

## Hardware installation condition

Items	Description
Places for application	Lite panel is designed according to the environment of industrial products. Its design specification to work to stabilize in the-20C° to 65C° in most industrial condition.
NEMA	The front panel of the Lite panel match the NEMA4 protection regulations. When the product is properly installed in the disk cabinet match NEMA4 protective provisions, the enclosure remains committed to comply with the provisions of the NEMA4, that is, when the enclosure surface spray liquid, the liquid does not penetrate inside the enclosure.
Electrical condition	Lite panel has been tested to meet the European CE standard. Circuit design can be resistant to electrical noise interference, but that does not guarantee that can remove all the electrical noise interference. The correct way of wiring and grounding to ensure correct use.
Mechanical condition	To ensure that your correct use of the LITE PANEL products, avoid installation in the condition of strong mechanical vibration.

## Hardware installation guide

Items	Description
Install location	While install equipment's behind the Lite panel, make sure the AC power wiring, PLC output modules, contactors, starters, relays, and other types of electrical interface equipment farther to the back of the distance of the Lite panel. Keep away of inverter and switching power supply, the input and output of such equipment must be shielded and connected to the system star point.
Install meet NEMA4 Standards	Specifications Lite panel can be installed in the disk cabinet depth of more than 50 to 75mm (depending on the thickness of the product), it is recommended you install Lite panel in the front panel of enclosure, do this in order not to affect you open the enclosure front panel and assurance you can smoothly connect the power and communications cables.  NEMA4 Installation Put product into the Mounting holes from the back of the panel, install screws into the product of 4 fixed holes shell around the product, and then one by one lock mounting screws until the product is securely fixed to the panel on the panel.  Warning! Do not fasten the mounting screw with too much strength or the screen will be damaged. (Maximum Torque: 0.2N·m). Warning! In order to ensure the packing specification, all mounting screws provided with products must be used. The curvature of the front-panel cannot be over 0.010". With fixed bolt fixed Lite panel, please use the insulating sleeve to prevent leakage of the machine it may cause damage to the Lite panel.
Environmental Considerations	<p> Because of the LCD display inside, the Lite panel must be used indoors. Make sure the product is installed correctly and the environment meet.</p> <p> Do not use in explosion hazard situations, such as the presence of flammable gas, vapor or dust.</p> <p> Do not use in the temperature or high humidity environment, which may cause the device internal product condensate, resulting in damage to the equipment.</p>

## Power connection

Items	Description
Power requirement	<p> <b>Power</b> Lite panel can only use the DC power supply, the provision of the DC voltage range is 24±15% volts of power. This ensures compatibility with most controller DC power supply system. Products within the power regulator circuit is completed by the switching power supply. If the product within two seconds after power display is not shown, please disconnect the power immediately. Check the wiring is correct before re-energized. DC power supply must be properly isolate with the main AC power.</p> <p> <b>Warning!</b> In order to comply with ICs Safety Recommendations, you must install an emergency stop switch while use Lite panel in your control system.</p> <p> <b>Warning! Power</b> Do not share the power between Lite panel and inductive load (such as solenoid switch or solenoid valve).</p> <p> <b>Warning! Wiring</b> Some controller 24V DC output power supply cannot provide the current needed of Lite panel. DC power supply line should be as short as possible (up to no more than 500m for shielded cable 300m for UTP).tools, Please take the appropriate lightning protection measures when lightning occurs frequently Be sure AC power cables and high-energy and rapidly switching DC wiring separate from signal cable. Put a resistance and a capacitance in parallel between the around and the DC insulated power without earthing. This will make a path for static electricity and high-frequency interference. (Suggestions: Resistance, 1MΩ; Capacitance, 4700pF)</p> <p> <b>Connection</b> Unscrew the screws of line terminal anticlockwise on rear panel. Insert the power cable. Then fasten the screws clockwise. Please insert the power cable laterad when unscrew the plugin line terminal anticlockwise. Then fasten the screws clockwise. Put the terminals into the slot on the rear panel. Caution: Connect the positive pole to the terminal marked "24VDC+" and connect the DC GND to the terminal marked "24VDC-".</p>
Grounding Requirements	<b>Product shell must be grounded</b> , DC in the inside of the product is not connected to the actual earth. In order to avoid due to the virtual point grounding can introduce noise into the system, it is best not to land and housing of the DC to earth, but if you have to power to received star point, you must ensure that the ground wire as short as possible cross-sectional area as far as possible.
CE Requirement	To ensure Lite panel meet EMC specifications, reducing the electrical noise interference, the product of the power terminals on the chassis ground terminal must be connected to a separate # 14 AWG grounding cable. This ground connection must follow the installation instructions directly connected to the system star ground point.



