

OPTIONS FOR ABB DRIVES

# ABB Drive Connectivity Control Panel

## User's manual



# List of related manuals

| Tool and maintenance manuals         | Code (English) |
|--------------------------------------|----------------|
| Drive composer PC tool user's manual | 3AUA0000094606 |

| Option manuals and guides                             |                 |
|-------------------------------------------------------|-----------------|
| ABB Drive connectivity control panel User's manual    | 3AXD50000515110 |
| ACx-AP-x Assistant control panels User's manual       | 3AUA0000085685  |
| Mobile Connect for Drives user guide                  | 3AXD50000555512 |
| CDPI-01 communication adapter module User's manual    | 3AXD50000009929 |
| DPMP-01 mounting platform for ACP-AP control panel    | 3AUA0000100140  |
| DPMP-02/03 mounting platform for ACP-AP control panel | 3AUA0000136205  |

You can find manuals and other product documents in PDF format on the Internet. See section Document library on the Internet on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.

You can download and install the Drivetune app by scanning the QR code below:



Android mobile (China)



Apple iOS mobile



Google play

# User's manual

## ABB Drive Connectivity Control Panel

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## Further information





1

# Introduction to the manual

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## What this manual contains

This manual describes how to use ABB Drive connectivity control panel to realize Condition monitoring for Drives and Mobile Connect for Drives functions for transmission.

ABB drive connectivity control panel is an intelligent wireless Drive HMI with cloud connectivity. With the built-in wireless communication module and data encryption, the operation data and events of the drive can be uploaded to the cloud in real time. Customers can monitor the operation status, events, historical data and other information of the drive at anytime and from anywhere by logging in the website, and get timely notifications in case of drive failure.

This control panel also enables remote assistance service - Mobile Connect for Drives, embedded in Drivetune App. Where user gets fast support from ABB drive experts. This helps customers to minimize the unplanned downtime and improve the overall operation efficiency of the machine.

This guide describes how to use ABB drive connectivity control panel to easily realize the Condition monitoring for Drives and remote assistance of the drive.

The chapter describes the product highlights, the applicability, compatibility, intended audience and the contents of this manual.

## Product highlights

- Plug and play, connect and serve
  - Support both of Condition monitoring for Drives and Remote assistance (Mobile Connect for Drives) digital services
  - Data double encryption, network security
  - Remote firmware uploading
-

## Applicability

This manual applies to the following panel type and versions:

| ABB Drive connectivity control panel | ACS-DCP-W     |
|--------------------------------------|---------------|
| Hardware version                     | C or later    |
| Software version                     | 5.96 or later |

You can also view panel details in the panel itself using either of the two methods:

- With panel still not powered, press and always hold **[?] (help)** button, then power up the panel through drive.

or

- With panel powered up, go to **Menu → System info → Control panel**.

| Control panel |                  |
|---------------|------------------|
| Product type: | ACS-DCP-W        |
| HW version:   | C                |
| FW version:   | GPAPRv5.95.200.5 |

| Local          | ACS580              | 0.0 rpm |
|----------------|---------------------|---------|
| Control panel  |                     |         |
| Product type:  | ACS-DCP-W           |         |
| HW version:    | C                   |         |
|                | Flash MT256         |         |
| FW version:    | GPAPR v5.95.200.5   |         |
|                | SHA-1: 9473e8f6     |         |
|                | 22.10.2019 05:24:58 |         |
| Serial number: | C9280032W11         |         |
| Back           | 00:09               |         |

**Note:** The images and instructions in this manual are examples, each based on a specific control panel and drive type combination. The details may vary with different control panels or drive types.

## Compatibility

The following drive(s) are compatible with ABB Drive connectivity control panel.

| Control panel type | ACS-DCP-W               |
|--------------------|-------------------------|
| Drive              | ACS580, ACS880-01/04/07 |

**Note:** This table may not be comprehensive. See the appropriate drive manual for more details.

## Safety

Follow all safety instructions delivered with the drive.

## Intended audience

This manual is intended for persons who use an ABB Drive connectivity control panel.

## Contents of the manual

The information in the manual is organized in the following chapters:

- *Installation and start-up* describes the installation and start-up of the control panel.
  - *Control panel overview* describes the main parts of the control panel and their functions.
  - *Basic operation* describes the menu structure, views and basic functions of the control panel.
  - *Functions in the main Menu* describes the functions in the main **Menu**.
  - *Functions in the Options menu* describes the functions in the **Options** menu.
  - *Fault tracing* describes how to identify different fault and warning messages and how to solve problem situations.
  - *Service and maintenance* describes service-related functions and routine maintenance tasks.
  - *Condition monitoring for Drives* describes the Condition monitoring for Drives function.
  - *Mobile Connect for Drives* describes the Mobile Connect for Drives assistance function.
  - *Technical data* describes the parts, dimensions and materials of the control panel, and other technical data about the control panel.
-



# 2

## Installation and start-up

### What this chapter contains

The chapter describes how to install and start-up the ABB Drive connectivity control panel for the first time.

### Installation

Attach the control panel directly to the drive or use a separate mounting kit (for example, for cabinet door mounting).

To attach the control panel,

1. Place its bottom end into the bottom of the slot in the drive (A).
2. Pivot the control panel and push the upper part (B) until you hear a click.

To detach the control panel,

1. Release the control panel by pressing the clip (B).
2. Pull the upper end of the control panel out of the slot in the drive.



### Note:

- Control panels can be replaced without shutting down the machine. Ensure that the parameter 49.05 **Communication loss action** is set to-> **No action** or **Warning** before replacing the control panel.

|                                 |        |         |
|---------------------------------|--------|---------|
| Local                           | ACS880 | 0.0 rpm |
| 49.05 Communication loss action |        |         |
| [0] No action                   |        |         |
| [1] Fault                       |        |         |
| [2] Last speed                  |        |         |
| [3] Speed ref safe              |        |         |
| [5] Warning                     |        |         |
| Cancel                          | 15:52  | Save    |

- Restore the needed original configuration of parameter 49.05 after replacement. As the control panel is an accessory of drive, it is recommended that this parameter be set to **Warning** unless required by application.

## First start-up

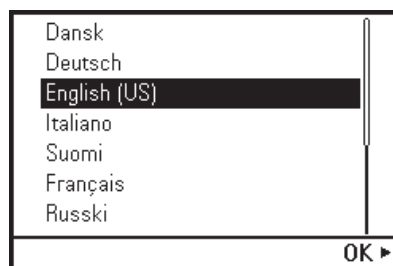
To start-up the control panel for the first time, follow the instructions:

- Obey all drive-specific safety precautions.
- Install the control panel. See instructions in [Installation](#) (page 13).
- Power up the drive.

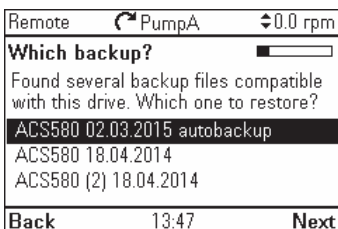
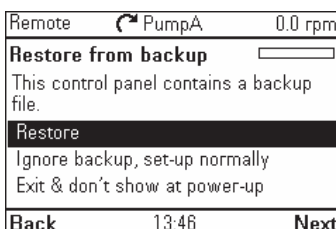
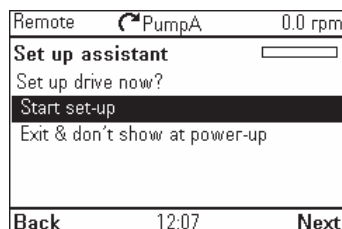
The control panel start-up begins automatically. Wait until the control panel shows the language selection view.

- Use  or  to select a language.
- Press  to confirm your selection.

Wait until the control panel completes uploading the language file. Its progress is indicated by a progress bar.



If there is a Basic set-up assistant in the drive, or if the control panel already contains a compatible backup (or backups) that could be copied to the drive, the control panel prompts a question.



Once you are in the **Home** view, the control panel is ready for use.

|                  |       |            |
|------------------|-------|------------|
| Local            | PumpA | 1200.0 rpm |
| Motor speed used | rpm   | 1200.07    |
| Motor current    | A     | 0.83       |
| Motor torque     | %     | 6.0        |
| Options          | 12:25 | Menu       |

## Start-up ABB drive cloud connection function

As the state requires the real name registration of the wireless IoT equipment, if this is the first time you or your company using ABB drive Condition monitoring for Drives service, please make sure that:

- Your company information, site information and drive information have been recorded by ABB.
- You need to log into the valid email address of the person who is responsible for drive Condition monitoring for Drives website, and register a free MyABB account.

### ■ Step 1: Registration of MyABB account

Please register and activate a free MyABB account by the following address.

<https://myportal.abb.com/cn>

**Note:** A valid MyABB account will be the only certificate to log into the website of ABB drive Condition monitoring for Drives and Mobile Connect for Drives.

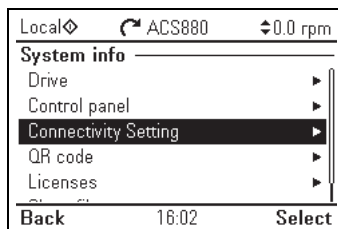
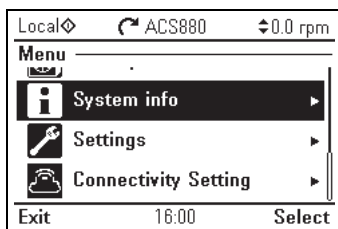
### ■ Step 2: Configuration of cloud connectivity

This section takes the ACS880 drive as example to instruct the users who need to commission the cloud connectivity configuration for the first time use of the panel. Apart from cloud connectivity, other functions are consistent with the ACS-AP-x assistant control panel of ABB drive.

### Connectivity setting function

In the main menu view, press the **Menu** key, use and to move the cursor until the **System information** menu is highlighted, and press the **Select** key to enter the **System information** menu.

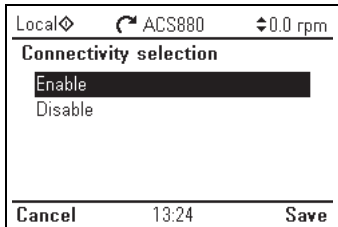
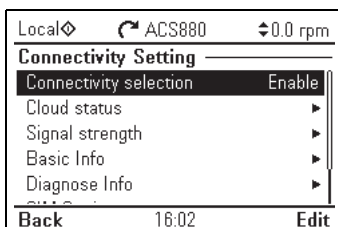
In the **System information** view, press the **Select** key to enter the **Connectivity setting** menu.



**Note:** For ACS880, you can also directly enter the **Connectivity setting** menu under the main menu.

### Connectivity selection

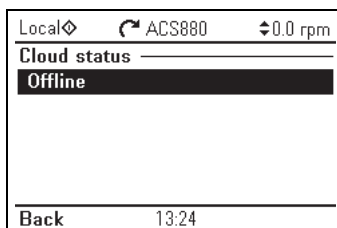
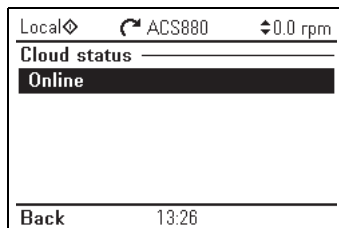
In the **Connectivity setting** view, select the **Connectivity selection**, press the  **Edit** key to enter the **Connectivity selection** option, set Connection control to **Enable**, and press the  **Save** key to enable the cloud connection.



### Cloud status

Press the  **Back** key to go back to the **Connectivity setting** view, and press the  **Select** key to enter the **Cloud status** option to check the cloud status. If the status changes from **offline** to **online**, it indicates that the drive has been successfully connected to the cloud platform.

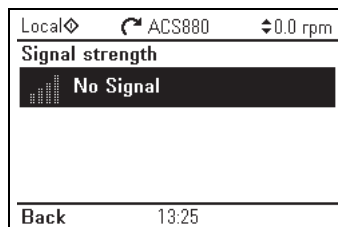
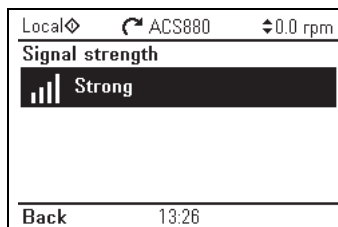
**Note:** During the first connection, it may take 1-3 minutes due to data exchange of device provision to cloud backend.



## Signal strength

Press the  **Back** key to go back to the **Connectivity setting** view, and press the  **Select** key to enter the **Signal strength** option to check the strength of the cloud connection signal.

There are four states: strong, weak, medium, and no signal.



After completing steps above, the drive has been successfully connected to the ABB Ability™ drive Condition monitoring for Drives platform.



# 3

## Control panel overview

---

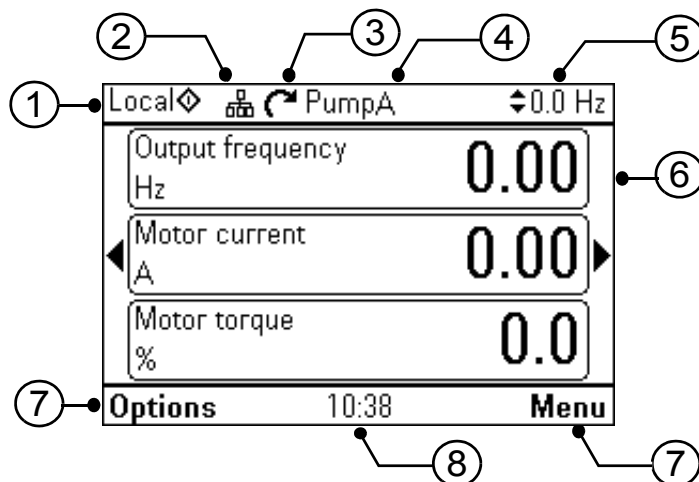
### What this chapter contains

The chapter describes the display, keys and main parts of the ABB drive connectivity control panel.



