



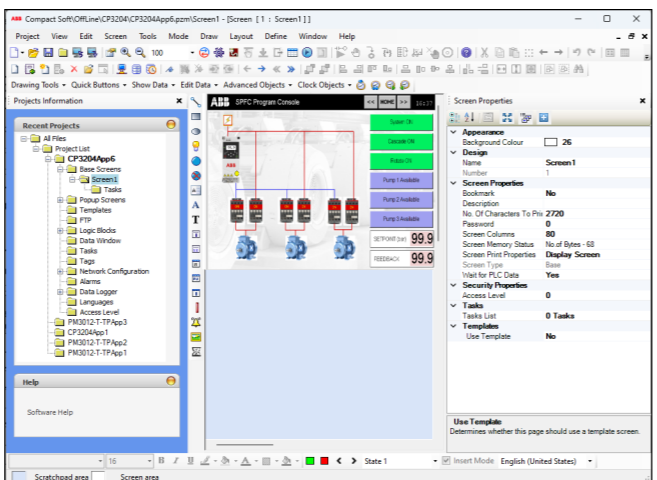
ABB CONTROL PANEL

## Control Panel CP3204/CP3404

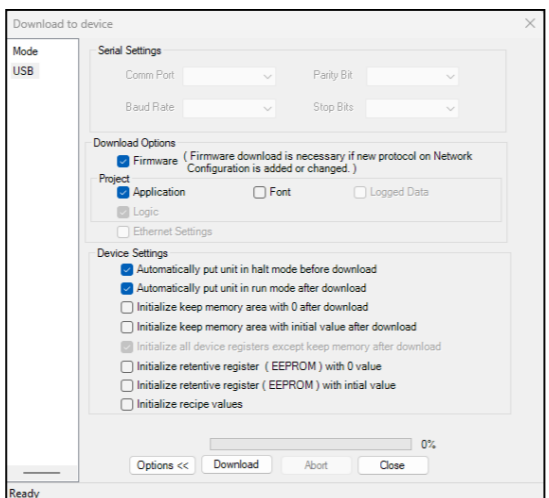
### Quick start guide



3AXD50001195007 Rev A EN  
2025-03-13  
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Original instructions.  
3AXD50001195007A



- Connect one end of the programming cable to the control panel's Ethernet port or USB Type-C port. Connect the other end to the PC.
- Go to, **Mode** → **Go Online** → **With Download** to download the application into the control panel.
- Enable the download options: Firmware and Application. Click **Download**.



The control panel is configured and ready to use in the system.

## 5. Technical data

Connect the required communication ports based on the product code. For pin configuration, refer section [Communications ports](#).

### Control panel specifications

Power (Base)	24 VDC (+20%, -15%), 150 mA, 3.6 W
Power (with expansion)	24 VDC (+20%, -15%), 180 mA, 4.32 W
Display	4.3", 480 x 272 pixels, WQVGA color TFT with 4-wire analog resistive touch screen
RAM	16 MB max.
User Application	8 MB
FLASH	16 MB
Ladder Memory	2 MB
Alarm Memory	1350 alarms
Retentive Memory	8000 words
Data Log	4 MB
Keep Memory Registers	1000 words
Panel Cutout	80(H) x 111(W) mm
Dimensions	89(H) x 120(W) x 31.5(D) mm
Weight	Approx. 200 gm

### Communication specifications

Serial Port	1 x RS232, RS485 <sup>1)</sup>
USB Ports	1 USB type C & 1 USB host
Ethernet	1 Ethernet port
SD Card	Micro SD [High capacity (4GB to 32GB)] Speed class: <b>U1</b> While inserting and removing SD card, please make sure to TURN OFF the power to the unit.
Expansion <sup>2)</sup>	Supports 1 expansion slot

### Environment specifications

Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 85°C
Humidity	10 to 90% (Noncondensing)
Shock	25g, 11 ms, 6 shocks per axis, Total 18 shocks (X, Y, Z)
Vibration	5-150 Hz, 3g peak, (X, Y, Z)
Protection	IP66 for front panel mounting
Approvals	CE & RoHS.

1) CP3404 supports one DB9 port that supports RS232 and RS485 levels on different pins. "Y" type cable can be used for separate RS232 and RS485 levels simultaneously.  
2) Applicable only for CP3404 models.

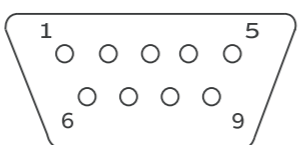
## Communications ports

The control panel supports the following communication ports. Each port information in below section includes the pin description.

- Serial port
- Y type cable
- USB type C port
- Ethernet port.