## Power connection

Items	Description
Safety Guide	<p>This section presents recommended installation practices and procedures. Although there is no any two applications are the same, but please carefully consider the following recommendation when installing.</p>
	<p><b>⚠ Warning! Hardware Install Proposal</b> The system designer must understand that equipment controller system may malfunction and produce insecurity, electrical conflict and Lite panel (for example. HM/EA) may lead to the run of the device, which may lead to a certain damage to the body of the operator.</p> <p>If you or your company use programmable control system that require Lite panel, you must understand the potential security risks and take appropriate preventive measures. Despite your detailed design procedure is developed based on your specific application, but also need to pay attention to the following information about programmable control equipment installed universal precautions, these precautions in line with the NEMA ICS 3-304 Control standards recommended by the controller installation specification.</p>
	<p><b>⚠ Program</b> In order to meet the security recommendations of the ICS, check and make sure the emergency stop writable register have security restrictions and safety equipment will exceed the limit conditions of the control of the dangerous parts of the plant or equipment in the program to ensure personal absolutely safe.</p> <p>ICS3-30481 safety recommendations are copied from the NEMA. under license from NEMA ICS3-304 standards</p>
	<p>ICS 3-304.81 safety recommendations:</p> <p>In the mechanical parts that the operator can touch, such as the location of loading machine mechanical automatic operation, you must carefully consider the override or other redundant means, it must be independent out of the programmable controller. You can start or stop the automatic operation of the system. If you need to modify the program on system running a lock or other measures must be considered to ensure that only authorized people can make the necessary security measures to security threats.</p> <p>* These recommendations are intended to prevent the risk of equipment failures and the safety measures when modify the program online.</p>

## Product interface

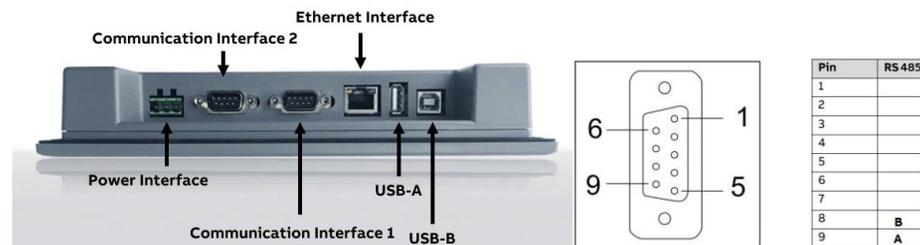
Power Interface: Connection of DC24V power supply;

Ethernet Interface: Connection of Ethernet cable to communicate with Modbus TCP devices;

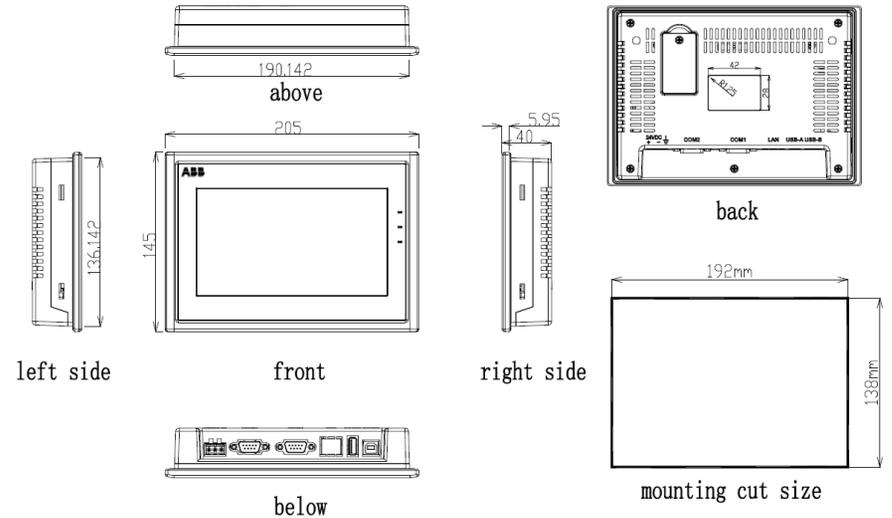
USB-A: Insert the U disk, it is possible to upgrade the firmware via this port;

USB-B: Not available for customer;

Communication Interface 1 and 2: They are 9-pin communication interface which supports communicate with ABB Modbus RTU devices via RS485. Refer to below for the correct wiring.



## Installation diagram



### Ekip lite panel

Lite Panel is an industry control panel which provides user a better way to monitor and control the ABB low voltage devices for the facility. Main features of the Lite panel are as below:

- Real time monitoring of electrical measurement
- Supervision and control functions
- Fault detection and diagnose information checking.

### Cyber security disclaimer

Lite Panel is designed to be connected and to communicate information and data via a network interface, which should be connected to a secure network. It is the sole responsibility of the customer to provide and continuously ensure a secure connection between the product and the customer network or any other network. The customer is required to establish and maintain any appropriate measures (including but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breach, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damage and/or losses related to such security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information.

### Firmware upgrade

Customers can write a mail to [it.el.electrification.digital@abb.com](mailto:it.el.electrification.digital@abb.com) support center to ask for new firmware if encounter following situations:

- Lite panel malfunction or software bugs
- Customers have new function requirement

Detail product information please refer to website: <https://www.abb.com/>

