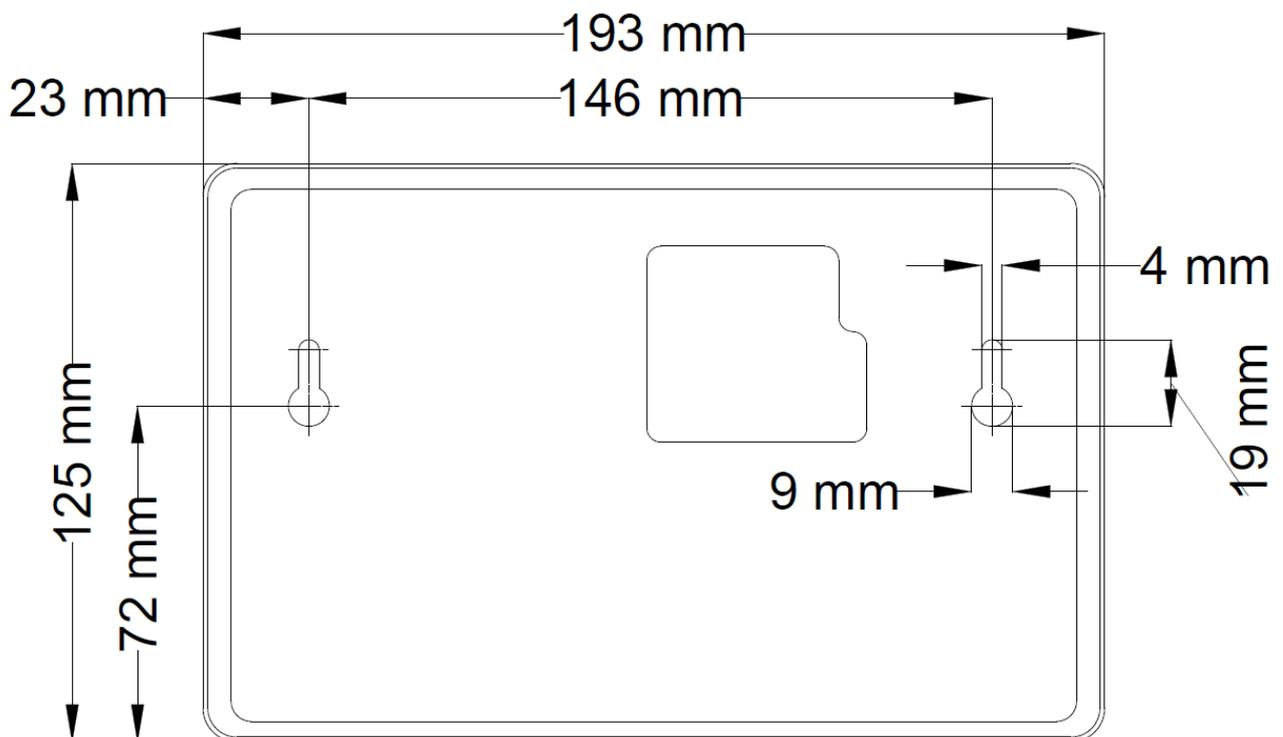
HMI TOUCH 7"

- Supply voltage: 24 V AC/DC +/- 10%
- Power consumption max.: 3W
- Power consumption in standby mode: 1,2W
- Display resolution: 800x480 px
- Color depth: 18 bit
- Touch panel: capacitive multitouch
- Communication link: RS 485
- Cooperation with ELP series controllers
- BACnet MS / TP or Modbus protocol
- Built-in temperature sensor
- Operating temperature: +10 ... 40 °C
- Storage temperature: -20 ... 70 °C
- Degree of protection: IP30
- Dimensions: 193 x 125 x 16 mm