### Serial port

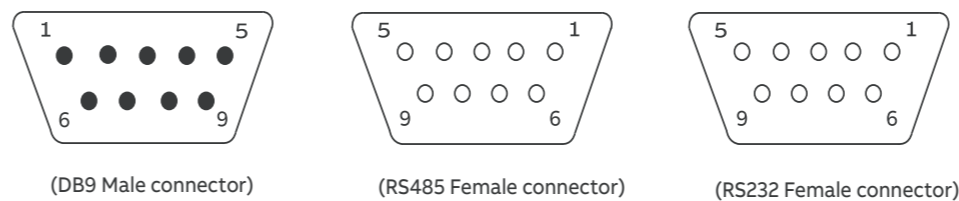
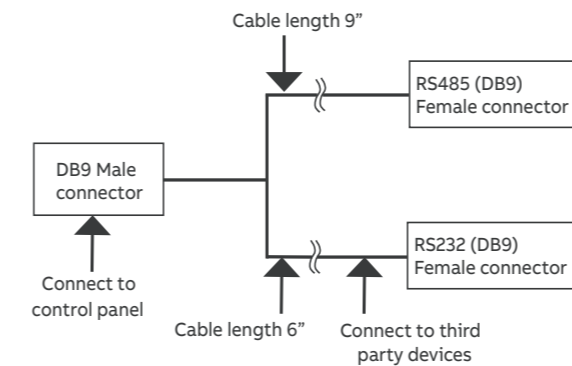
Physical Port: COM1-RS232 and COM2-RS485



Pin number	Signal
1	TX+(RS422/RS485)
2	TXD(RS232)
3	RXD(RS232)
4	RX+(RS422/RS485)
5	GND
6	NC
7	NC
8	TX-(RS422/RS485)
9	RX-(RS422/RS485)

### Y type cable

The special Y-type cable can be used for the control panel that has two communication levels on one port.



Pin number	Signal	Pin number (RS485 female connector)
1	TX+	1
4	RX+	4
5	SG	5
8	TX-	8
9	RX-	9

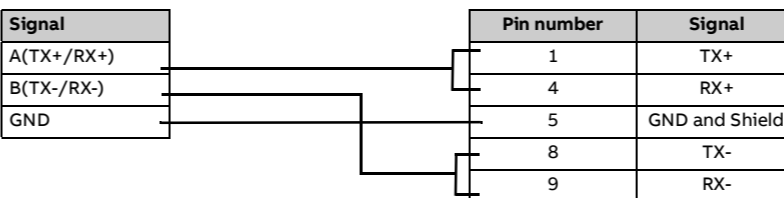
Pin number	Signal	Pin number (RS232 female connector)
2	TXD	2
3	RXD	3
5	SG	5

### RS232 pin connection



Pin number	Signal	Pin number	Signal
2	TXD	2	RXD
3	RXD	3	TXD
5	GND	5	GND

### 2-wire RS485 pin connection



### 4-wire RS485 pin connection

Pin number	Signal	Pin number	Signal
YELLOW	RX+	1	TX+
GREEN	TX+	4	RX+
BLACK	GND	5	GND and Shield
WHITE	RX-	8	TX-
BLUE	TX-	9	RX-

### USB C-type port

The USB C-type port is compliant with USB 2.0 specification, self-powered device. Connector used: Micro USB C-type female connector.

Pin number	Signal
1	VCC
2	D-
3	D+
4	NC
5	GND

### USB host port

The USB host port is compliant with USB 2.0 specification. The port can handle only USB memory stick and can source current up to 150 mA only.

Connector used: Standard USB type female connector.

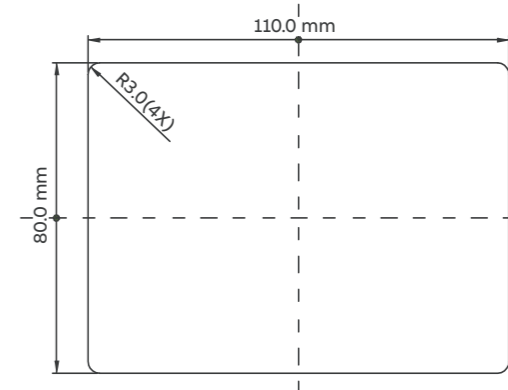
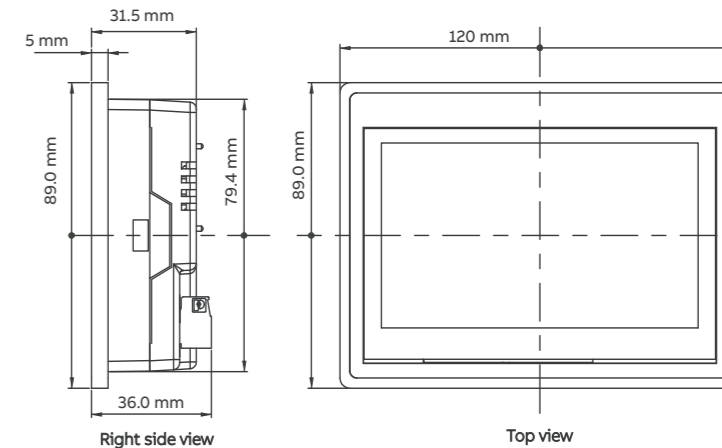
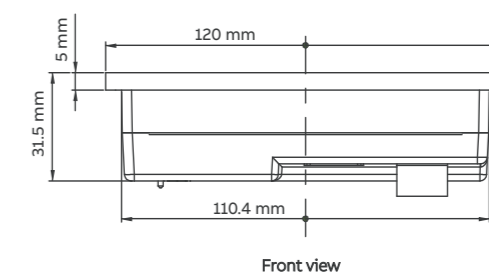
Pin number	Signal
1	VCC
2	D-
3	D+
4	GND