## ■ Display

In most views, the following control panel elements are shown on the display:



| No. | Panel element                      | Function                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Control location and related icons | <p>Indicates how the drive is controlled:</p> <p><b>No text:</b> The drive is in local control, but controlled from another device. The icons in the top pane indicate which actions are allowed.</p> <p><b>Local:</b> The drive is in local control, that is, controlled from the control panel.</p> <p><b>Remote:</b> The drive is in remote control, that is, controlled through I/O or fieldbus.</p> |
| 2   | Panel bus                          | <p>Indicates that there are more than one drive connected to this panel. To switch to another drive, go to <b>Options</b> → <b>Select drive</b>.</p>                                                                                                                                                                                                                                                     |

| No.         | Panel element                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Function                                                                                                                                                                                                                                                                                                             |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--------------|--|---|---------|--|---|--------------------------|--|----------|--------------------------------------------------|--|----------|---------|--|----------|-----------------------------------------------------|--|----------|---------------------------|--|----------|
| 3           | Status icon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Indicates the status of the drive and the motor. The direction of the arrow indicates forward (clockwise) or reverse (counter-clockwise) active reference direction.<br><b>Note:</b> For non-rotating driven equipment, the numbers 1 and 0 are used to indicate that the drive is running or stopped, respectively. |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | <table><tr><th>Status icon</th><th>Animation</th><th>Drive status</th></tr><tr><td></td><td>-</td><td>Stopped</td></tr><tr><td></td><td>-</td><td>Stopped, start inhibited</td></tr><tr><td></td><td>Blinking</td><td>Stopped, start command given but start inhibited</td></tr><tr><td></td><td>Blinking</td><td>Faulted</td></tr><tr><td></td><td>Blinking</td><td>Running, at reference, but the reference value is 0</td></tr><tr><td></td><td>Rotating</td><td>Running, not at reference</td></tr><tr><td></td><td>Rotating</td><td>Running, at reference</td></tr></table> |                                                                                                                                                                                                                                                                                                                      | Status icon | Animation | Drive status |  | - | Stopped |  | - | Stopped, start inhibited |  | Blinking | Stopped, start command given but start inhibited |  | Blinking | Faulted |  | Blinking | Running, at reference, but the reference value is 0 |  | Rotating | Running, not at reference |  | Rotating |
| Status icon | Animation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Drive status                                                                                                                                                                                                                                                                                                         |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Stopped                                                                                                                                                                                                                                                                                                              |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Stopped, start inhibited                                                                                                                                                                                                                                                                                             |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | Blinking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Stopped, start command given but start inhibited                                                                                                                                                                                                                                                                     |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | Blinking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Faulted                                                                                                                                                                                                                                                                                                              |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | Blinking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Running, at reference, but the reference value is 0                                                                                                                                                                                                                                                                  |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | Rotating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Running, not at reference                                                                                                                                                                                                                                                                                            |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
|             | Rotating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Running, at reference                                                                                                                                                                                                                                                                                                |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
| 4           | Drive name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | If a name is given, it is displayed at the top pane. By default, it is blank. You can change the name in the <a href="#">Primary settings</a> (page 48) or <a href="#">Settings</a> menu (page 48).                                                                                                                  |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
| 5           | Reference value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Speed, frequency and so on, are shown with its unit. For information on changing the reference value, see <a href="#">Setting the reference</a> (page 52).                                                                                                                                                           |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
| 6           | Content area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Displays the actual content of the view in this area. The content varies from view to view. The example view above is the main view of the control panel which is called the Home view.                                                                                                                              |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
| 7           | Softkey selections                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Displays the functions of the softkeys ( and ) in a given context.                                                                                                                                                                                                                                                   |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |
| 8           | Clock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Displays the current time. The time can be changed through the <a href="#">Primary settings</a> (page 48) or <a href="#">Settings</a> menu (page 48).                                                                                                                                                                |             |           |              |  |   |         |  |   |                          |  |          |                                                  |  |          |         |  |          |                                                     |  |          |                           |  |          |

You can adjust the display contrast and backlight functionality in the [Primary settings](#) (page 48) or [Settings](#) menu (page 48).

**■ Keys**

The keys of the control panel are described below.

**Left softkey**

The left softkey () is usually used for exiting and canceling. Its function in a given situation is shown by the softkey selection in the bottom left corner of the display.

Holding down exits each view in turn until you are back in the Home view. This function does not work in special screens.



## Right softkey

The right softkey () is usually used for selecting, accepting and confirming. The function of the right softkey in a given situation is shown by the softkey selection in the bottom right corner of the display.

## Arrow keys

The up and down arrow keys ( and ) are used to highlight selections in menus and selection lists, to scroll up and down on text pages, and to adjust values when, for example, setting the time, entering a passcode or changing a parameter value.

The left and right arrow keys ( and ) are used to move the cursor left and right in parameter editing and to move forward and backward in assistants. In menus,  and  function the same way as  and , respectively.

## Help

The help key () opens a help page. The help page is context-sensitive, in other words, the content of the page is relevant to the menu or view in question. See [Help](#) (page 30) for more information on the help page.

## Start and Stop

In local control, the start key () and the stop key () start and stop the drive, respectively.

## Off

In Hand and Auto control, the Off key () is used to stop the drive.

## Hand

The Hand key () is used to start the drive in local mode. When the drive is running, if you switch to Auto mode, the drive changes the control location to Remote mode and the drive may stop.

## Auto

The Auto key () is used to run the drive automatically. The control is selected from primary or secondary or any DI. You can give the reference inputs in **Menu** -> **Primary settings** -> **Drive** or by setting the values in parameter groups 19 and 20.

## Loc/Rem

The location key () is used to switch the control between the control panel (Local) and remote connections (Remote). When switching from Remote to Local while the drive is running, the drive keeps running at the same speed. When switching from Local to Remote, the status of the remote location is adopted. See the drive-specific firmware manual for more details.

## Key shortcuts

The table below lists key shortcuts and combinations. Simultaneous key presses are indicated by the plus sign (+).

| Shortcut                                                                                                                                                                                                                                                                                                                                       | Available in...      | Effect                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  +  +                                                                                        | any view             | Save a screenshot. Up to fifteen images can be stored in the control panel memory. For instructions on how to transfer the images into a PC, see section <a href="#">Transferring files between the control panel and a PC</a> (page 66). |
|  +  ,<br> +  | any view             | Adjust backlight brightness.                                                                                                                                                                                                              |
|  +  ,<br> +  | any view             | Adjust display contrast.                                                                                                                                                                                                                  |
|  or                                                                                                                                                                           | Home view            | Adjust reference.                                                                                                                                                                                                                         |
|  +                                                                                                                                                                            | parameter edit views | Revert an editable parameter to its default value.                                                                                                                                                                                        |
|  +                                                                                                                                                                            | any view             | Show/hide parameter index and parameter group numbers.                                                                                                                                                                                    |
| <br>(keep down)                                                                                                                                                                                                                                                | any view             | Return to Home view by pressing down the key until Home view is shown.                                                                                                                                                                    |

## Status LED

The control panel has a status LED that indicates if there are any faults or warnings present. The table below shows the meaning of the LED indications.

| Disable cloud connection                |                                                                                                                                                                         |                                                                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Green, continuous                       |                                                                                        | The drive is functioning normally.                                                |
| Green, blinking                         |                                                                                        | There is an active warning in the drive.                                          |
| Red, continuous                         |                                                                                      | There is an active fault in the drive.                                            |
| Blue, blinking                          |                                                                                      | Bluetooth interface is enabled. It is in discoverable mode and ready for pairing. |
| Blue, flickering                        |                                                                                      | Data is transferred through the Bluetooth interface of the control panel.         |
| Enable cloud connection                 |                                                                                                                                                                         |                                                                                   |
| Green, continuous +<br>Blue, blinking   |   | The connection between drive and cloud is normal.                                 |
| Green, flickering +<br>Blue, blinking   |   | There is an active warning in the drive, and cloud connection is normal.          |
| Red, continuous +<br>Blue, blinking     |   | There is an active fault in the drive, and cloud connection is normal.            |
| Green, continuous +<br>Yellow, blinking |   | The drive is functioning normally, and cloud connection has fault.                |

|                                       |                                                                                   |                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Yellow and Green blinking alternately |  | The drive is functioning normally, and cloud connection are uploading firmware. |
|---------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|

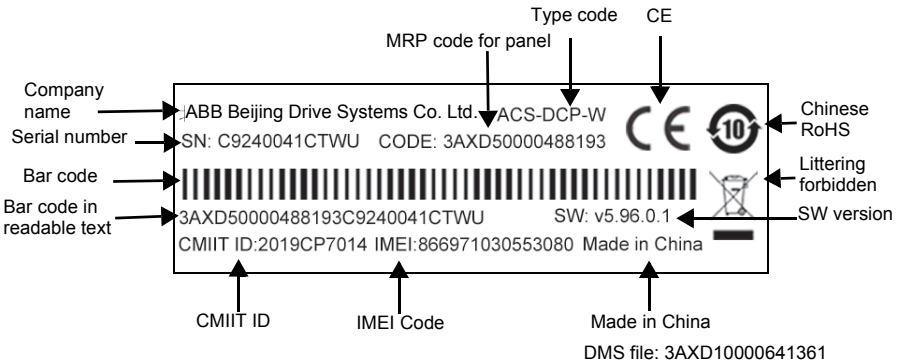
For further information on fault and warning indications, see [Identifying error and warning messages](#) (page 59).

**RJ-45 connector**

The RJ-45 connector is used to electrically connect the control panel to the drive. Mechanical connection is achieved with the clip on the top.

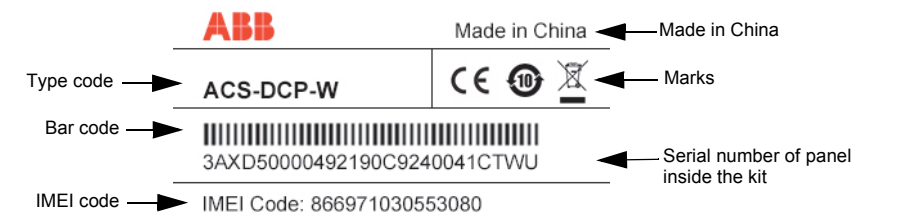
**Type code label on the panel**

The type code label on the panel contains revision information, CMIIT ID, etc. See an example label below.



**Type code label on the panel package**

The type code label on the panel package contains revision information. See an example below.



## ■ **Wireless interface**

The ACS-DCP-W Assistant control panels with Bluetooth interface and NB-IoT function enable wireless interface for ABB drives. The wireless panels are also embedded with powerful processor and memory that enables faster communication.

For Bluetooth and basic functions, ACS-DCP-W are same with ACS-AP-W panel.

For more information, please refer to the chapter [Technical data](#).

---

## 4

# Basic operation

---

## What this chapter contains

The chapter describes the basic operations and components of the user interface. It also lists the common user tasks and provides instructions to complete the task.

## User interface overview

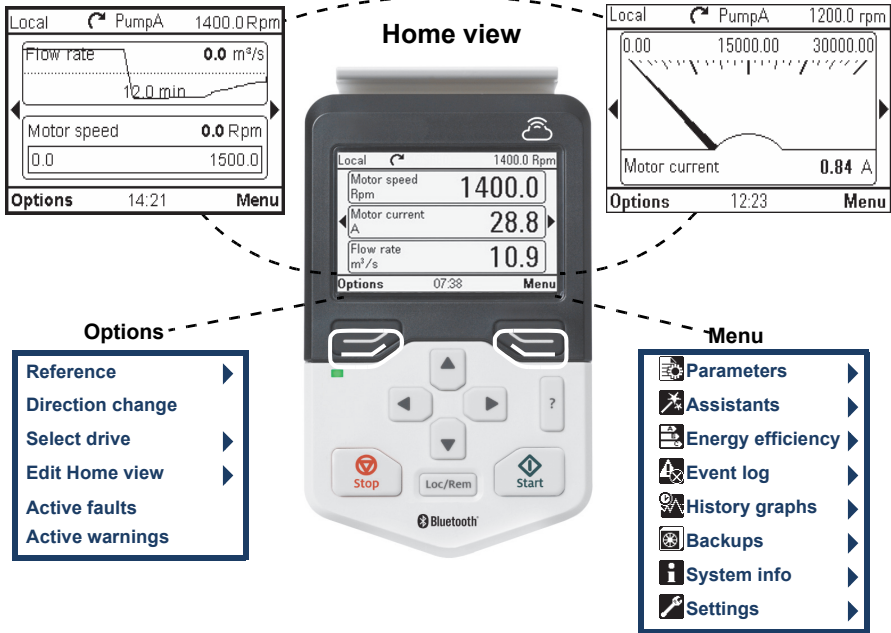
The user interface has the following main components:

| Component           | Description                                                                                                                                                                                                                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Home view           | Used to monitor signals. See <a href="#">Home view</a> (page 22).                                                                                                                                                                   |
| Menu                | Access to most functions of the control panel. See the detailed description in chapter <a href="#">Functions in the main Menu</a> (page 31).                                                                                        |
| Options             | Used to set a reference, change the motor direction, select the drive, edit Home view pages, and see the fault and warning status. See the detailed description in chapter <a href="#">Functions in the Options menu</a> (page 27). |
| Help                | Provides information on the current view or menu or on possible problems associated with it. See <a href="#">Help</a> (page 22).                                                                                                    |
| Faults and warnings | View faults and warnings when the drive or control panel experiences an error. See <a href="#">Fault tracing</a> (page 59).                                                                                                         |

---

## Control panel navigation

Use the arrow keys and softkeys for navigation. Follow the choices on the screen.



**Note:** The menu shown is an example only. The Menu varies based on the drive/device to which the panel is connected.

### Navigation memory

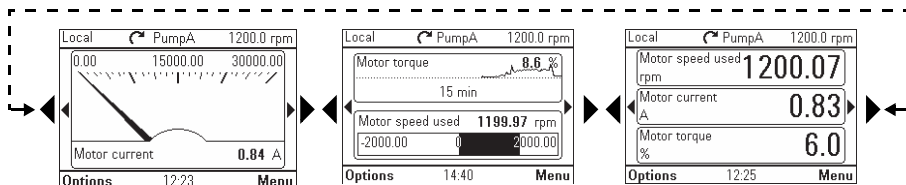
The Assistant control panel has a navigation memory that allows you to backtrack your steps through the user interface with the arrow keys (◀) and (▶). The path you have last accessed remains in the memory for 10 minutes.