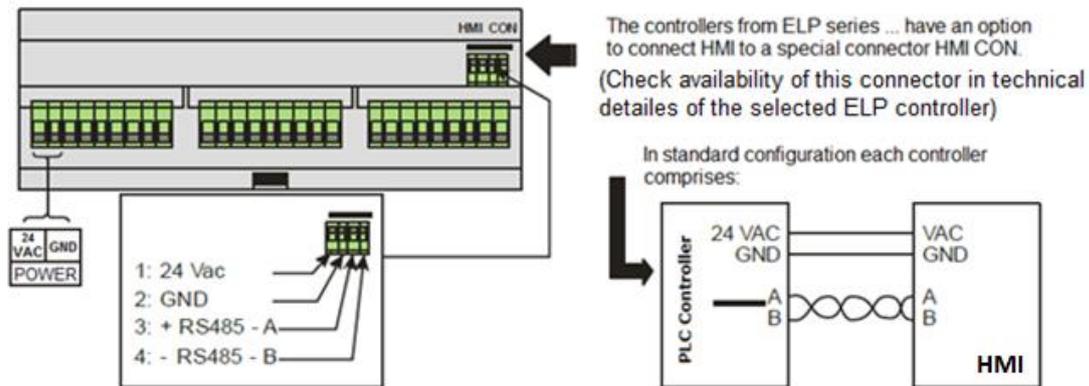
2. HMI Touch 4,3" dimensions



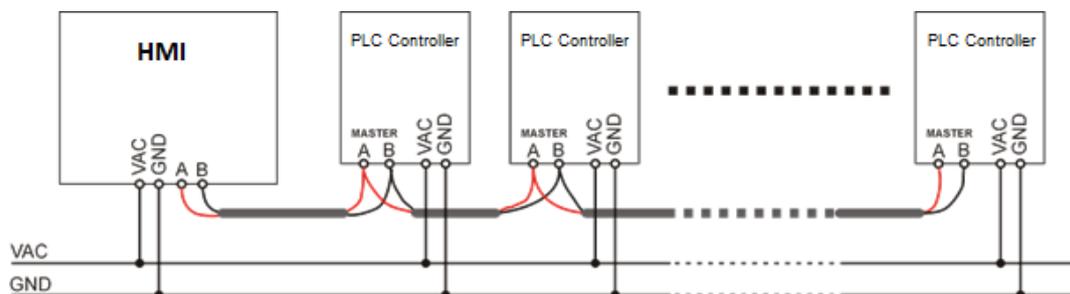
3. HMI Touch 7" dimensions



4. Controller connection diagram



5. Networking scheme with multiple PLC controllers



ATTENTION!!!

In Modbus mode, the only possible Master device on the bus is the HMI. This means that the port Master is busy and can not be used for eg. communication with BMS system. In this case, please use other communication ports, change the topology (possible for drivers with Ethernet support, eg. ELP11R32) or use BACnet protocol.

ATTENTION!!!

In the operating mode, one HMI for many controllers to use only the text menu of the display is recommended.

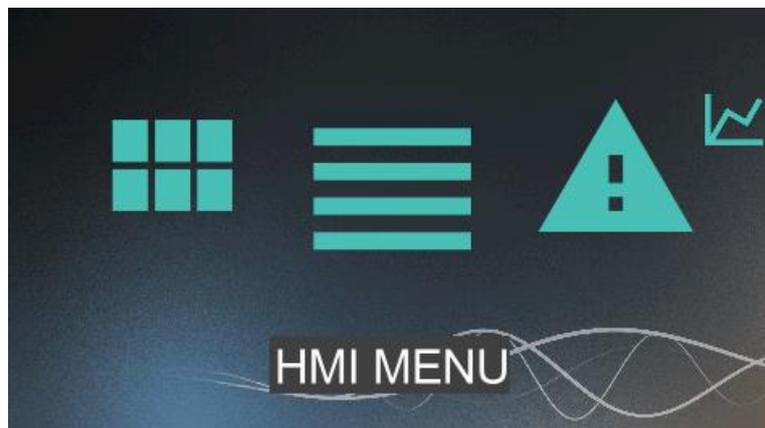
6. Operation

6.1 HMI operation

HMI has the ability to support graphical screens (created from JPG, PNG files), SLIDEBAR menu support, and TEXT menu support.