### Ethernet port

The Ethernet port is compliant with IEEE 802.3/802.3u standards and supports 10/100 Mbps. Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs. Default IP Address: 192.168.0.254. Default Subnet Activity Mask: 255.255.255.0

Pin number	Signal
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

### Control panel dimensions



Control panel cutout dimensions (Height x Width): 80 x 111 mm  
Control panel thickness: Maximum 6 mm  
Mounting clamps: 2

This guide is applicable for the below product codes:

Product code	Size	Screen type	Ports
CP3204	4.3", 480 x 272 pixels	WQVGA color TFT with 4-wire analog resistive touch screen	1 Serial port (1 RS232 and 1 RS485), 1 USB type C port, 1 USB Host, 1 Ethernet port
CP3404	4.3", 480 x 272 pixels	WQVGA color TFT with 4-wire analog resistive touch screen	1 Serial port (1 RS232 and 1 RS485), 1 USB type C port, 1 USB Host, 1 Ethernet port, 1 Pluggable I/O Module

## Safety instructions

**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do electrical installation or maintenance work.

- Do not remove or replace ignitable concentrations of flammable substances.
- Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
- Do not replace original components with substituted components.
- Inspect all sealed devices and replace if any degradation is found.

## 1. Unpack the delivery

Keep the control panel in its package until you are ready to install it. After unpacking, protect the control panel from dust, debris, and moisture. Make sure these items are included in the package:

- Control panel
- Fixing screws
- Power connector
- Silica gel packet
- Control panel cutout dimension template
- Quick start guide.

Make sure that there are no signs of damage to the items.

## 2. Install the control panel

You can install the control panel with screws to a suitable surface (wall or assembly). Refer section [Control panel dimensions](#).

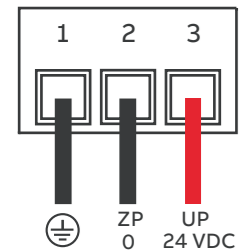
### To install the control panel with screws

- Make marks onto the surface using the cutout dimension template for mounting the control panel. Make sure that borders of the cutout are flat.
- Place the control panel on mounting surface.
- Tighten each fixing screw to a torque of 0.4 N-m until the plastic bezel corner get in contact with the panel.

## 3. Earthing

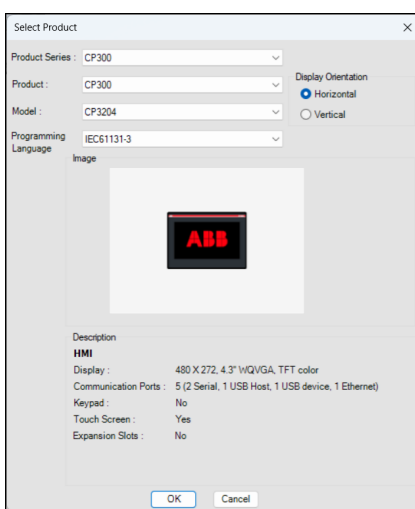
Separate the control panel earthing from other high-power systems. See the earthing terminals (shown below) marked on the unit.

Do not use an earth that has an unstable impedance, such as painted screws or earth subject to vibration.



## 4. Configure the control panel

- Launch the Compact Soft software. The software is available offline. For information on how to install the software, contact your local ABB representative.
- In Compact Soft software, go to **Project** → **New**, to create a new application.
- In the Select Product window,
  - Select Product Series and Product from the drop-down list. For control panel, always select CP300.
  - Select the Model of the control panel from the drop-down list.
  - You can also change the display orientation of the control panel to Horizontal or Vertical using the radio buttons. Click **OK**.



The Project Configuration dialog box opens.



ABB CONTROL PANEL

## Control Panel CP3207/CP3407

### Quick start guide



3AXD50001195564 Rev A EN  
2025-03-13  
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Original instructions.  
3AXD50001195564A

This guide is applicable for the below product codes:

Product code	Size	Screen type	Ports
CP3207	7", 800 x 480 pixels	WVGA color TFT with 4-wire analog resistive touch screen	2 Serial ports, 1 USB Type C port, 1 USB Host, 1 Ethernet port
CP3407	7", 800 x 480 pixels	WVGA color TFT with 4-wire analog resistive touch screen	2 Serial ports, 1 USB Type C port, 1 USB Host, 1 Ethernet port and expandable up to 3 expansions.

### Safety instructions

**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do electrical installation or maintenance work..

- Do not remove or replace while be free of ignitable concentrations of flammable substances.
- Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
- Do not replace original components with substituted components.
- Inspect all sealed devices and replace if any degradation is found.

### 1. Unpack the delivery

Keep the control panel in its package until you are ready to install it. After unpacking, protect it from dust, debris, and moisture. Make sure these items are included in the package:

- Control panel
- Fixing screws
- Power connector
- Silica gel packet
- Control panel cutout dimension template
- Quick start guide.

Make sure that there are no signs of damage to the items.