- The left arrow key (◀) moves you backwards in the menu structure. If you press (◀) repeatedly, you return back to the Home view.
- The right arrow key (▶) moves you forward in the menu structure. If you press (▶) repeatedly, you move forward along the path in the menu structure you had previously accessed.

## Home view

The main view of the control panel is called the **Home** view. In the **Home** view, you can monitor the status of the drive, such as its speed, torque or power. The **Home** view has one or more pages, each of which can display up to three signals.

The number of pages and the signals shown on each page are customizable, and the Home view configuration is saved to the drive whenever you change it. The maximum total number of signals displayed varies from 9 to 21, depending on the drive. In the example below, three Home view pages are used, showing different display formats.



Each application macro and user set has a default Home view configuration. When you select an application macro or restore a user set, the Home view configuration changes accordingly. There is a default Home view configuration in each drive, which can be restored in the [Primary settings](#) (page 48) or [Settings](#) (page 48) menu.

**Note:** The Menu varies based on the drive/device to which the panel is connected.

The **Home** view opens automatically when you power up the drive. The **Home** view is also displayed from the **Options** menu or the main **Menu** if no key is pressed for 10 minutes.

**Tip:** You can return to the **Home** view from any view except special screens by holding down the left softkey .

### ■ Navigating in the Home view

- Use  and  to move between the different pages of the **Home** view. The page numbers are shown while you scroll between pages.
- Use  or  to adjust the reference (visible in the top right corner). See also [Setting the reference](#) (page 27).
- Press  (**Menu**) to open the main **Menu** (see [Functions in the main Menu](#) on page 31).
- Press  (**Options**) to open the **Options** menu (see [Functions in the Options menu](#) on page 27).

## Help

You can open a context-sensitive help page in all menus and views by pressing . The help page provides information on the use of the current view or menu, or on possible problems associated with it.

On the help page, you can press  again or press  (**Exit**) to exit.

Using , you can also view details of control panel type and version in the panel itself. See instructions in section [Applicability](#) (page [10](#)).

---

## Common user tasks

The following tables list common user tasks and describes how to complete the task. See chapters [Functions in the main Menu](#) (page 35) and [Functions in the Options menu](#) (page 51) for detailed descriptions of functions in the menus.

**Note:** The Menu options varies based on the drive/device to which the control panel is connected.

### Basic operation of the drive

| Task                                                            | Actions                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Start and stop the drive.                                       | In local control, press  to start the drive and  to stop the drive. |
| Set the reference (for example, speed) in the <b>Home</b> view. | In local control, go to <b>Options &gt; Reference</b> . Set the reference with the arrow keys. For detailed instructions, see <a href="#">Setting the reference</a> (page 52).                                                        |
| Switch between local and remote control.                        | Press  .                                                                                                                                             |
| Change the direction of motor rotation.                         | In local control, go to <b>Home</b> view, press  ( <b>Options</b> ) to open the <b>Options</b> menu and select <b>Direction change</b> .             |

### Parameters

| Task                                                         | Actions                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Choose parameters displayed on the Favorites list.           | Go to <b>Menu → Parameters → Favorites → Edit</b> . See also <a href="#">Editing the list of favorites</a> (page 37).                                                                                                                                                                                                                           |
| View/edit parameters.                                        | Go to <b>Menu → Parameters → Complete list</b> to view parameters.<br>See <a href="#">Editing parameters</a> (page 37) for instructions on editing parameters.                                                                                                                                                                                  |
| Add parameters to the Home view.                             | See <a href="#">Editing the contents of the Home view</a> (page 52).                                                                                                                                                                                                                                                                            |
| Show/hide parameter index and group numbers.                 | Press  +  .                                                                                                                                                               |
| Restore parameter default value.                             | In the editing mode, press  +  .<br>To save the default value, press  ( <b>Save</b> ). |
| View parameters that differ from Application Macro defaults. | Go to <b>Menu → Parameters → Modified</b> .                                                                                                                                                                                                                                                                                                     |

## ■ System information and help

| <b>Task</b>                                                                                                | <b>Actions</b>                                                                                                              |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| How to get help.                                                                                           | Press  to open the context-sensitive help. |
| To view drive information.                                                                                 | Go to <b>Menu</b> → <b>System info</b> → <b>Drive</b> .                                                                     |
| To view control panel version.                                                                             | Go to <b>Menu</b> → <b>System info</b> → <b>Control panel</b> .                                                             |
| To view application program license.                                                                       | Go to <b>Menu</b> → <b>System info</b> → <b>Licenses</b> .                                                                  |
| To view Product application information.                                                                   | Go to <b>Menu</b> → <b>System info</b> → <b>Product application</b> .                                                       |
| To view Connectivity setting.                                                                              | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity setting</b> .                                                      |
| To view the cloud digital twin ID number (GUID) and built-in SIM ID information corresponding to the drive | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity setting</b> → <b>Basic information</b> .                           |
| To view diagnose information of Connectivity setting.                                                      | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity setting</b> → <b>Diagnose information</b> .                        |
| To set time zone of Connectivity setting.                                                                  | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity setting</b> → <b>SIM Setting</b> → <b>Time Zone</b> .              |

## ■ Faults and warnings

See [Fault tracing \(page 59\)](#) for detailed information on faults and warnings.

| <b>Task</b>                    | <b>Actions</b>                                                                                                                                                                                                                                                                                                |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hide/view an active fault.     | Faults are automatically displayed. If you hide a fault by pressing  ( <b>Hide</b> ), it automatically reappears after 60 seconds of no key presses. You can also view the fault through <b>Options &gt; Active faults</b> . |
| Open help page on a fault.     | Press  to view the help page.                                                                                                                                                                                              |
| Reset an active fault.         | Press  ( <b>Reset</b> ) to reset an active fault.                                                                                                                                                                          |
| View tripping faults.          | Go to <b>Menu</b> → <b>Event log</b> → <b>Faults</b> .                                                                                                                                                                                                                                                        |
| Hide/view an active warning.   | Warnings are automatically displayed. If you hide a warning by pressing  ( <b>Hide</b> ), it automatically reappears if the warning is still active after 60 seconds of no key presses.                                    |
| Open help page on a warning.   | Press  ( <b>How to fix</b> ) or  to view the help page.                                                                                 |
| Reset an active warning.       | Warnings disappear automatically once the condition that has triggered it goes away.                                                                                                                                                                                                                          |
| View past warnings and faults. | Go to <b>Menu</b> → <b>Event log</b> → <b>Other events</b> .                                                                                                                                                                                                                                                  |

## ■ Basic settings and assistants

| Task                                        | Actions                                                                                                                                                                                                                                                                               |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adjust backlight brightness.                | Press and hold  , and press  or  . |
| Adjust display contrast.                    | Press and hold  , and press  or  . |
| Change language.                            | Go to <b>Menu</b> → <b>Settings</b> → <b>Language</b> .                                                                                                                                                                                                                               |
| Change time and date, and related settings. | Go to <b>Menu</b> → <b>Settings</b> → <b>Date &amp; time</b> .                                                                                                                                                                                                                        |
| Launch an assistant.                        | Go to <b>Menu</b> → <b>Assistants</b> and select an assistant to launch.                                                                                                                                                                                                              |

## ■ Backups

| Task              | Actions                                                     |
|-------------------|-------------------------------------------------------------|
| Create a backup.  | See <a href="#">Creating a parameter backup</a> (page 44).  |
| Restore a backup. | See <a href="#">Restoring a parameter backup</a> (page 44). |

## ■ Firmware upgrade

| Task                              | Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Download firmware                 | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity Setting</b> → <b>Firmware upgrade</b> → <b>Download new firmware</b> .<br>On the <b>Download Firmware</b> page, <b>Start</b> option means to download the firmware immediately; <b>Auto Start</b> option means the control panel will automatically go to the cloud to check if there is any new firmware every month, if yes, it will automatically download it. <b>Stop</b> option can stop the download operation in progress immediately.<br><b>Note:</b> Downloading firmware only downloads the latest firmware and does not install it. |
| Download and install new firmware | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity Setting</b> → <b>Firmware upgrade</b> → <b>Install and upload new firmware</b> .<br><b>Note:</b> Start the installation immediately after the new firmware is downloaded successfully.                                                                                                                                                                                                                                                                                                                                                         |
| Install firmware                  | Go to <b>Menu</b> → <b>System info</b> → <b>Connectivity Setting</b> → <b>Firmware upgrade</b> → <b>Install new firmware</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



## 5

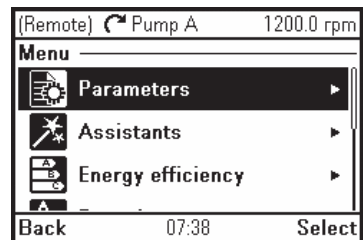
# Functions in the main Menu

## What this chapter contains

The chapter describes the functions in the main **Menu**.

## Menu

All functions of the control panel are accessed through the **Menu** which is the main menu of the user interface. The sub-menus of the **Menu** are listed below and they are described in more detail in the subsequent sections. The sub-menus depend on the product that is controlled with the control panel.



The following sub-menus varies based on the drive/device to which the panel is connected:

| Sub-menu                          | Function                                                                                      | See page...        |
|-----------------------------------|-----------------------------------------------------------------------------------------------|--------------------|
| <a href="#">Parameters</a>        | View and edit parameters.                                                                     | <a href="#">36</a> |
| <a href="#">Assistants</a>        | Launch an assistant.                                                                          | <a href="#">36</a> |
| <a href="#">Energy efficiency</a> | Use energy-saving features.                                                                   | <a href="#">42</a> |
| <a href="#">Event log</a>         | View information on faults and warnings.                                                      | <a href="#">42</a> |
| <a href="#">History graphs</a>    | View the load profile.                                                                        | <a href="#">43</a> |
| <a href="#">Backups</a>           | Save settings in the control panel memory and restore them to the drive.                      | <a href="#">43</a> |
| <a href="#">System info</a>       | View information on the drive and options.                                                    | <a href="#">45</a> |
| <a href="#">Settings</a>          | View and change time and date settings, language, display and other settings, and edit texts. | <a href="#">45</a> |

| Sub-menu                | Function                                                                                                  | See page...        |
|-------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|
| <i>Primary settings</i> | View and change settings related to motor, PID, fieldbus, advanced functions, clock, region, and display. | <a href="#">48</a> |
| <i>I/O</i>              | Provides terminal name, number, electrical status and logical meaning of the drive.                       | <a href="#">50</a> |
| <i>Diagnostics</i>      | Provides faults and warnings information and helps to resolve potential problems.                         | <a href="#">50</a> |

### ■ Navigating in the Menu

- Use  or  to select a menu item.
- Use  or  (**Exit**) to go back to the **Home** view.
- Use  or  (**Select**) to enter the selected sub-menu.

## Parameters

In the **Parameters** menu, you can view and edit parameters. There are four sub-menus through which you can access the parameters. In each sub-menu, the grouping principle of the parameters is different.

In each sub-menu, you can edit a parameter by highlighting it and pressing  (**Edit**). Counter parameters and certain number, text and bit field parameters are read-only and can be viewed by pressing  (**View**).

|                   |                                                                                   |        |         |
|-------------------|-----------------------------------------------------------------------------------|--------|---------|
| Remote            |  | PumpA  | 0.0 rpm |
| <b>Parameters</b> |                                                                                   |        |         |
| Complete list ▶   |                                                                                   |        |         |
| By function ▶     |                                                                                   |        |         |
| Favorites ▶       |                                                                                   |        |         |
| Modified ▶        |                                                                                   |        |         |
| Back              | 14:30                                                                             | Select |         |

### ■ Complete list

In the **Complete list** sub-menu, all parameter groups are listed in numerical order. If you select a parameter group, all parameters in that group are listed and you can view and edit the parameters. Parameter numbers are always displayed in this sub-menu.

|                               |                                                                                   |        |         |
|-------------------------------|-----------------------------------------------------------------------------------|--------|---------|
| Remote                        |  | PumpA  | 0.0 rpm |
| <b>Complete list</b>          |                                                                                   |        |         |
| 01 Actual values ▶            |                                                                                   |        |         |
| 03 Input references ▶         |                                                                                   |        |         |
| 04 Warnings and faults ▶      |                                                                                   |        |         |
| 05 Diagnostics ▶              |                                                                                   |        |         |
| 06 Control and status words ▶ |                                                                                   |        |         |
| Back                          | 14:35                                                                             | Select |         |

### ■ By function

This functionality is available in a future release.

## ■ Favorites

In the **Favorites** sub-menu, only user-selected parameters are listed. The order is determined by the parameter number.

### Editing the list of favorites

1. Select **Edit**.
2. Check parameters you want to show on the list by pressing  (**Select**).
3. Press  (**Done**) to exit and save changes.

|                                                                                               |                                                                                   |               |         |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------|---------|
| Remote                                                                                        |  | PumpA         | 0.0 rpm |
| <b>Favorites</b>                                                                              |                                                                                   |               |         |
|  <b>Edit</b> |                                                                                   |               |         |
| 99.06 Motor nominal current 1.1 A                                                             |                                                                                   |               |         |
|                                                                                               |                                                                                   |               |         |
| <b>Back</b>                                                                                   | 14:34                                                                             | <b>Select</b> |         |

|                                                                   |                                                                                   |                 |         |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------|---------|
| Remote                                                            |  | PumpA           | 0.0 rpm |
| <b>Edit favorites list</b>                                        |                                                                                   |                 |         |
| <input checked="" type="checkbox"/> 99.06 Motor nominal current   |                                                                                   |                 |         |
| <input checked="" type="checkbox"/> 99.07 Motor nominal voltage   |                                                                                   |                 |         |
| <input checked="" type="checkbox"/> 99.08 Motor nominal frequency |                                                                                   |                 |         |
| <input type="checkbox"/> 99.09 Motor nominal speed                |                                                                                   |                 |         |
| <input type="checkbox"/> 99.10 Motor nominal power                |                                                                                   |                 |         |
| <b>Done</b>                                                       | 14:34                                                                             | <b>Unselect</b> |         |

|                                       |                                                                                   |             |         |
|---------------------------------------|-----------------------------------------------------------------------------------|-------------|---------|
| Remote                                |  | PumpA       | 0.0 rpm |
| <b>Modified parameters</b>            |                                                                                   |             |         |
| Parameters that differ from defaults: |                                                                                   |             |         |
| 10.30 R03 source Not energized        |                                                                                   |             |         |
| 19.11 Ext1/Ext2 selection EXT2        |                                                                                   |             |         |
| 20.06 Ext2 commands ATF               |                                                                                   |             |         |
| 20.12 Run enable 1 source On          |                                                                                   |             |         |
| <b>Back</b>                           | 14:35                                                                             | <b>Edit</b> |         |

## ■ Modified

In the **Modified** sub-menu, only the parameters whose values differ from the Application Macro defaults are listed. The order is determined by the parameter number.

