HV Series Human-machine (HMI)
Installation and User Manual
(HV700LK/HV102EL)

Safety Precautions

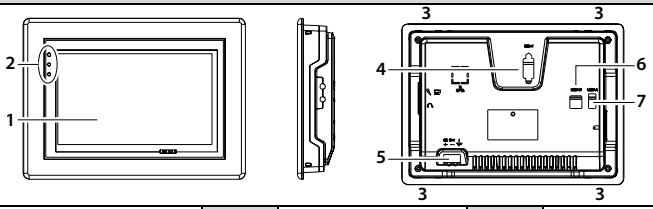
Note	• All communication interfaces of HV series HMI support RS232 and RS485 communication, which is a composite communication port. When downloading the project, please use the three-core RS232 communication line with only receiving, transmitting and ground to communicate with the download port. The download port defaults to. • In order to make the machine interface work normally, please connect the chassis according to the requirements of this manual when installing and using. • In order to make the machine interface work properly, please connect the signal interface of the communication interface according to the requirements of this manual.
Installation requirements	• Install the display unit in the manner specified in the manual to avoid possible equipment damage. • Do not expose this product to places with moisture, corrosive gases, or human gases, etc., to avoid possible electric shock or fire.
Wiring requirements	• Connect the ground terminal to CLASS-3 (below 100 Ω) to avoid electric shock or fire caused by poor grounding. • The HV series HMI uses a 24V power supply. Access to other ranges of power supplies may result in instability of some parameters or performance, which may cause damage to the machine.
Operational requirements	• The HV series HMI needs to cooperate with the HV StudioU editing software to design the engineering screen. The HMI without secondary development may cause abnormal operation. • Do not change the wiring when the power is turned on, otherwise it may cause electric shock or personal injury. • Do not touch the panel with sharp objects. Otherwise, it may cause the panel to sag, so that the Human-machine interface will not work properly.
Maintenance and inspection	• Do not touch the inside of the HMI, otherwise it may cause equipment damage and electric shock. • When the power is turned on, it is forbidden to remove the HMI panel, otherwise it may cause equipment damage and electric shock. • When the power is off for 10 minutes, the terminal should not be contacted. The residual voltage may cause electric shock. • When the HMI is in operation, do not touch the terminals, otherwise it may cause malfunction.
Communication wire requirements	• Please use the communication wiring wire according to the standard specifications. • The length of the communication wire must meet the requirements. • Use the correct grounding loop to avoid poor communication.

Specifications

Power supply voltage	DC24V
Power supply voltage range	DC12~28V
Allowable instantaneous stop time	Less than 5ms
Power	Less than 8W
Use ambient temperature	-20~60℃
Storage temperature	-20~70℃
Use ambient humidity	10~85%RH, no condensation
Storage humidity	10~85%RH, no condensation
Anti-interference	Interference voltage: AC1000AP. P-P pulse period: 11μs. Duration: 1ns
Withstand voltage	AC500V 20mA is less than 1 minute (Power terminal and FG terminal)
Insulation resistance	Above DC500V 20MΩ (Power terminal and FG terminal)
Vibration resistant	Meet the IEC67731-2 standard Vibration occasions: 10~57Hz 0.075mm, 57~150Hz 9.8m/S^2 Vibration occasions: 10~57Hz 0.035mm, 57~150Hz 4.9m/S^2 XYZ three directions 10 times each (80 minutes)
Static resistance	Comply with IEC standard, discharge 4kV, air discharge 8kV
Corrosion resistance	Avoid corrosive gases
Protection level	Equivalent to IP65 (surface)
cooling method	Natural air cooling
Touch screen fuse rating	1.6A/250V

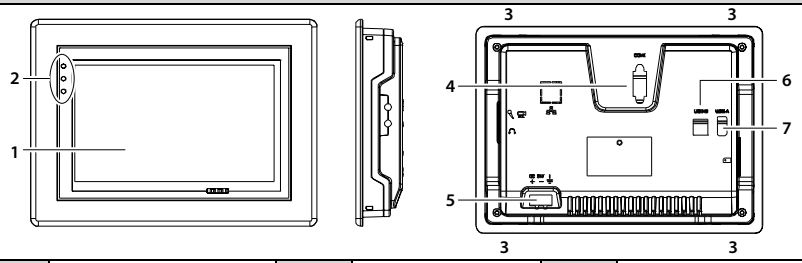
Structure Description

HV700LK



1	LCD and touch screen	**4**	COM1, see table below	**6**	USB-B
2	Indicator light	**5**	Power slot	**7**	USB-A
3	Fixed buckle				

COM1 interface pin definition					
1	RS422 TX+/RS485 A+	**5**	GND	**8**	RS422 RX-
2	RS232 RXD	**6**	RS422 TX-RS485 B-	**9**	RS422 RX+
3	RS232 TXD				

HV102EL


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Installation

Precautions

- The installation direction must be in accordance with the instructions, otherwise it will cause a malfunction.
- In order to make the cooling cycle work well, when installing the man-machine interface, sufficient space must be maintained with adjacent objects and baffles (walls) to avoid poor heat dissipation and equipment damage.
- Applicable to type 4x indoor grade shell plane