### 2. Install the control panel

You can install the control panel with screws to a suitable surface (wall or assembly). Refer section [Control panel dimensions](#)

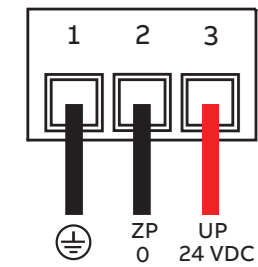
#### To install the control panel with screws

- Make marks onto the surface using the cutout dimension template for mounting the control panel. Make sure that borders of the cutout are flat.
- Place the control panel on mounting surface.
- Tighten each fixing screw to a torque of 0.4 N-m until the plastic bezel corner get in contact with the panel.

### 3. Earthing

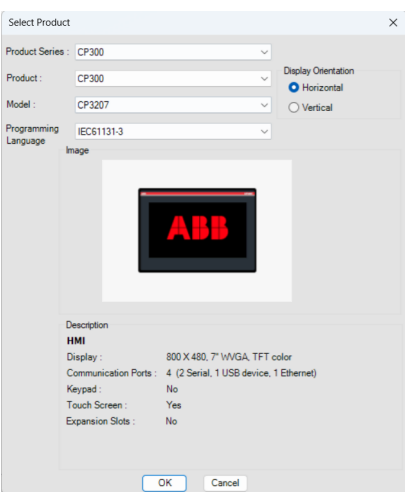
Separate the panel earthing from other high-power systems. Refer to the earthing terminals (shown below) marked on the unit.

Do not use an earthing point that has an unstable impedance, such as painted screws or earth subject to vibration.



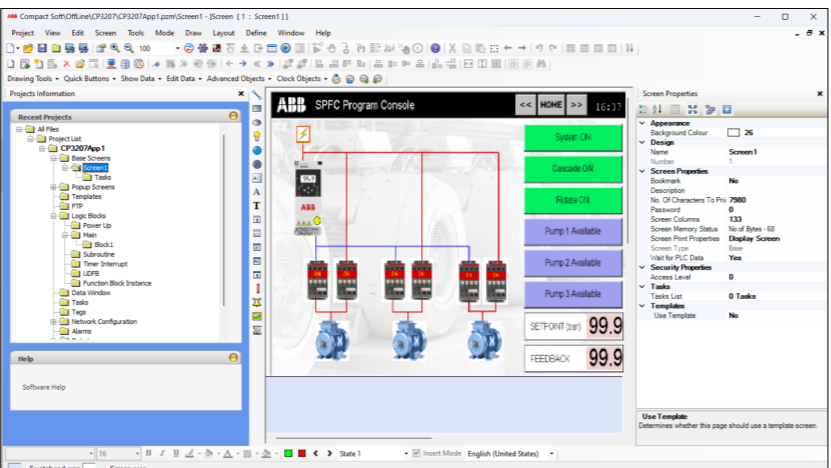
### 4. Configure the control panel

- Launch the Compact Soft software. The software is available offline. For information on how to install the software, contact your local ABB representative.
- In Compact Soft software, go to **Project** → **New**, to create a new application.
- In the Select Product window,
  - Select Product Series and Product from the drop-down list. For control panel, always select CP300.
  - Select the Model of the control panel from the drop-down list.
  - You can also change the display orientation of the control panel to Horizontal or Vertical using the radio buttons. Click **OK**.

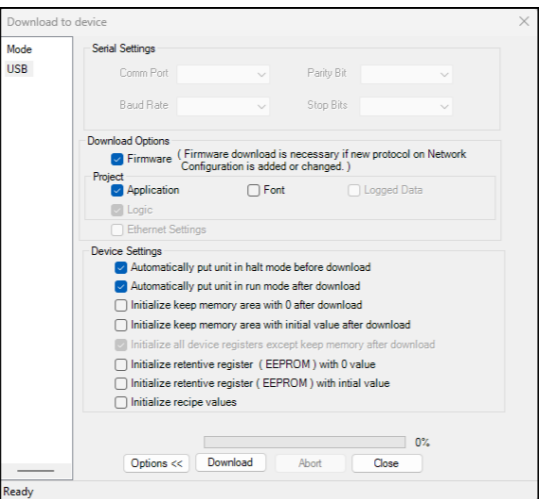


The Project Configuration dialog box opens.

- Optional:** In the Compact Soft software, you can modify the Project title and the Description. The control panel is configured and appears in the Project List.
- Design the screens in the compact soft software using the drawing widgets by navigating to the **Project list** → **<Project name>** → **Base screens** → **Screen1** and link the tag to the widgets.



- Connect one end of the programming cable to the control panel's Ethernet port or USB Type-C port. Connect the other end to the PC.
- Go to, **Mode** → **Go Online** → **With Download** to download the application into the control panel.
- Enable the download options: Firmware and Application. Click **Download**.



The control panel is configured and ready to use in the system.

### 5. Technical data

Connect the required communication ports based on the product code. For pin configuration, refer section [Communications ports](#).