## ■ Adding parameters to the Home view

When you view a read-only parameter in the **Parameters** menu, you can add the parameter to the **Home** view.

- Press  (**Add to view**) to open the Home view in the editing mode then you can add the parameter to an empty display slot or replace an existing parameter with it.
- Press  (**Back**) to go back to the parameter view.

|                       |                                                                                   |                    |         |
|-----------------------|-----------------------------------------------------------------------------------|--------------------|---------|
| Remote                |  | PumpA              | 0.0 rpm |
| 05.01 On-time counter |                                                                                   |                    |         |
| 1 days                |                                                                                   |                    |         |
| 0 65535               |                                                                                   |                    |         |
| <b>Back</b>           | 14:37                                                                             | <b>Add to view</b> |         |

Editing the **Home** view functions are described in more detail in [Editing the contents of the Home view](#) (page 52).

## ■ Editing parameters

You can edit parameter values with the arrow keys.

1. Press  (**Select**) to select the desired parameter from the list.
2. Press  (**Edit**).
3. Use  and  to change the value.
4. Press  (**Save**) to save the value, or press  (**Cancel**) to exit the parameter view and discard any changes.

5. Press + to restore the default value of the parameter (this does not save it).  
See the sections below for more information on editing specific parameter types.

**■ Editing numeric parameters**

Numeric parameters include parameters with linear numeric values, passcodes, time and date parameters, durations and exception dates. For numeric parameters with linear values, the minimum and maximum values are displayed in the bottom left and right corners of the content area, respectively.

- Use and to highlight digits.
- Use and to change the value.
- Press (**Save**) to save the value and exit the view.
- To cancel and exit, press (**Cancel**).

|                                                                                                           |                                                                                                 |                                                                               |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Local  PumpA 1200.0 rpm<br>25.03 Speed integration time<br>0002.50 s<br>0.00 1000.00<br>Cancel 12:35 Save | Local  Pump A 1200.0 rpm<br>Date<br>day Month Year<br>13.03.2015<br>Friday<br>Cancel 12:29 Save | Local  PumpA 1200.0 rpm<br>Time<br>h min sec<br>12:33:37<br>Cancel 12:33 Save |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|

**■ Editing selection list parameters**

A selection list consists of mutually exclusive options, such as the language selection list.

- Use and to move the cursor.
- Press (**Save**) to select and save the highlighted option.
- To cancel and exit, press (**Cancel**).

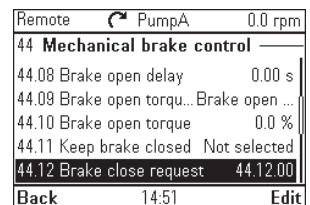
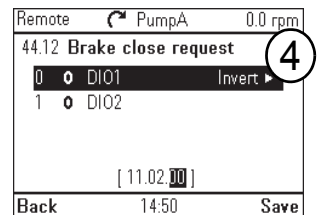
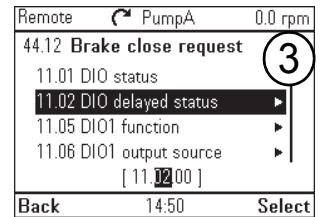
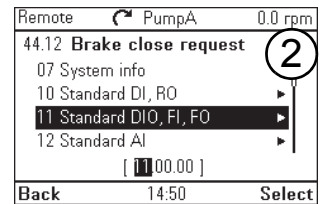
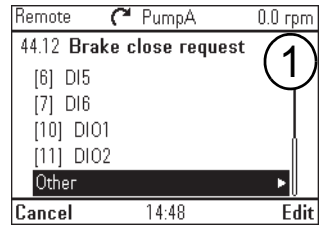
|                                  |
|----------------------------------|
| Remote  PumpA 0.0 rpm            |
| Language                         |
| Language changes take some time. |
| Not selected                     |
| English                          |
| Deutsch                          |
| Italiano                         |
| Exit 14:47 Next                  |

Some selection list parameters allow you to choose another parameter as its value. In addition to a preset list of options, you can select a parameter freely, represented by the selection **Other** in the list.

To select a parameter, follow the instructions:

1. Select **Other** to move to a list of parameter groups.
2. Select a parameter group to move to a list of parameters.
3. Depending on the parameter you are editing, you must select a parameter or an individual bit, or you may choose either of the two.
  - If the right softkey label is **Select**, you must select an individual bit as the value of the parameter you are editing. Press  (**Select**) to move to a bit selection list.
  - If the right softkey label is **Save**, you can select that parameter as the value of the parameter you are editing. Press  (**Save**) to save the selection.
  - If the right softkey label is **Save** and there is also an arrow on the right hand side of the selection, you can choose an individual bit or all the bits in that parameter. Press  to move to a bit selection list. If you want select all the bits in the parameter, press  (**Save**) instead.
4. Select a bit if applicable (see the previous step). Press  to invert the selected bit and press  (**Save**) to save the selection.

The parameter or bit is now selected as the parameter value.



## ■ Editing bit-field parameters

A bit-field parameter is a bit word whose individual bits can be edited. The labels describe the function of each bit, and the current state of the bit is shown as 1 or 0.

- Use  and  to select a bit.
- To change a bit value, press  or .
- To save the bit values and exit, press  (**Save**).
- To cancel and exit, press  (**Cancel**).

|                          |                                                                                         |          |
|--------------------------|-----------------------------------------------------------------------------------------|----------|
| Local                    |  Pump1 | 0.0 Hz   |
| 21.08 DC current control |                                                                                         |          |
| 0                        | DC hold                                                                                 | =Disable |
| 1                        | Post magnetization                                                                      | =Enable  |
| Cancel                   | 11:35                                                                                   | Save     |

## ■ Editing texts

Texts that you can edit with the control panel include parameter display names in the Home view and their units, drive names, fault and warning names, and other customizable notes or names.

- To select the character mode ((lower case / upper case / numbers / special characters), press  unit symbol  is highlighted and then select the mode with  and . Now you can start adding characters. The mode remains selected until you select another one.
- To add a character, highlight it with  and then press .
- To remove a letter, press .
- Press  (Save) to accept the new setting, or press  (Cancel) to go back to the previous view without making changes.

|            |                                                                                         |              |
|------------|-----------------------------------------------------------------------------------------|--------------|
| Remote     |  PumpA | 0.0 rpm      |
| Drive name |                                                                                         |              |
|            |                                                                                         | ABC          |
| PumpA      |                                                                                         |              |
| B          |                                                                                         |              |
| C          |                                                                                         | Length: 5/32 |
| Cancel     | 14:54                                                                                   | Save         |

|            |                                                                                         |                 |
|------------|-----------------------------------------------------------------------------------------|-----------------|
| Local      |  PumpA | 0.0 rpm         |
| Drive name |                                                                                         |                 |
|            |                                                                                         | abc ABC 123 .!? |
| Z          |                                                                                         |                 |
| PumpA      |                                                                                         | Length: 5/52    |
| Cancel     | 10:29                                                                                   | Save            |

**Note:** The current software version supports only the English character set (a...z).

## ■ Resetting counters

Counters are parameters that measure incremental quantities associated with the use of the drive such as runtime or energy consumption. Counters are updated automatically and cannot be edited, but it is possible to reset a counter to zero by pressing down  (**Reset**) for three seconds.

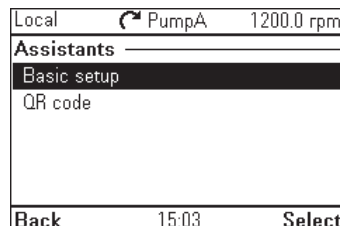
**Note:** If a trigger value is defined for the counter, the counter's progress from zero to the trigger value is shown as a bar graph.

## Assistants

In the **Assistants** menu, you can launch an assistant, which is a sequence of steps that help you to complete a task, such as setting up the control panel to use with the drive and the motor, or fixing a fault. You can also generate a QR code, which is an optical code containing information of the drive. The code can be read with ABB application and mobile device.

### ■ Launching an assistant

1. Use  and  to highlight the desired assistant.
2. Press  (**Select**).
3. Follow the instructions on the screen to complete the task defined by the assistant:
  - Use  and  to select settings.
  - To edit a setting, press  (**Edit or Select**).
  - Use  and  to move between the pages of the assistant. The progress bar on the upper right corner of the screen indicates the progress.
  - To exit the assistant, press  (**Exit**).

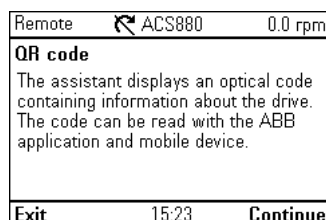
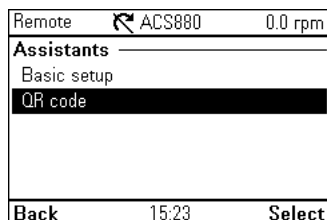


Most settings accessed in assistant steps can also be accessed through the main **Menu** or the **Parameters** menu, but the steps the assistants are more user-friendly.

**Note:** If you used the **Assistants** menu, complete all steps to save the changes, otherwise the changes are canceled.

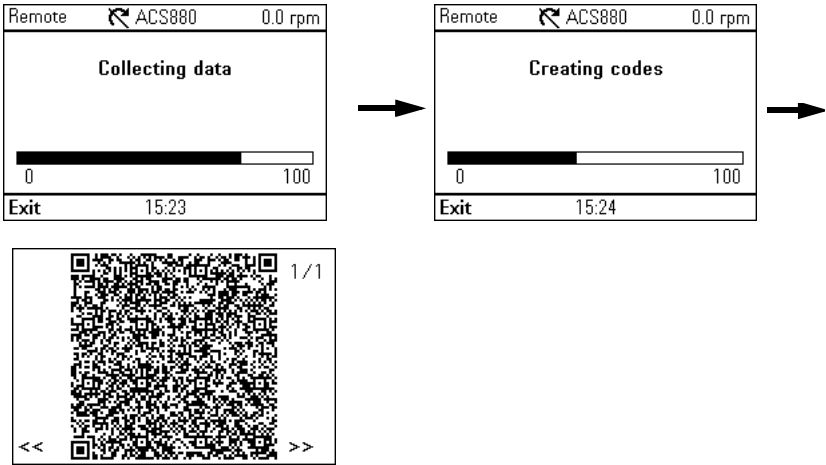
### ■ Generating a QR code

1. In the Assistants menu, select QR code using  and  and press  (**Select**).



2. Press  (**Continue**).

The control panel collects data and generates the code.



Press << or >> to navigate to the next screen.

You can also generate QR code from **Menu** → **System info** → **QR code**.

 **Energy efficiency**

In the Energy efficiency menu, you can view and configure parameters related to energy savings, such as kWh counters.

|                          |                                                                                   |       |         |
|--------------------------|-----------------------------------------------------------------------------------|-------|---------|
| Local                    |  | PumpA | 0.0 rpm |
| <b>Energy efficiency</b> |                                                                                   |       |         |
| 45.01                    | Saved GW hours                                                                    | 0     | GW/h    |
| 45.02                    | Saved MW hours                                                                    | 0     | MWh     |
| 45.03                    | Saved kW hours                                                                    | 0.0   | kWh     |
| 45.05                    | Saved money x1000                                                                 | 0     | EUR     |
| 45.06                    | Saved money                                                                       | 0.00  | EUR     |
| Back                     | 13:38                                                                             | View  |         |

 **Event log**

In the **Event log** menu, you can view information collected on faults and warnings. Events are automatically logged. See [Fault tracing](#) (page 59) for more information on faults and warnings.

- **Faults** sub-menu displays the faults that are tripped the drive.
- **Other events** sub-menu displays all other faults, and warnings and their details.
- **Active faults** and **Active warnings** sub-menu displays the faults and warnings which are active.

|                  |                                                                                     |        |         |
|------------------|-------------------------------------------------------------------------------------|--------|---------|
| Remote           |  | PumpA  | 0.0 rpm |
| <b>Event log</b> |                                                                                     |        |         |
| Faults           |                                                                                     |        |         |
| Other events     |                                                                                     |        |         |
| Active faults    |                                                                                     |        |         |
| Active warnings  |                                                                                     |        |         |
| Back             | 14:59                                                                               | Select |         |

## History graphs

The History graphs menu contains Trends and Load profile sub-menu.

### ■ Trends

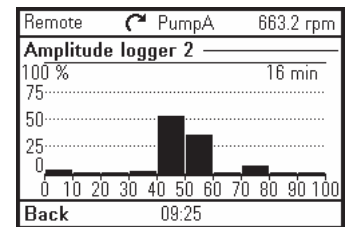
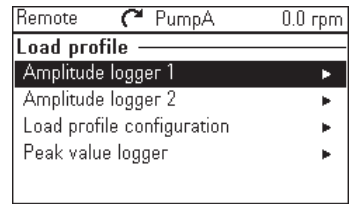
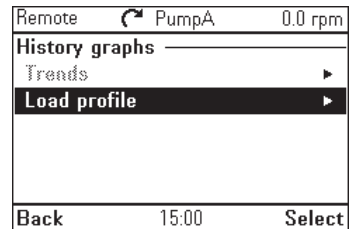


This functionality is available in a future release.