The main screen of the HMI is visible on the first screen, it is a graphic menu, moving between graphic screens occurs after moving the screen to the left or right.

The SLIDEBAR submenu selection menu is available when the screen is moved from top to bottom (being in the graphic menu).



From the SLIDEBAR menu, there are submenus available: MAIN MENU, CALENDAR, ALARMS, GRAPH.

The entry on the submenu follows after pressing the icon with the appropriate description of the submenu.

The exit from the submenu occurs after moving the screen from the left to the right.

The HMI has its internal settings, in order to enter them one should simultaneously press any 3 points on the screen and hold it for about 3 seconds.

6.2 Main HMI pages

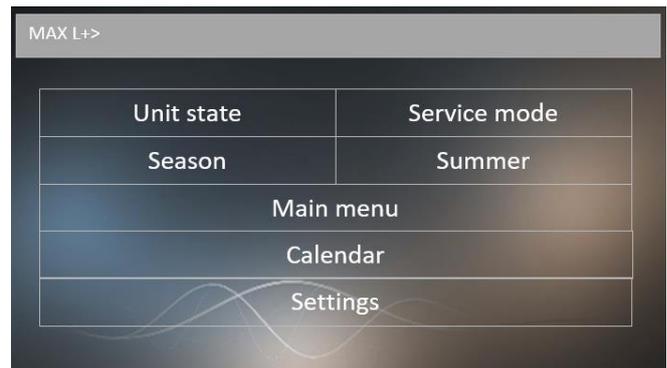
The main HMI pages are depending on the type of controller and its application. These are the default screens that appear first when you turn on the HMI.



6.3 HMI Menu

You can move from the main menu screen to the HMI menu by moving the main screen from top to bottom. If the controller to which HMI is connected does not contain main menu screen, then by default HMI menu is displayed after switching the device on.

HMI menu comprises all parameters that are made available by the controller to the user for viewing and editing. The Menu contains two types of elements: node and parameter. Nodes are access points to the menu levels of detail. Parameters contain values that can be read, but some of them are also modifiable. Entering the menu well or entering the parameter edition is done by pressing on the selected HMI position. Alarm is signaled with red background of the HMI menu. To check alarm status the user has to go to the alarm menu.



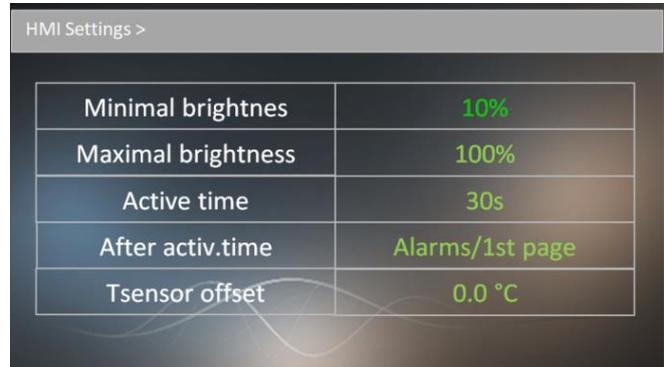
6.4 Alarm Menu

You can access the alarm menu from the SLIDEBAR menu screen by pressing the ALARMS icon. If at a certain point of time alarm is on then its name, date and time of activation will be displayed on the list. Confirmed alarm is additionally marked with asterisk "*", which is inserted next to the date and time of alarm activation. At the end of the list is a node called "Alarms History". Alarms History displays a chronological list of last occurrences of each alarm.



6.5 Setup Menu

The setup menu is displayed by simultaneously pressing any 3 points on the screen and holding them for about 3 seconds.