#### Control panel specifications

Power (Base)	24 VDC (+20%, -15%), 230 mA, 5.52 W
Power (With 3 Expansion)	24 VDC (+20%, -15%), 250 mA, 6 W
Display	7", 800 x 480 pixels, WVGA color TFT with 4-wire analog resistive touch screen
RAM	16MB max.
User Application	8MB
FLASH	16MB
Ladder Memory	2MB
Alarm Memory	1350 alarms
Retentive Memory	8000 words
Data Log	4MB
Keep Memory Registers	1000 words
Panel Cutout	127 (H) x 175(W)mm
Dimensions	138(H) x 186.0(W) x 31.0(D)mm
Weight	Approx. 400gm
<b>Communication specifications</b>	
Serial Port	2 x RS232, RS485
USB Ports	1 USB Type C & 1 USB Host
Ethernet	1 Ethernet Port
Expansion <sup>1)</sup>	Supports 3 Expansion slot
<b>Environment specifications</b>	
Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 85°C
Humidity	10 to 90% (Noncondensing)
Shock	25g, 11ms, 6 shocks per axis, Total 18 shocks (X, Y, Z)
Vibration	5~150 Hz, 3g peak, (X, Y, Z)
Protection	IP66 for front panel mounting
Approvals	CE and RoHS.

1) Applicable only for CP3407 models

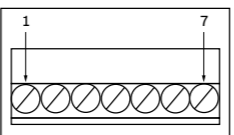
#### Communications ports

The control panel supports the following communication ports. Each port information in below section includes the pin description.

- COM1 port
- COM2 port
- USB type C port
- USB host port
- Ethernet port

#### COM1

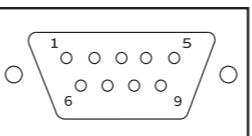
The control panel CP3207/CP3407 has one terminal block port (COM1) which support RS232 / RS485 signal levels.



Pin number	Signal
1	RX-
2	TX-
3	RX+
4	TX+
5	GND
6	RXD
7	TXD

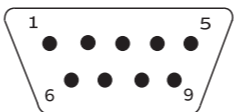
#### COM2

The control panel CP3207 and CP3407 has one DB9 female port (COM2) which support RS232 and RS485 signal levels.

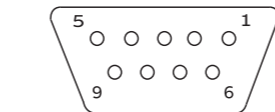


Pin number	Signal
1	TX+(RS422/RS485)
2	TXD(RS232)
3	RXD(RS232)
4	RX+(RS422/RS485)
5	GND
6	NC
7	NC
8	TX-(RS422/RS485)
9	RX-(RS422/RS485)

#### RS232 pin connection



Pin number	Signal
2	TXD
3	RXD
5	GND



Pin number	Signal
2	RXD
3	TXD
5	GND

#### 2-wire RS485 pin connection

Signal
A(TX+/RX+)
B(TX-/RX-)
GND

Pin number	Signal
1	TX+
4	RX+
5	GND and Shield
8	TX-
9	RX-

#### 4-wire RS485 pin connection

Pin number	Signal
YELLOW	RX+
GREEN	TX+
BLACK	GND
WHITE	RX-
BLUE	TX-

Pin number	Signal
1	TX+
4	RX+
5	GND and Shield
8	TX-
9	RX-

#### USB C-type port

The USB C-type port is compliant with USB 2.0 specification, self-powered device. Connector used: Micro USB C-type female connector.

Pin number	Signal
1	VCC
2	D-
3	D+
4	NC
5	GND

#### USB host port

The USB host is compliant with USB 2.0 specification. The port can handle only USB memory stick devices and can source current up to 150 mA.

Connector used: Standard USB type female connector.

Pin number	Signal
1	VCC
2	D-
3	D+
4	GND

#### Ethernet port

The Ethernet port is compliant with IEEE 802.3/802.3u standards and supports 10/100 Mbps.

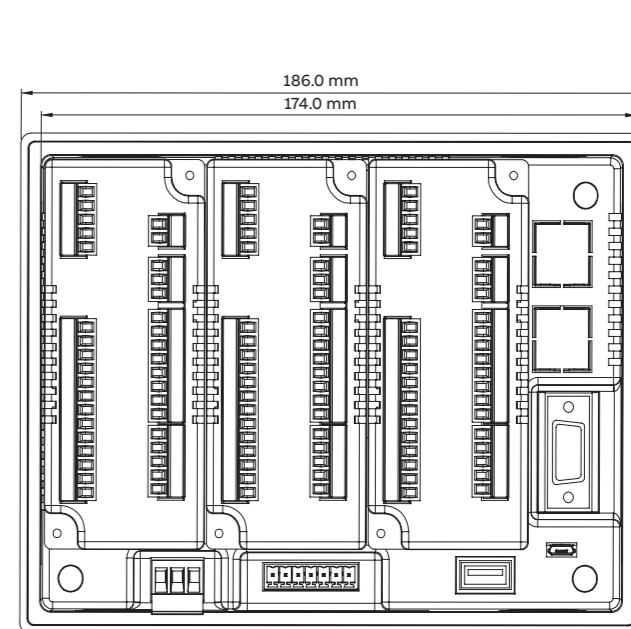
Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs.