### ■ Load profile

In the **Load profile** submenu, you can view and configure load profiles. The menu contains the following sub-menus:

- **Amplitude logger 1:** Opens a Histogram view, which displays the motor current as a distribution histogram. This logger cannot be reset.
- **Amplitude logger 2:** Opens a Histogram view, which displays the contents of an amplitude logger as a distribution histogram. You can select the signal to be monitored.
- **Load profile configuration:** Select the signal to be monitored in Amplitude logger 2.
- **Peak value logger:** Select a signal to be monitored by a peak value logger.



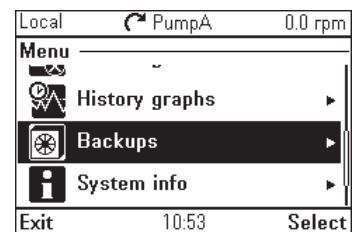
For more information on load profiles, see the appropriate firmware manual.

## Backups

In the **Backups** menu, you can save parameter settings in the control panel memory and restore parameter settings from a backup to the drive. You can store up to two backup files on the control panel.

The assistant panel has a dedicated space for one automatic backup. An automatic backup is created two hours after the last parameter change. After completing the backup, the panel waits for 24 hours before checking if there are additional parameter changes. If there are, it creates a new backup overwriting the previous one.

You can copy backup files to and from a PC with any file manager application (example, Windows Explorer).



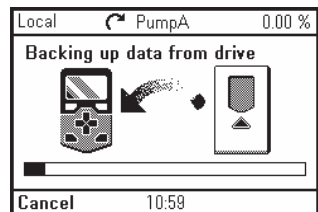
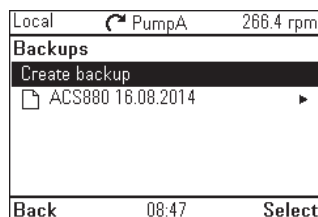
Some of the Backup icons are listed below:

| Backup              | Icon |
|---------------------|------|
| Automatic backup    |      |
| Compatible backup   |      |
| Incompatible backup |      |
| Partly compatible   |      |

### ■ Creating a parameter backup

1. In the **Backups** menu, select **Create backup**.  
If there is a free backup slot in the control panel, the following step is skipped.
2. Use and to select one of the existing backup files, and press **Replace**.
3. Wait until the backup is completed. An animation is shown on the control panel during the backup process. The control panel automatically returns to the **Backups** menu.

**Note:** If the backup process is canceled or interrupted, the previously saved backup file is not deleted or damaged. Thus, if you accidentally start a backup process, you can safely cancel it before its completion.

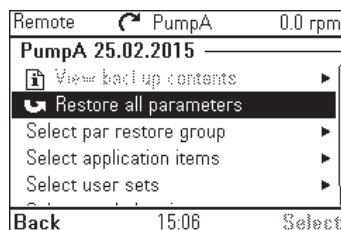


### ■ Restoring a parameter backup

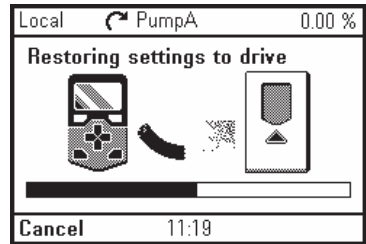
1. In the **Backups** menu, select the backup file you want to restore.
2. Select **View backup contents** and check that it is the correct backup file and that it is suitable for restoring.

**Note:** This functionality is available in a future release.

3. Select one of the restore options:
  - To restore all settings, select **Restore all parameters**.
  - To restore a set of parameters, select **Select par restore group** and select the desired parameters from the list, and then select **Restore**.
  - To select application parameters, select **Select application items** and select the desired parameters from the list and then select **Restore**.
  - To select user parameters sets, select **Select user sets** and select the desired user set from the list and then select restore.

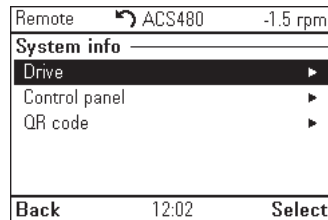


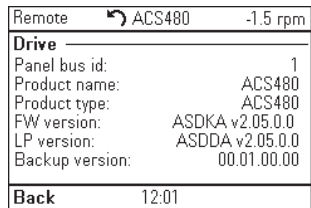
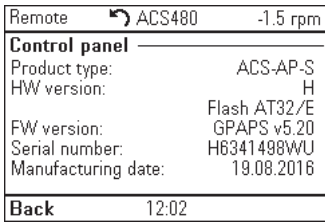
- To select production data items, select **Select prod. data items** and select the desired production data and then select restore.
4. Wait until the restore is completed. An animation is shown on the control panel during the restoring process. The control panel automatically returns to the **Backups** menu.

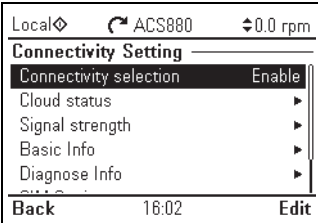
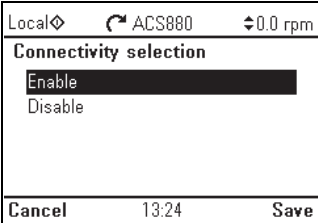
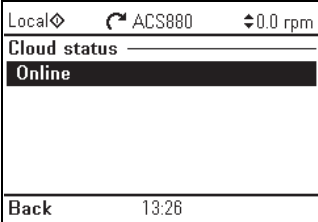
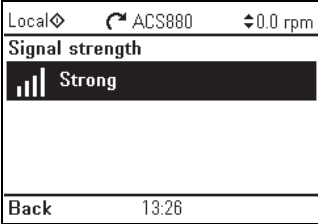
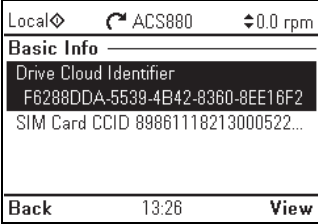


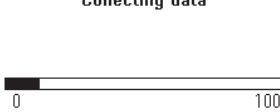
## System info

In the **System info** menu, you can view information about the drive, control panel, fieldbus and any installed option modules. You can also generate a QR code that contains the drive information.



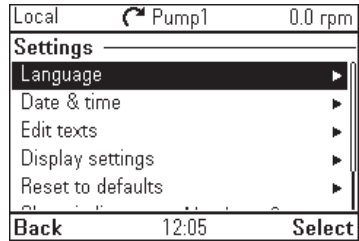
| Sub-menu      | Function                                                                                                                                                                                                                    |                                                                                      |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Drive         | Shows information on the selected component, such as firmware version, serial number, type code, device ID number or date of manufacture.<br><br><b>Note:</b> The content of the view varies between different drive types. |   |
| Control panel | Shows information on the hardware and software version of the control panel.                                                                                                                                                |  |

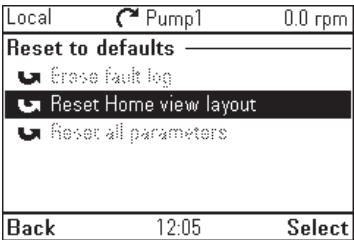
| Sub-menu                      | Function                                                                                                                                                                                                   |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity setting function | Shows connectivity selection, Cloud status, Signal strength, Basic information, Diagnose information and SIM Setting.<br> |
| Connectivity selection        | Set the cloud connectivity selection to enable or disable.<br>                                                            |
| Cloud status                  | Show the status of cloud connectivity: online or offline.<br>                                                             |
| Signal strength               | Show the signal strength of cloud connectivity. There are four states: strong, weak, medium and no signal.<br>           |
| Basic information             | Show the cloud digital twin ID number (GUID) and built-in SIM ID information corresponding to the drive.<br>            |

| Sub-menu             | Function                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diagnose information | Show the specific conditions of cloud connectivity, including network operator, total transmitted / received packets, signal strength (%) and diagnose words in case of cloud connectivity failure.                                                                                                                                    | <div> Local  ACS880  0.0 rpm </div> <div> <b>Diagnose Info</b> </div> <div> Network operator 46011<br/> Tx data packets 13458<br/> Rx data packets 8845<br/> Signal strength(%) 78<br/> Diagnose words 0 </div> <div> Back 13:26 View </div> |
| SIM Setting          | Set time zone, APN and PIN code.                                                                                                                                                                                                                                                                                                       | <div> Local  ACS880  0.0 rpm </div> <div> <b>SIM Setting</b> </div> <div> Time Zone UTC+08:00<br/> APN<br/> PIN Code 0 </div> <div> Back 13:26 Edit </div>                                                                                   |
| QR code              | <p>Shows an optical code containing information of the drive. The code can be read with ABB application and mobile device.</p> <p>To generate the QR code, press  <b>(Continue)</b>.</p> <p>The control panel collects data and creates the code.</p> | <div> Remote  ACS480 -1.5 rpm </div> <div> <b>QR code</b><br/> The assistant displays an optical code containing information about the drive. The code can be read with the ABB application and mobile device. </div> <div> Exit 12:02 Continue </div>                                                                        |
|                      | <div> Remote  ACS480 -1.5 rpm </div> <div> Collecting data </div> <div>  </div> <div> Exit 12:03 </div>                                                             | <div>  1/1 </div> <div> &lt;&lt; &gt;&gt; </div>                                                                                                                                                                                                                                                                             |

## Settings

The **Settings** menu has the following sub-menus:

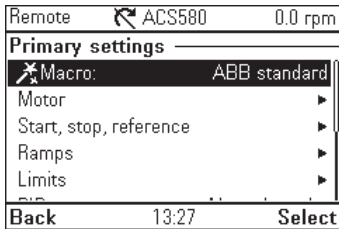


| Sub-menu          | Function                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Language          | Select different language in the control panel.                                                                                                                                                                                                                                                                                                                                                      |
| Date & time       | Set date and time, and select their display settings and whether the control panel automatically adjusts the time for daylight savings changes. The time and date display setting determines how time stamps are formatted.                                                                                                                                                                          |
| Edit texts        | Customize editable user interface texts, such as the drive name.                                                                                                                                                                                                                                                                                                                                     |
| Display settings  | Set backlight power save on/off and adjust display contrast and brightness.                                                                                                                                                                                                                                                                                                                          |
| Reset to defaults | <div><p>Reset settings to their default values.</p><p><b>Erase fault log:</b> This functionality is available in a future release.</p><p><b>Reset Home view layout:</b> Default Home view settings are restored.</p><p><b>Reset all parameters:</b> This functionality is available in a future release.</p></div>  |
| Show in lists     | <p>Show or hide the numeric IDs of:</p> <ul style="list-style-type: none"><li>• parameters and groups</li><li>• option list items</li><li>• bits</li><li>• devices in <b>Options</b> → <b>Select drive</b>.</li></ul>                                                                                                                                                                                |
| Pass code         | Enter pass codes into this parameter to activate further access levels (for example additional parameters).                                                                                                                                                                                                                                                                                          |

## Primary settings

The **Primary settings** menu has the following sub-menus.

**Note:** The contents displayed may vary based on the drive/device to which the panel is connected. The menu shown is only an example.



| Sub-menu                    | Function                                                                                                                                                                                                                                                  |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Macro                       | Set up drive control and reference source by selecting from a set of predefined wiring configurations.                                                                                                                                                    |
| Drive                       | Adjust drive related settings, such as control location, run permissions, ramps, limits, constants speeds, flying starts references.                                                                                                                      |
| Motor                       | Adjust motor-related settings, such as control mode, nominal values, ID run or thermal protection. Note that the settings that are visible depend on other selections, for example vector or scalar control mode, used motor type or selected start mode. |
| Loop controller             | Set up loop controller settings and actual values. Loop controller is only used in remote control.                                                                                                                                                        |
| Pump and fan control        | Controls one motor connected to the drive and up to 3 auxiliary motors.                                                                                                                                                                                   |
| Communication               | Use the drive with a fieldbus.                                                                                                                                                                                                                            |
| Start, stop, reference      | Set up start/stop commands, reference, and related features, such as constant speeds or run permissions.                                                                                                                                                  |
| Ramps                       | Set up acceleration and deceleration settings.                                                                                                                                                                                                            |
| Limits                      | Set the allowed operating range. This function is intended to protect the motor, connected hardware and mechanics. The drive stays within these limits, no matter what reference value it gets.                                                           |
| PID                         | Set up the settings and actual values for the process PID controller. PID is only used in remote control.                                                                                                                                                 |
| Fieldbus                    | To make the protocol configurations easier.                                                                                                                                                                                                               |
| Advanced options/ functions | Contains settings for advanced functions, such as triggering or resetting faults through I/O, or switching between entire set of settings.                                                                                                                |
| Clock, region, display      | Contains settings for language, date and time, display (such as brightness) and settings for changing how information is displayed on screen.                                                                                                             |
| Reset to defaults           | Enables you to reset the Home view to its original factory state.                                                                                                                                                                                         |

## I/O

In the **I/O** menu, each row provides terminal name, number, electrical status and logical meaning of the drive. Each row also provides a sub-menu that provides further information on the menu item and allow you to make changes to the I/O connections.

|            |                        |         |
|------------|------------------------|---------|
| Local      | ACS580                 | 0.0 rpm |
| <b>I/O</b> |                        |         |
| DI1: 0     | Start/stop             | ▶       |
| DI2: 0     | Direction              | ▶       |
| DI3: 0     | Used in several places | ▶       |
| DI4: 0     | Used in several places | ▶       |
| DI5: 0     | Used in several places | ▶       |
| Back       | 14:05                  | Select  |

## Diagnostics

The **Diagnostics** menu provides diagnostic information, such as faults and warnings and helps you to resolve potential problems. Use the menu to make sure that the drive setup is functioning correctly.