Work Environment

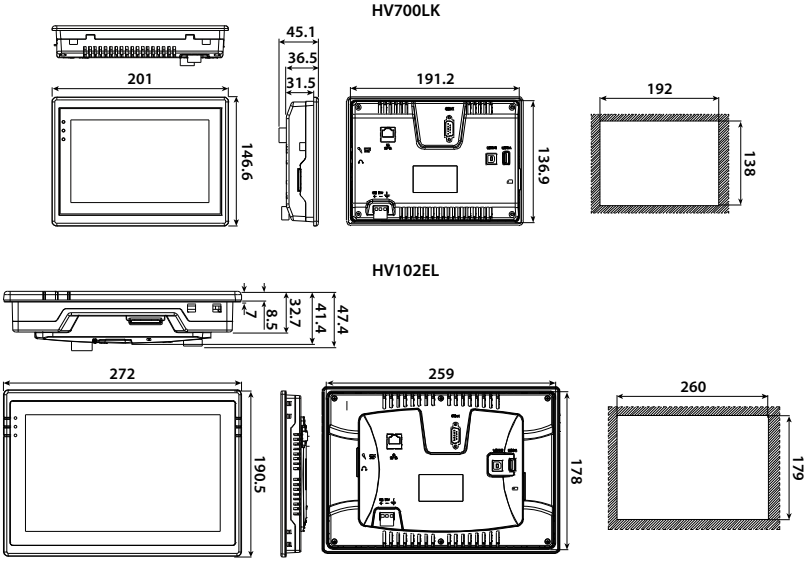
This product must be placed in its packaging before installation. If it is not used for the time being, in order to make the product meet the warranty scope of the company and future maintenance, please pay attention to the following items when storing:

- Must be placed in a place free of dirt and dryness.
- The ambient temperature at the storage location must be in the range of-20~70℃ (-4~140°F).
- The relative humidity of the storage location must be in the range of 10~85% without condensation.
- Avoid storage in environments containing corrosive gases and liquids.
- It is best to store it properly on a shelf or countertop.

Installation steps

- Make sure to install the waterproof gasket and then install the display unit into a suitable enclosure.
- Make sure to fit the fastener screws in, then hook the front cover screws below to the inside of the control box.
- Please tighten the screw with a suitable amount of torque, remember not to exceed this torque, otherwise it will cause damage to the plastic case. Torque: 6.17lb-inch (0.7NM).

Mounting Dimension (mm)



Basic Detection

Please make the following basic tests before using the HV series HMI:

General Detection

- Check regularly if the screws in the connection between the machine and the machine are loose.
- Exhaust holes should avoid the invasion of foreign bodies such as oil, water or metal powder, and the cutting powder of electric drill should be prevented from falling into the man-machine interface.
- If the HMI is installed in a place with harmful gases or dust, prevent harmful gases and dust from entering.

Pre-operation Detection (no control power supply)

- Insulate the wiring part of the wiring terminal.
- The communication wiring should be correct, otherwise abnormal operation may occur.
- Check if foreign matter enters the inside of the HMI, especially an isoelectric object such as a screw or a metal piece, and a flammable object.
- When the electronic equipment used near the HMI is subjected to electromagnetic interference, use the instrument to adjust to reduce electromagnetic interference.
- Make sure that the supply voltage of the interpersonal interface is correct.

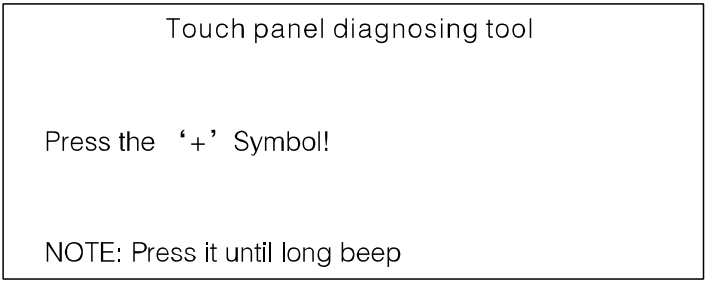
Pre-operational Test (provided control power supply):

- Whether the power indicator displayed.
- Whether the communication action with each device abnormal.
- If there is any abnormality in the HMI, please contact the manufacturer.

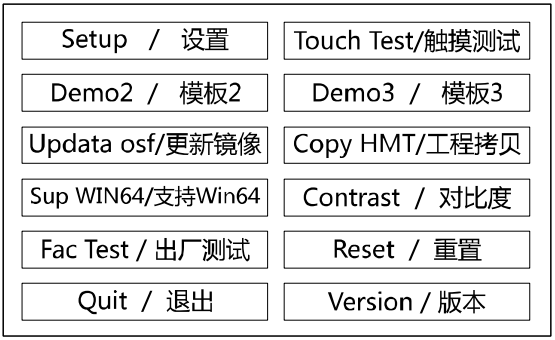
Touchscreen Calibration

After powering up the HMI, press and hold the upper left corner of the screen for about 3~5s.

The following interface appears. Click the upper left corner, the lower left corner, the lower right corner, the upper right corner, and the center point of the "+" to restart.



Parameters Setting

Press and hold the upper right corner of the screen for about 3~5s, the following interface appears.

Select “Setup”, enter the parameter setting screen of the touch screen, you can set the communication port parameters, time parameters and other settings, after modification, click “Save” to save, and then restart the HMI to take effect.