Default IP address: 192.168.0.254

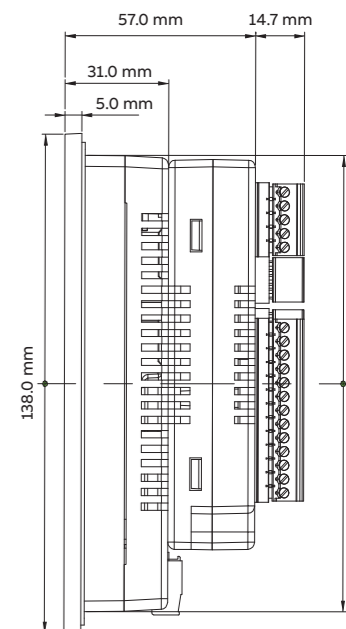
Default subnet activity mask: 255.255.255.0

Pin number	Signal
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

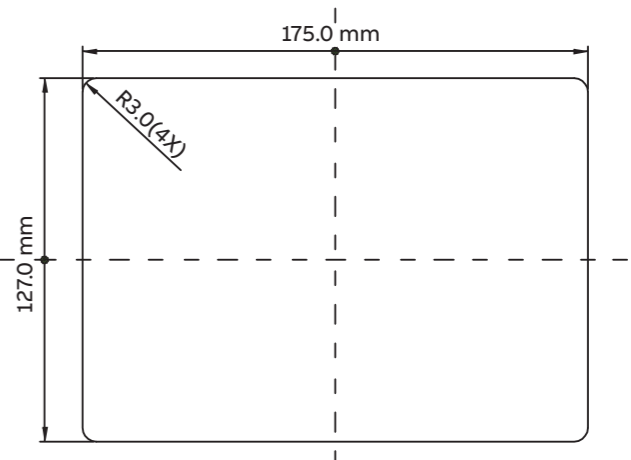
### Control panel dimensions



Bottom view



Right side view



Control panel dimensions (Height x Width): 127.00 x 175.00 mm

Control panel thickness: Maximum 6 mm

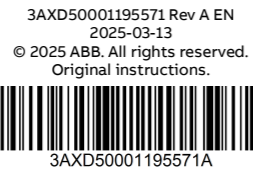
Mounting clamps: 4



ABB CONTROL PANEL

## Control Panel CP3210/CP3410

### Quick start guide



This guide is applicable for the following product codes:

Product code	Size	Screen type	Ports
CP3210	10.1", 1024 x 600 pixels	WVGA color TFT with 4-wire analog resistive touch screen	2 com ports, 1 USB type C port, 1 USB host, 1 Ethernet port.
CP3410	10.1", 1024 x 600 pixels	WVGA color TFT with 4-wire analog resistive touch screen	2 com ports, 1 USB type C port, 1 USB host, expandable upto 5 expansions.

### Safety instructions

**WARNING!** Obey these instructions. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do electrical installation or maintenance work.

- Do not remove or replace while be free of ignitable concentrations of flammable substances.
- Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
- Do not replace original components with substituted components.
- Inspect all sealed devices and replace if any degradation is found.

#### 1. Unpack the delivery

Keep the control panel in its package until you are ready to install it. After unpacking, protect it from dust, debris, and moisture. Make sure these items are included in the package:

- Control panel
- Fixing screws
- Power connector
- Silica gel packet
- Control panel cutout dimension template
- Quick start guide.

Make sure that there are no signs of damage to the items.

#### 2. Install the control panel

You can install the control panel with screws to a suitable surface (wall or assembly). Refer section [Control panel dimensions](#)

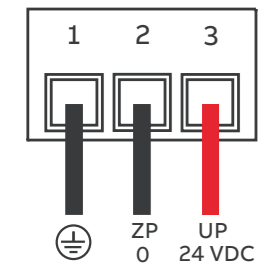
##### To install the control panel with screws

- Make marks onto the surface using the cutout dimension template for mounting the control panel. Make sure that borders of the cutout are flat.
- Place the control panel on mounting surface.
- Tighten each fixing screw to a torque of 0.4 N·m until the plastic bezel corner get in contact with the panel.

#### 3. Earthing

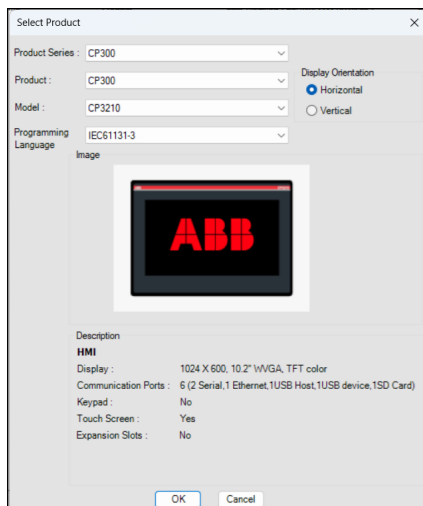
Separate the control panel earthing from other high-power systems. See the earthing terminals (shown below) marked on the unit.

Do not use an earthing point that has an unstable impedance, such as painted screws or earth subject to vibration.