**Note:** The contents displayed may vary based on the drive/device to which the panel is connected, and the menu shown is only an example.

|                                |        |         |
|--------------------------------|--------|---------|
| Local                          | ACS580 | 0.0 rpm |
| <b>Diagnostics</b>             |        |         |
| Start/stop/reference summary ▶ |        |         |
| Limit status                   |        | ▶       |
| Active faults                  |        | ▶       |
| Active warnings                |        |         |
| Active inhibits                |        | ▶       |
| Back                           | 14:10  | Select  |

| Sub-menu                        | Function                                                                                                                                                                                                                                                      |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Start, stop, reference, summary | Shows where the drive is currently taking its start, stop commands and reference. The view is updated in real time. If the drive is not starting or stopping as expected, or runs at undesired speed, use this view to find out where the control comes from. |
| Limit status                    | Describes any limits currently affecting operation. If the drive is running at undesired speed, use this view to find out if any limitations are active.                                                                                                      |
| Active faults                   | Shows the currently active faults and provides instructions on how to fix and reset.                                                                                                                                                                          |
| Active warnings                 | Shows the currently active warnings and provides instructions on how to fix and reset.                                                                                                                                                                        |
| Active inhibits                 | Shows the currently active inhibits. The drive cannot start. Drive is not parameterized correctly.                                                                                                                                                            |
| Fault & event log               | Lists the faults, warnings and other events that have occurred in the drive.                                                                                                                                                                                  |
| Fieldbus                        | Provides status information and sent and received data from fieldbus for troubleshooting.                                                                                                                                                                     |
| Load profile                    | Provides status information of load distribution (that is, drive running time spent on each load level) and peak load levels.                                                                                                                                 |



# Functions in the Options menu

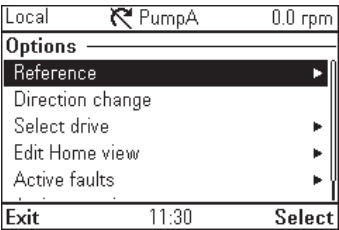
## What this chapter contains

The chapter describes functions in the **Options** menu.

### Options menu

In the **Options** menu, you can control the settings related to the **Home** view.

**Note:** The contents displayed may vary based on the drive/device to which the panel is connected. The menu shown is only an example.



The **Options** menu has the following sub-menus:

| Sub-menu         | Function                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference        | Set the reference value by using  and  . The changes take place when you save them with a key press  . See <a href="#">Setting the reference</a> (page 52). |
| Direction change | Change the direction of the motor rotation in local control mode.                                                                                                                                                                                                                                                                                                                                                    |
| Select drive     | Enable or disable the panel bus. If enabled, view the status of drives in the panel bus and select which drive to control with the control panel. See chapter <a href="#">Control of multiple drives</a> (page 53).                                                                                                                                                                                                  |
| Edit Home view   | Edit the contents of the <b>Home</b> view. See <a href="#">Editing the contents of the Home view</a> (page 52).                                                                                                                                                                                                                                                                                                      |
| Active faults    | View an active faults. See chapter <a href="#">Fault tracing</a> (page 59).                                                                                                                                                                                                                                                                                                                                          |
| Active warnings  | View an active warnings. See chapter <a href="#">Fault tracing</a> (page 59).                                                                                                                                                                                                                                                                                                                                        |

## Setting the reference

You can change the reference when the drive is in the local control mode. You can also change the reference in remote control mode if the drive configuration permits it. Changes take effect when saved with a key press.

1. Press **Loc/Rem** to switch to the local control mode, if the text in the top left corner of the display reads **Remote**.
2. In the **Options** menu, select **Reference**.
3. Change the reference by using the following keys:
  - Use **◀** or **▶** to select a digit to edit.
  - Use **▲** and **▼** to change the value of the selected digit.
4. Press **↵** (**Save**) to save the reference value, or **⏏** (**Cancel**) to discard the changes. The control panel returns to the **Home** view.

**Tip:** To adjust the reference from the **Home** view, press **▲** or **▼** and the reference changes immediately. The reference value is highlighted when you are changing it. If you hold down the arrow key, the rate at which the value changes accelerates.



## Editing the contents of the Home view

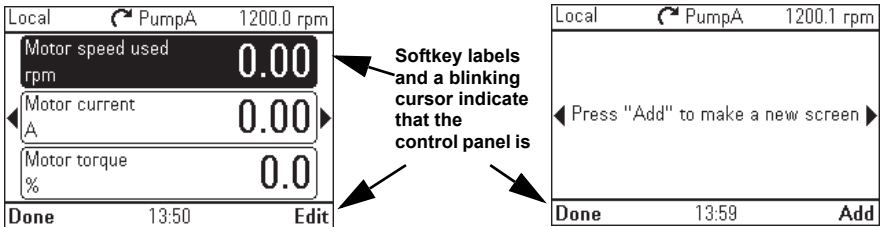
1. In the **Options** menu, select **Edit Home view**. This opens the **Home** view in the editing mode.

2. In the editing mode, you can add, edit and delete the displayed parameters.

After editing the contents, press **↵** (**Done**) to confirm the changes and to exit the editing mode and return to the **Home** view.

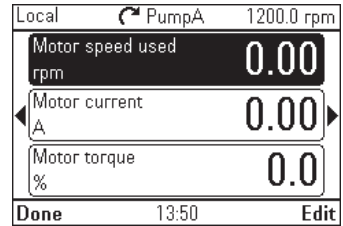
*Two-signal page in editing mode*

*Empty page in editing mode*



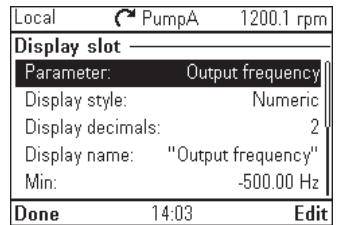
3. In the editing mode, use **◀** and **▶** to move between the different pages of the **Home** view.
  - To add a new page, navigate to the page that reads Press **Add** to make a new screen.
  - To edit, add or delete parameters on an existing page, navigate to that page.

4. Use  and  to move the cursor highlight.
  - To add a new parameter to an existing page, highlight an area above, between or below an existing parameter.
  - To edit or remove an existing parameter, highlight that parameter.



5. Press  (**Edit**) to open the **Display Slot** menu.
6. Choose a parameter, its display settings and scaling.

**Note:** Parameters whose values have textual representations (such as the names of bit states) or contain characters other than numbers (such as dates or durations) are automatically displayed as text. For these parameters, Display style and selections pertaining to numeric parameters are not available.

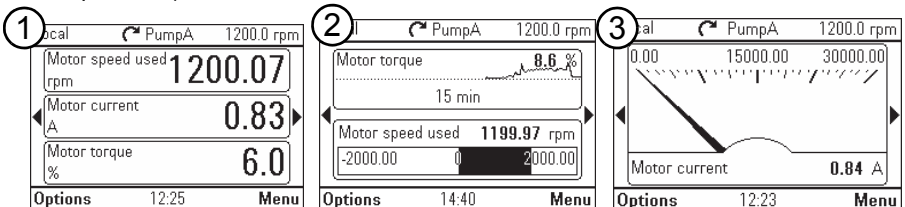


- **Parameter:** Select the parameter to show in the selected slot. The most commonly used parameters are listed as presets.

For bit field parameters, you can select either a single bit or the full bit field to add to the **Home** view. With individual bits, the bit state is displayed. Full bit fields are shown in either hexadecimal or binary format.

**Note:** If **Empty** is selected, the parameter is removed from the **Home** view.

- **Display style:** Select how the signal values are displayed. It is possible to use different display types on the same page.
  - **Numeric:** The parameter values are displayed as numbers (see figure 1 below). If there is only one parameter on the page, a bar graph is also displayed.
  - **Gauge/bar:** When there is one parameter on the page, the parameter value is shown as a dial gauge (see picture 3 below). When there are two or three parameters on the same page, the value is displayed as a bar graph (see the slots in figure 2 below).
  - **Graph** 15 minutes, 30 minutes, 1 hour or 24 hours: The parameter value is displayed as a graph within the selected time frame (see the bottom slot in picture 2).



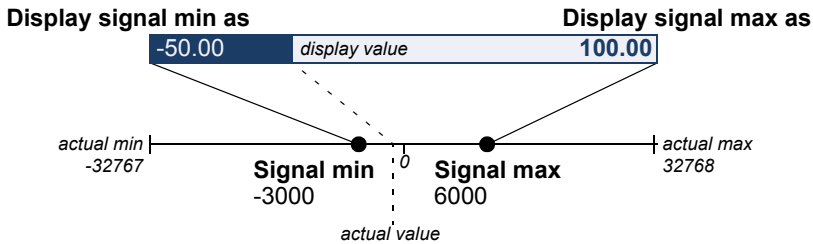
**Note:** The data shown in the graph is not stored in the drive memory, that is, if you remove or restart the control panel, the data is lost.

- **Display decimals:** Specifies how many decimals are shown.
- **Display name:** Enter a custom label to show in the **Home** view instead of the parameter name.
- **Min and Max:** This function depends whether **Scale value range** is selected or not:
  - **Scale value range** not selected: Select the minimum and maximum signal values that are shown on graph displays.
  - **Scale value range** selected: Select the actual values of the parameter that correspond to **Display min as** and **Display max as** (see below).
- **Scale value range:** Select if you want to specify the value range.
- **Display min as** and **Display max as:** Select the minimum and maximum values shown in the **Home** view.

This feature allows application-specific scaling to be applied.

If the parameter value is below the minimum or above the maximum, the text *Off the scale* is displayed. In the graph format, small arrows are shown instead to indicate values off the scale.

*Scaling with Display signal min/max as and Signal min/max*



- **Display unit:** Customize the unit shown in **Home** view when scaling is used.

## 7

# Fault tracing

---

## What this chapter contains

This chapter describes how to identify different fault and warning messages that are shown on the control panel and how to solve problem situations.

## Identifying error and warning messages

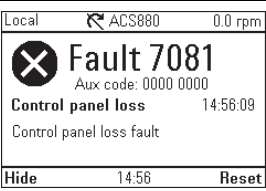
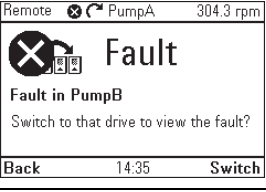
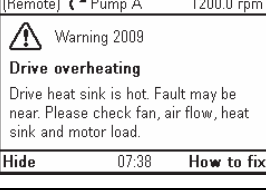
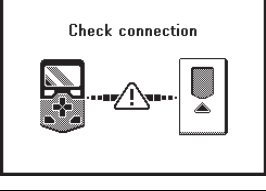
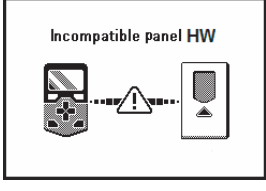
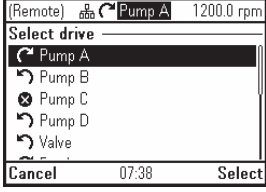
Faults and warnings are drive states that occur when the drive detects a problem in its operation. The display message, backlight and LED indications help you to identify the problem.

Some of the fault and warning icons and their descriptions are mentioned below.

| Event                 | Icon                                                                                |
|-----------------------|-------------------------------------------------------------------------------------|
| Fault activate        |   |
| Fault reset           |  |
| Warning activate      |  |
| Warning deactivate    |  |
| Pure event activate   |  |
| Pure event deactivate |  |

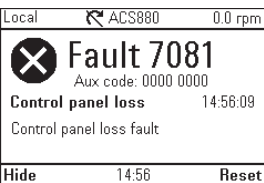
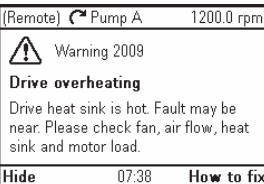
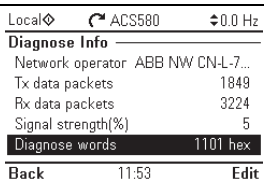
## Faults and warnings when disable cloud connection

Refer to the table below to identify faults and warnings.

| Display                                                                            | LED                                                                                                     | Type                                                                                                                                             |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|    | continuous red<br>     | See <a href="#">Faults</a> (page 58).                                                                                                            |
|    | blinking red<br>       | Faults of this type require stopping and restarting the drive before it continues to function normally.<br>See <a href="#">Faults</a> (page 58). |
|    | continuous red<br>     | A fault has occurred in another drive in the panel bus.                                                                                          |
|   | blinking green<br>     | See <a href="#">Warnings</a> (page 58).                                                                                                          |
|  | continuous green<br>   | The connection between the control panel and the drive is faulty.<br>Check that the connection cable is properly attached.                       |
|  | continuous green<br> | The control panel type is not compatible with the drive you attempt to use it with.<br>See <a href="#">Compatibility</a> (page 10).              |
|  | continuous green<br> | The connection between the control panel and the drive has been lost.<br>Check the control panel network connections.<br>Select another drive.   |

## Faults and warnings when enable cloud connection

Refer to the table below to identify faults and warnings.

| Display                                                                           | LED                                                                                                                                                                                                       | Type                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | continuous red + blinking blue<br>      | There is an active fault in the drive, and cloud connection is normal. See <a href="#">Faults</a> (page 58).                                                                                                                                                                                                                                             |
|  | flickering green + blinking blue<br>    | There is an active warning in the drive, and cloud connection is normal. See <a href="#">Warnings</a> (page 58).                                                                                                                                                                                                                                         |
|  | continuous green + blinking yellow<br>  | The drive is functioning normally, and cloud connection has fault. When the cloud connection has fault, go to <b>System info</b> → <b>Connectivity setting</b> → <b>Diagnose info</b> → <b>Diagnose words</b> to find the fault code.<br><br>Fault code and reason, see <a href="#">ABB Drive connectivity control panel warning messages</a> (page 58). |

## ■ ABB Drive connectivity control panel warning messages

| Code (hex) | Fault          | Cause                                        | What to do                             |
|------------|----------------|----------------------------------------------|----------------------------------------|
| 1101       | Simcard Fault  | Simcard fault                                | Contact your local ABB representative. |
| 2101       | Operator Fault | Register denied                              | Contact your local ABB representative. |
| 2102       | Operator Fault | Register timeout                             | Contact your local ABB representative. |
| 3101       | Modem Fault    | No signal/weak signal                        | Contact your local ABB representative. |
| 3102       | Modem Fault    | FW version error                             | Contact your local ABB representative. |
| 4101       | Server Fault   | Not supported drive type                     | Contact your local ABB representative. |
| 4102       | Server Fault   | TCP connection fault, DNS or server shutdown | Contact your local ABB representative. |
| 4103       | Server Fault   | DPS server problem                           | Contact your local ABB representative. |
| 4104       | Server Fault   | IOT hub server problem                       | Contact your local ABB representative. |
| 4105       | Server Fault   | ABBA server problem                          | Contact your local ABB representative. |
| 4201       | Server Fault   | Panel certificate expired                    | Contact your local ABB representative. |
| 4202       | Server Fault   | Panel certificate broken                     | Contact your local ABB representative. |
| 4203       | Server Fault   | Panel certificate invalid                    | Contact your local ABB representative. |
| 4204       | Server Fault   | Digital server problem                       | Contact your local ABB representative. |

## Faults

Faults are problems that require your attention before you start the drive again.