6.6 List of settings:

Minimal brightness	The power of the backlight when the HMI device goes into Ready mode.
Maximal brightness	The power of the backlight when the HMI device is in Active mode.
Active time	Time after which the HMI proceeds to Ready mode when no key has been pressed.
After activ.time	HMI behavior after proceeding into the Ready mode: Nothing – no response (only LCD dimming) Alarm Menu – when alarm has been activated HMI proceeds automatically to the Alarm Menu. Alarm/1st page – when alarm has been activated HMI proceeds automatically to the Alarm Menu, when there is no alarm HMI proceeds to the first page (home page or the first page of Main Menu).
T sensor offset	The offset of temperature measured by the built-in sensor.
Menu skin	An option to select one of the several menu skins.
Root branch	Option to select one of the controller's text submenus as a menu visible in the text menu.
COMMUNICATION SETTINGS	Options related to HMI communication settings and PLC controllers connected with it. ATTENTION! Changes to settings should be made with care and understanding, because improper use of the guidelines can damage the device, or incorrect operation of the system.

6.7 COMMUNICATION SETTINGS:

<i>HMI COM.SETTINGS</i>	Settings on the HMI only where the activity is carried out.
<i>RS-485 MASTER COM.SETTINGS</i>	Settings on the PLC which is currently established connection with. Enter the menu is not possible if the connection with the controller is not established. Before changing the parameters, make sure that this will not cause loss of communication through improper device identification which change concerns.
<i>MULTI-DEVICE SETTINGS</i>	Settings for HMI working with multiple PLCs. Before changing these parameters, you must configure the connection correctly.
<i>Com.packets lost</i>	The percentage of data packets lost during a communication between HMI and PLC controller. If this number exceeds 30%, check the cables and cable routes between the HMI and the PLC controller.

6.8 HMI COM.SETTINGS:

<i>MAC address</i>	MAC address of the HMI room terminal. Depending on the communication protocol MAC address acts as a Modbus address or MAC address on the BACnet MS/TP.
<i>Instance</i>	The unique device number on a BACnet network
<i>Bus mode</i>	Selection of the communication protocol with a PLC
<i>Com. speed</i>	Setting the serial transmission speed for HMI
<i>Com. parity</i>	Setting the serial transmission parity with a PLC
<i>Com. stop bits</i>	Setting the serial transmission stop bits numbers with PLC

6.9 RS-485 MASTER COM.SETTINGS:

<i>MAC address</i>	MAC address of the PLC controller. Depending on the communication protocol MAC address acts as a Modbus address or MAC address on the BACnet MS/TP. Parameter change is not possible for RS-485 Master port in PLC controllers with built-in address dip switches.
<i>Instance</i>	The unique device number on a BACnet network
<i>Bus mode</i>	Selection of the communication protocol
<i>Com. speed</i>	Setting the serial transmission speed
<i>Com. parity</i>	Setting the serial transmission parity
<i>Com. stop bits</i>	Setting the serial transmission stop bits numbers

6.10 MULTI-DEVICE SETTINGS:

<i>Set only one device HMI CON</i>	When selected, the HMI starts operation with only one PLC controller at MAC address and instance 1. This type of HMI operation is recommended when HMI is connected to a dedicated HMI CON connector on the PLC controller.
<i>Multi-device display</i>	The presentation of the list of the PLC controllers: Dev.name + Soft.ver. - address / instance, the model name, the name of the PLC software Dev.name - address / instance, the model name Soft.ver. - the name of the PLC software
<i>Graphic panel</i>	Possibility to enable graphic panel support in the Multi device work (for fast operation in multi mode in each driver operated by the panel, the same graphic files are recommended to use)
<i>Find devices</i>	Scanning communication network option to create a list of PLC controllers.

When you select scanning communication network option, you must determine the address range / instance to search, and then run the scanner *Scan network*. After the scanning a list of available devices will appear.

Select controllers with which the HMI is to cooperate, and then withdraw from the list. When the HMI is configured to work with multiple PLC controllers than all the controllers in the list receive information about the temperature measurement from integrated with HMI temperature sensor. Also, with all the controllers in the list is taken the alarm status. Menu and / or the first pages are displayed only for the currently selected driver from the list.



6.11 BACnet Object

HMI provides in BACnet network, BACnet object AI-0 under the name DS. This is the current measurement from integrated with HMI temperature sensor.

ATTENTION! The temperature sensor has been calibrated for 24V DC voltage supply.