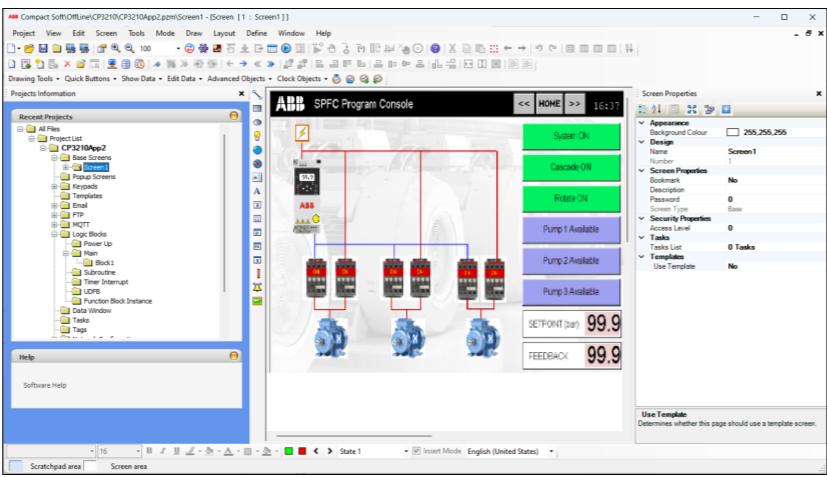
#### 4. Configure the control panel

- Launch the Compact Soft software. The software is available offline. For information on how to install the software, contact your local ABB representative.
- In Compact Soft software, go to **Project** → **New**, to create a new application.
- In the Select Product window,
  - Select Product Series and Product from the drop-down list. For control panel, always select CP300.
  - Select the Model of the control panel from the drop-down list.
  - You can also change the display orientation of the control panel to Horizontal or Vertical using the radio buttons. Click **OK**.

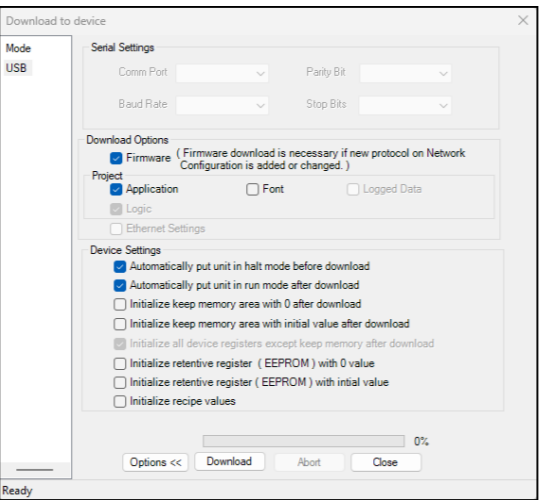


The Project Configuration dialog box opens.

- Optional:** In the Project Configuration dialog box, you can modify the Project title and add the Description. The control panel is configured and appears in the Project List.
- Design the screens in the compact soft software using the drawing widgets by navigating to the **Project list** → **<Project name>** → **Base screens** → **Screen1** and link the tag to the widgets.



- Connect one end of the programming cable to the control panel's Ethernet port or USB Type-C port. Connect the other end to the PC.
- Go to, **Mode** → **Go Online** → **With Download** to download the application into the control panel.
- Enable the download options: Firmware and Application. Click **Download**.



The control panel is configured and ready to use in the system.

#### 5. Prepare the communication ports

Connect the required communication ports based on the product code. For pin configuration, refer section [Communication ports](#).

##### Control panel specifications

Power (Base)	24 VDC (+20%, -15%), 270 mA, 6.48 W
Power (With 5 Expansion)	24 VDC (+20%, -15%), 520 mA, 12.48 W
Display	10.1", 1024 x 600 pixels, WVGA color TFT with 4-wire analog resistive touch screen
RAM	512 MB
User Application	Up to 1GB that includes user application, data log, alarms, retentive memory and logic memory
eMMC	4 GB
RTC	Built-in, date and time function
Expansion	Supports 5 expansion slots <sup>1)</sup>
Weight	Approx. 900 gm
Product Dimensions	268.0 (W) x 190.0(H) x 36.8 (D) mm
Panel Cutout	256.00 (W) x 178.00 (H) mm

##### Communication specifications

COM1 and COM2	RS232/RS485
USB Ports	1 USB Type C Port & 1 USB Host Port
Ethernet	1 Ethernet Port
SD Card	Micro SD [High Capacity (4GB to 32GB)] Speed Class: <b>UHS-I</b> While inserting and removing SD card, please make sure to <b>TURN OFF</b> the power to the unit.

##### Environment specifications

Operating Temperature	-10°C to 60°C
Storage Temperature	-20°C to 85°C
Humidity	10 to 90% (Non-condensing)
Shock	IEC 60068-2-27 25g, 11ms, 6 shocks per axis, total 18 shocks (X, Y, Z)
Vibration	IEC 60068-2-6 5 to 150 Hz, 3g peak (X, Y, Z)
EMC	EN 55011: 2009/A1: 2010 EN 61131-2: 2007 EN 61000-6-2: 2005/AC: 2005 EN 61000-6-4: 2007/A1: 2011
Protection	IP66 for front panel mounting
Approvals	CE and RoHS

<sup>1)</sup> Applicable only for CP3410 models.

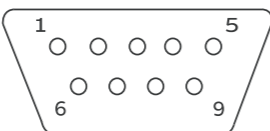
##### Communication ports

The control panel supports the following communication ports. Each port information in below section includes the pin description.