Refer the following steps to solve the fault situation:

1. Identify and eliminate the cause of the fault. In the **Fault** view, you can see the fault code. Refer to the relevant firmware manual for more information on the fault.
2. Reset the fault by pressing  (**Reset**) in the **Fault** view.

In the **Fault** view, the keys have the following functions:

- Press  (**Hide**) or any of the arrow keys to temporarily hide the fault and go back to the previous view. If there is also an active warning, it is displayed instead. The fault view reappears after 60 seconds if no keys have been pressed.
- Press  (**Reset**) to reset the fault and return to the previous view.
- Press the  key to open the context-sensitive help. The help page has a shortcut to the Fault Diagnostics Assistant which helps you solve the fault situation.

## Warnings

Warnings mean that a possible problem has been detected and may need attention, and the drive can still run. A warning message disappears once the condition that triggered it goes away.

- Press  (**Hide**) to hide the warning message and go back to the previous view. If the warning is still active after 60 seconds of no key presses, the **Warning** view reappears automatically.
- Press the  key to open the context-sensitive help.

**Note:** If multiple warnings are active, the total number of active warnings is displayed. Use  and  to scroll through the warnings.

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## 8

# Service and maintenance

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## What this chapter contains

This chapter describes the service and maintenance tasks of the ABB Drive connectivity control panel.

## Removing the control panel cover

It is possible to remove the control panel cover to clean any dust inside the cover or to change the cover to customize the control panel.

The cover consists of two parts, both of which can be removed. You do not need tools to remove the covers.

1. Remove the lower part of the control panel cover.
2. Remove the upper part of the cover.

Reinstall the covers in the reverse order.

## Cleaning the control panel

Use a soft damp cloth to clean the control panel. Avoid harsh cleaners which could scratch the display window.



## **Cleaning the connectors**

Control panel has two connectors, RJ-45 connector (panel back side). Clean outside/ around the connectors using suitable cleaning solution (for example, Isopropyl Alcohol (IPA) solution). Do not use the cleaning solution to clean inside the connectors.

## **Control panel software updates**

If the control panel software needs to be updated, please refer to [Firmware upgrade](#) on page 33.

## **Recycling instructions and environmental information**

See the drive related Recycling instructions and environmental information.

# 9

## Condition monitoring for Drives

---

### What this chapter contains

The chapter describes the Condition monitoring for Drives function supported by ABB Drive connectivity control panel.

You can use the registered MyABB account to log into the Condition monitoring for Drives platform and view the real-time operation condition of the drive. Both PC and mobile views are supported.

Website of drive Condition monitoring for Drives:

China: <https://remotemonitoring.drives.abb.com.cn>

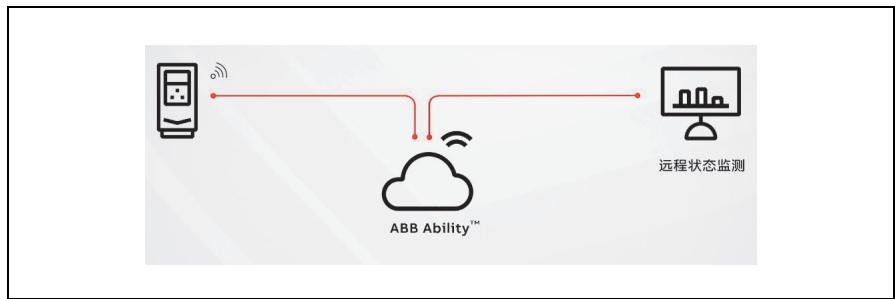
Other countries: <https://remotemonitoring.drives.abb.com>

**Note:** The service of Condition monitoring for Drives needs to be purchased, please visit:

<https://new.abb.com/drives/services/advanced-services/condition-monitoring>

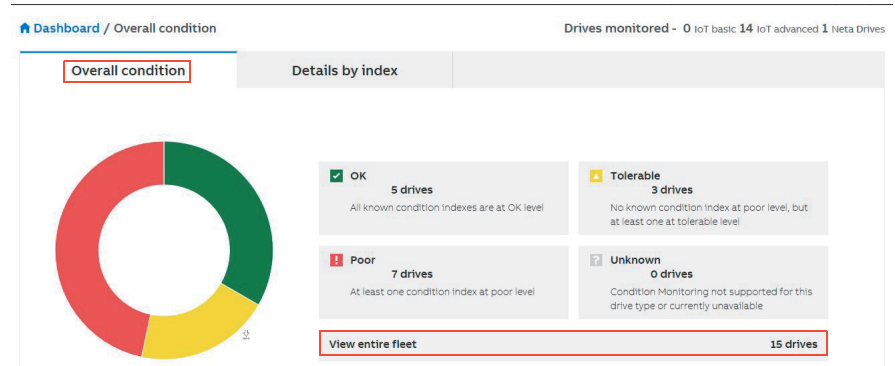
---

Diagram of Condition monitoring for Drives:



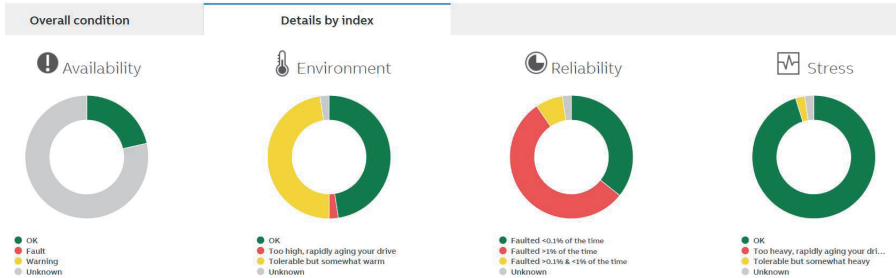
Overall condition

The donut chart shows the overall condition of drives selected for monitoring service after login. You can view the drive status in the legend on the right side or click on the different status colors on the chart.



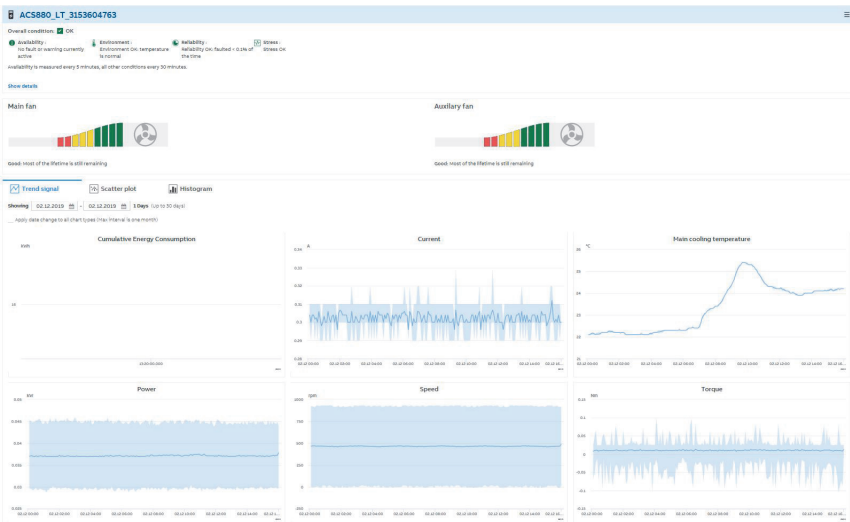
## Details by index

The Details by index tab shows the detailed information of the drives, including four KPI index: **Availability**, **Environment**, **Reliability** and **Stress**. Click on the different status colors in the donut chart to review the detailed information of the drive list.



## Realtime signals

The Realtime signals page shows the condition details of the selected drive.



You can also view more information through the Condition monitoring for Drives platform, such as: select language, rename drive, filter or search drive list, drive information, real-time signal trend chart, event log list, generate report, export parameters, email alarm settings, etc. For more information about condition monitoring for Drives portal, please refer to the online help file:

<https://remotemonitoring.drives.abb.com/help/en/index.html>



## 10

# Mobile Connect for Drives

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## What this chapter contains

The chapter describes the Mobile Connect for Drives assistance function supported by ABB Drive connectivity control panel.

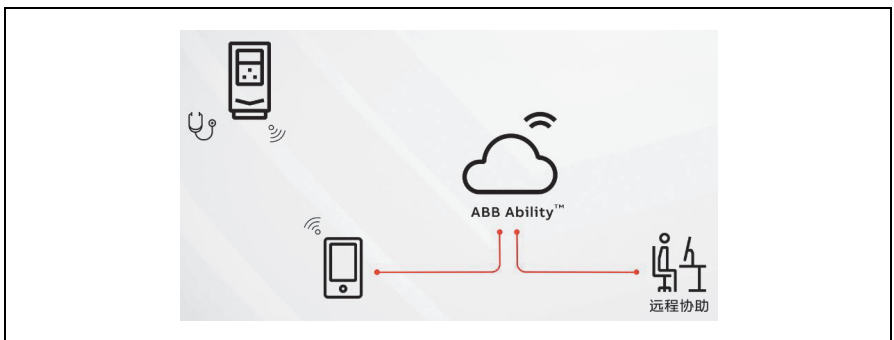
ABB Ability™ Mobile Connect for Drives is a remote assistance tool for drives. It is integrated into the Drivetune mobile application.

It can provide users with:

- Remote commissioning assistance
- Remote fault diagnosis
- Equipment performance analysis and optimization

To use this service, please download Drivetune mobile app and activate the Bluetooth interface of the ABB drive connectivity control panel.

## Diagram of Mobile Connect for Drives



# How to get the remote assistance from ABB drive experts

## ■ Step 1: Install Drivetune mobile app

You can download and install the Drivetune app by scanning the QR code below:



Android mobile (China)



Apple iOS mobile



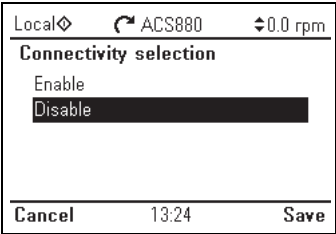
Google play

## Mobile OS compatibility

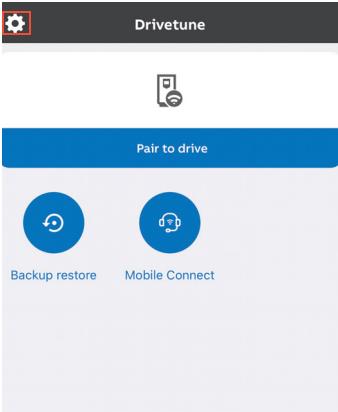
| Operating system | Version               |
|------------------|-----------------------|
| Android          | Android 6.0 and later |
| Apple            | iOS 13 and later      |

## ■ Step 2: Log in Drivetune and pair drive

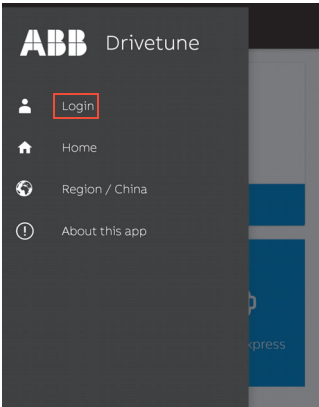
1. Turn on the Bluetooth function of the control panel (set the Connectivity selection option to off).



2. Run Drivetune on mobile, and log in with MyABB account.



a) Click the menu on the top left corner



b) Click "log in"



English ▾

# Log in

E-mail address\*

You must enter an e-mail address.

Password\*

You must enter a password.

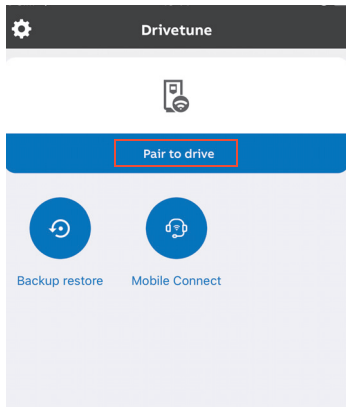
Forgot your password?

LOGIN

Need an account? [Sign up](#)

c) Input MyABB account

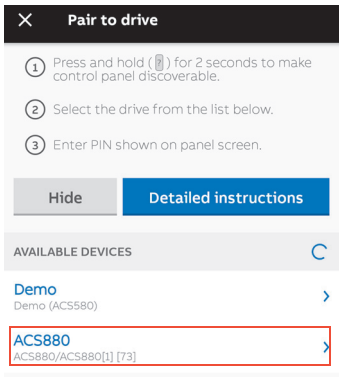
3. Connect the mobile phone to the drive via Bluetooth
- Ensure that Bluetooth is turned on from the mobile phone.
  - Pair with the Bluetooth of the drive. For details, see the instructions in the APP as shown below.