- Serial port
- USB type C port
- Ethernet port

##### Serial Port

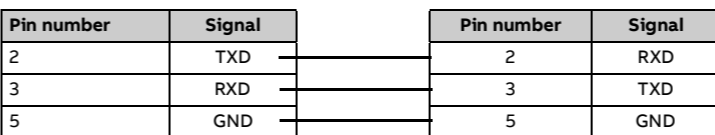
Physical Port: COM1 & COM2: RS232/RS485



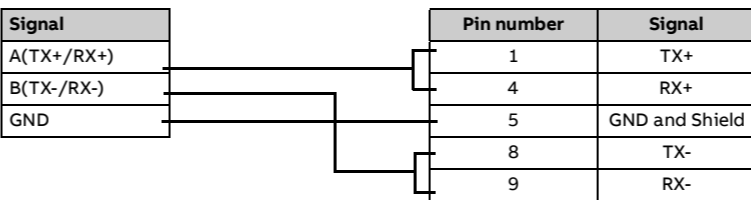
Pin number	Signal
1	TX+(RS422/RS485)
2	TXD(RS232)
3	RXD(RS232)
4	RX+(RS422/RS485)
5	GND
6	NC

Pin number	Signal
7	NC
8	TX-(RS422/RS485)
9	RX-(RS422/RS485)

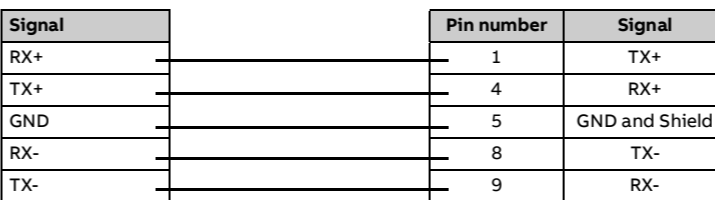
##### RS232 pin connection



##### 2-wire RS485 pin connection



##### 4-wire RS485 pin connection



##### USB C-type port

The USB C-type port is compliant with USB 2.0 specification, self-powered device. Connector used: Micro USB C-type female connector.

Pin number	Signal
1	VCC
2	D-
3	D+
4	NC
5	GND

##### USB host port

The USB host is compliant with USB 2.0 specification and can be used to transfer logged data and historical alarm to USB memory stick. The port can handle only USB memory stick devices and can source current up to 150 mA only.

Connector used: Standard USB type female connector

Pin number	Signal
1	VCC
2	D-
3	D+
4	GND

##### Ethernet port

The Ethernet port is compliant with IEEE 802.3/802.3u standards and supports 10/100 Mbps.

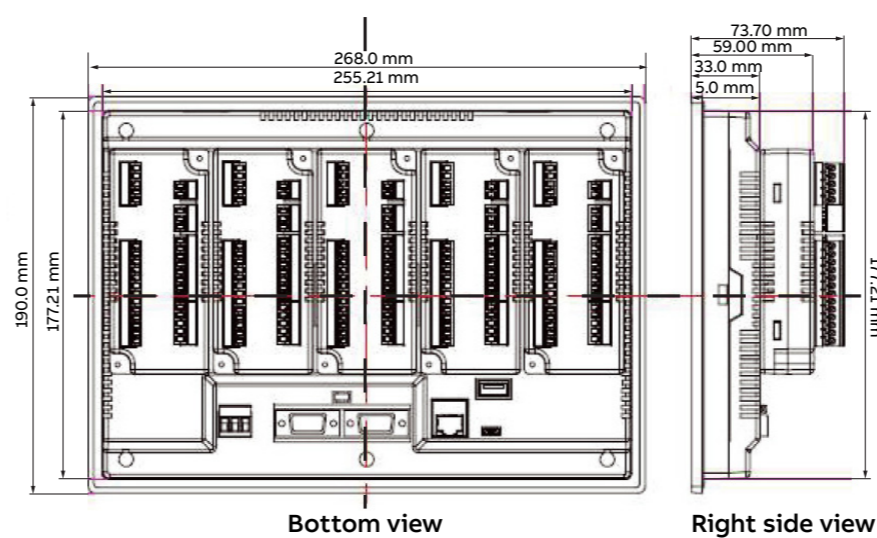
Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs.

Default IP address: 192.168.0.254

Default subnet activity mask: 255.255.255.0

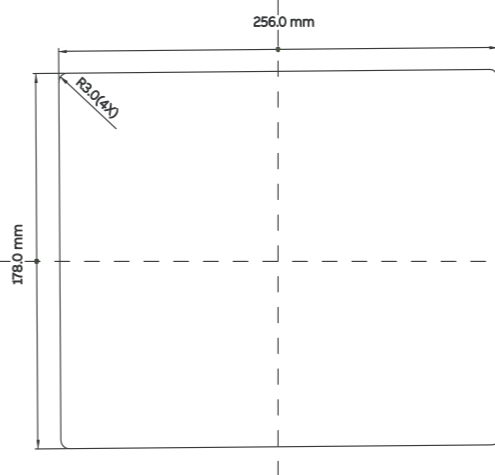
Pin number	Signal
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

##### Control panel dimensions



Bottom view

Right side view



Control panel dimensions (Height x Width): 256.00 x 178.00 mm

Control panel thickness: Maximum 6 mm

Mounting clamps: 6