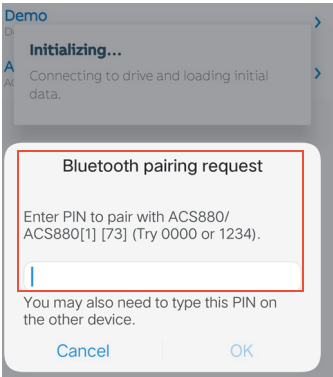
a) Click “Connect to drive”



b) Press and hold the ‘Help’ button to bring up the pairing code

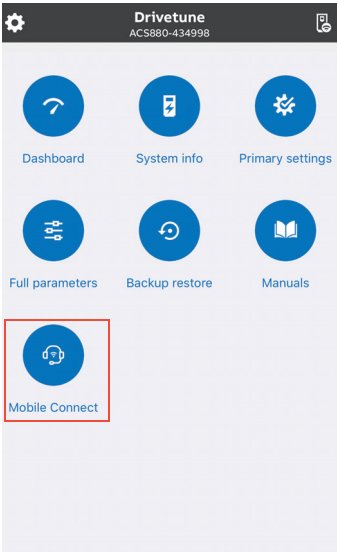


c) Select the correct drive to connect from the list

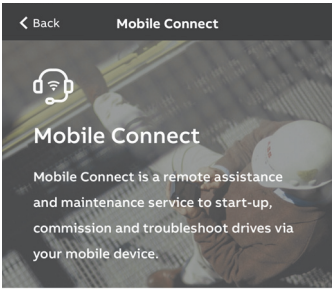


d) Input the pairing password

4. Contact the drive support personnel to obtain the support case ID, and input the support case ID in Mobile Connect for Drives.



a) Click "Mobile Connect for Drives"



Mobile Connect case ID

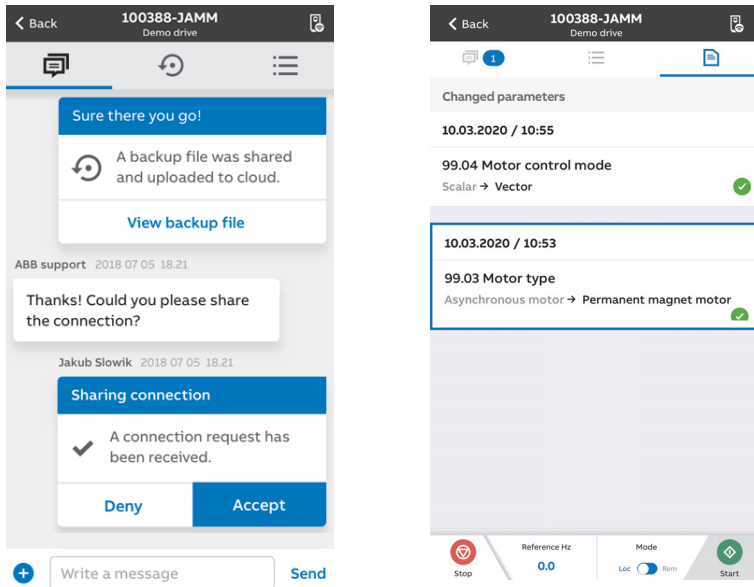
|        |   |      |
|--------|---|------|
| XXXXXX | - | XXXX |
|--------|---|------|

b) Input the case ID

### ■ Step 3: Interact with support personnel

After entering the support ticket, you can start to communicate with the drive expert for fault diagnosis, including:

- Provide the feedback, problem and its phenomena on site by sending messages such as text, voice, picture and video
- Back up the drive support package or technical support package and share it with the drive expert
- Authorize the drive expert to access the drive equipment
- Review, approve or reject the drive parameters modification suggestions from the drive expert



For more information about the Mobile Connect for Drives assistance service for drives, see the *Mobile Connect for Drives user guide* (3AXD50000555512 [Chinese]).

### ■ Step 4: Restore cloud connectivity

After remote assistance, set the Connectivity selection option to on, see section [Step 2: Configuration of cloud connectivity](#) in chapter [Installation and start-up](#).

## 11

# Technical data

---

## What this chapter contains

This chapter contains the technical details of the ABB Drive connectivity control panel.

## Connectors

The control panel has the following connectors:

| Connector              | Purpose                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RJ-45 female connector | Used for connecting the panel to drive. <ul style="list-style-type: none"><li>• If cable is used, then maximum length should be 100 meters (328 ft.).</li><li>• On a panel bus, the combined maximum length of the panel bus cables should be 100 meters (328 ft.).</li><li>• The cable should be more than standard of CAT3</li></ul> |

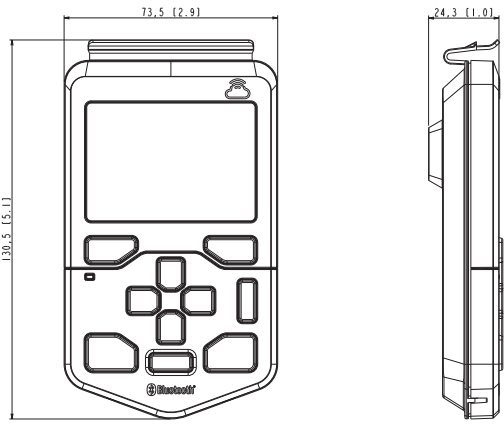
## Display

The control panel has a monochrome, 240 x 160 pixel resolution LCD display with adjustable backlight and display contrast.

See [Basic settings and assistants](#) (page 33).

---

**Dimensions and weight**

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                              | 124 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Height, width and depth<br>mm [in.] |  <p>The technical drawing shows two views of the device. The front view on the left has a width dimension of 73,5 [2.9] mm and a height dimension of 130,5 [5.1] mm. The side view on the right has a depth dimension of 24,3 [1.0] mm. The device features a screen at the top, a speaker grille, and a keypad with several buttons. The brand name 'Mitsubishi' is visible at the bottom of the front view.</p> |

**Degrees of protection**

|                                                                 |      |
|-----------------------------------------------------------------|------|
| Degree of protection, attached to a drive                       | IP55 |
| Separately                                                      | IP20 |
| When control panels are connected in stand-alone to RJ-45 cable | IP20 |
| Control panel mounted to DPMP-01                                | IP55 |
| Control panel mounted to DPMP-02 or 03                          | IP65 |
| When Control panel is not mounted to DPMP-01 or 02 or 03 holder | IP20 |

Control panel mounted to a drive provides the same protection class as the drive unit itself. For more information, see hardware manual of the drive product.

## Materials

|           |                                                                                                                                                                                                             |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enclosure | PC/ABS                                                                                                                                                                                                      |
| Packaging | Cardboard                                                                                                                                                                                                   |
| Screen    | Polycarbonate                                                                                                                                                                                               |
| Disposal  | Do not dispose the control panel with municipal waste.<br>Check the local regulations for disposal of electronic products.<br>See also, drive related Recycling instructions and environmental information. |

## LCD specification

|                            |                                     |
|----------------------------|-------------------------------------|
| LCD type                   | FSTN                                |
| Operating temperature      | -20 °C to +70 °C (-4 °F to 158 °F)  |
| Storage temperature        | -40 °C to +80 °C (-40 °F to 176 °F) |
| Transportation temperature | -40 °C to +80 °C (-40 °F to 176 °F) |
| Drive IC                   | UC1698U                             |
| RoHS                       | Compliant                           |

**Note:** Response time of LCD display is slow at/below 0 °C (32 °F).

## Environmental limits

|                              | <i>Operation</i>                      | <i>Storage</i>                         | <i>Transportation</i>                  |
|------------------------------|---------------------------------------|----------------------------------------|----------------------------------------|
| Installation site altitude   | 4000 m (13123 ft.)                    | -                                      | -                                      |
| Air temperature              | -20 °C to +55 °C<br>(-4 °F to 131 °F) | -40 °C to +70 °C<br>(-40 °F to 158 °F) | -40 °C to +70 °C<br>(-40 °F to 158 °F) |
| Relative humidity            | 95% (non-condensing)                  |                                        |                                        |
| Temperature inside the panel | -20 °C to +70 °C<br>(-4 °F to 158 °F) | -25 °C to +70 °C<br>(-13 °F to 158 °F) | -                                      |

**Note:** The accuracy of the real-time clock affected by the working environment temperature is as follows:

$\text{acc} = K \times (T - T_0)^2$ , where:

- $T_0 = 25^\circ\text{C} \pm 5^\circ\text{C}$
- $K = -0.032 \text{ ppm}/^\circ\text{C}^2$

DMS documents: 3AXD10000922142

## Compliance in China

| <i>Item</i>    | <i>Operation</i>                                   | <i>Transportation</i> |
|----------------|----------------------------------------------------|-----------------------|
| Network safety | YD/T 3230-2017<br>YD/T 2408-2013<br>YD/T 3228-2017 |                       |

|                                |                                                                                                                                                         |                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| EMC                            | YD/T 3230-2017<br>YD/T 1483-2016<br>GB/T 12572                                                                                                          |                                                                                 |
| Radio Frequency                | RSE refers to the Ministry of information technology wireless [2002]353 standard.<br>RSE (Radiated Spurious Emission): YD/T2583.14-2013(YD/T 1483-2016) |                                                                                 |
| SAR (Specific Absorption Rate) | YD/T 1644.1/2 method<br>GB 21288 Limit                                                                                                                  |                                                                                 |
| Contamination levels           | Follow IEC 60721-3-3, IEC 60721-3-2 and IEC 60721-3-1.<br>Degree 3C3                                                                                    |                                                                                 |
| Sinusoidal vibration           | IEC61800-5-1, Edition 2.0, 2016-08, 10-57Hz, 57-150Hz, 1g, 10 sweeps, 0.075 mm.                                                                         | IEC61800-5-1, Edition 2.0, 2016-08, 10-57Hz, 57-150Hz, 1g, 10 sweeps, 0.075 mm. |
| Shock vibration                | IEC61800-5-2, Edition 2.0, 2016-04, 5g, 30ms, 3 times per axis                                                                                          | IEC 60721-3-2, Edition 3.0, 2018-02, 2M4                                        |
| Random vibration               | IEC 60721-3-3, Edition 3.0, 2019-05, 3M11                                                                                                               | IEC 60721-3-2, Edition 3.0, 2018-02, 2M4                                        |
| Free fall                      | IEC-60068-2-31, Edition 2.0, 2008-05, height 1 m(3.3 ft.).                                                                                              |                                                                                 |

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## Compliance in Europe

| <i>Item</i>     | <i>Operation</i>                                                                    | <i>Transportation</i> |
|-----------------|-------------------------------------------------------------------------------------|-----------------------|
| Radio Frequency | ETSI EN 300 328 V2.1.1<br>ETSI EN 301 908-1 V13.1.1<br>ETSI EN 301 908-13 V13.1.1   |                       |
| EMC             | Draft ETSI EN 301 489-17 V3.2.2<br>Draft ETSI EN 301 489-52 V1.1.0                  |                       |
| Health          | EN 50566:2017<br>EN 62209-2:2010<br>EN 62479:2010<br>EN 50663:2017<br>EN 62311:2008 |                       |
| Safety          | EN 62368-1:2014 + A11:2017                                                          |                       |

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## Bluetooth interface

|                     |                                                                                  |
|---------------------|----------------------------------------------------------------------------------|
| Bluetooth standard  | Bluetooth 4.0 Dual mode:<br>Bluetooth Classic<br>BLE mode (Bluetooth low energy) |
| Antenna type        | Internal inverted –F on PCB                                                      |
| Operating frequency | 2400MHz to 2483.5MHz                                                             |
| Antenna Gain        | Maximum 3.6dBi                                                                   |
| Antenna efficiency  | >=50%                                                                            |

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## NB-IoT interface

|                           |                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------|
| 3GPP Standard             | LTE CAT-NB1                                                                                                 |
| Work mode                 | CAT-NB1 single mode                                                                                         |
| Data speed                | Single-Tone:<br>Upload: 16.7kbps, download: 25.5kbps<br>Multi-Tone:<br>Upload: 62.5kbps, download: 25.5kbps |
| FW upgrade                | *DFOTA (Differential FW Over The Air)                                                                       |
| Band support              | China market: Band3, Band5, Band8                                                                           |
| Business operator support | China Unicom, China Telecom                                                                                 |
| Antenna type              | LDS Loop antenna on carrier                                                                                 |
| Antenna Gain              | Maximum 2.2dBi                                                                                              |
| Antenna efficiency        | >=55% from 824MHz to 960MHz; >=25% from 1710MHz to 2170MHz                                                  |
| RF output power           | Maximum 23dBm ± 2dB                                                                                         |
|                           |                                                                                                             |

Note: \* represent as "Under developing"3AXD10000922142

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## Working frequency / band

|           |                                                                       |
|-----------|-----------------------------------------------------------------------|
|           | <b>Panel working frequency / band</b>                                 |
| China     | 1735MHz-1780MHz / band3; 825MHz-835MHz / band5; 890MHz-915MHz / band8 |
|           | Maximum transmitting power: 23dBm±2.7dB ≤20dBm(EIRP)                  |
| Bluetooth | 2402 MHz to 2480 MHz: <10dBm                                          |

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## Certification and marking

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>The identification requirements for hazardous substances in electronic and electrical products are specified in the Electronic Industry Standard of the People's Republic of China (SJ / T 11364-2014). The product is labeled with RoHS China environmental protection service life and displayed on the back of the product – barcode label. This mark indicates that under normal use, the environmental protection service life of the product is 10 years.</p> |
| <p>IMEI (International Mobile Equipment Identity) number</p>                      | <p>IMEI number is shown on panel's back – cover on barcode label.</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>CMIIT ID (Model approval code of radio transmitting equipment)</p>             | <p>The product has passed the test and certification of the Ministry of industry and information technology of the people's Republic of China.<br/>Model approval code: 2019CP7014<br/>The products meet the requirements of YD/T3338-2018 (3GPP TS 36.521-1), YD/T2583.14-2013(YD/T 1483-2016), and the Ministry of information technology wireless [2002] No. 353 standard.</p>                                                                                      |
| <p>NAL(Network Access License)</p>                                                | <p>The product has passed the test and certification of the Ministry of industry and information technology of the people's Republic of China, and obtained the use license for accessing the public telecommunication network. The network access license label is attached in the product package (blue label).<br/>The products meet the requirements of YD/T 3230-2017, YD/T 3228-2017, YD/T 2408-2013 standard.</p>                                               |
|  | <p>The Bluetooth mark is displayed on the lower front of the product, indicating that the product has passed the certification of the Bluetooth Technology Alliance (SIG).<br/>Declaration ID: D048042</p>                                                                                                                                                                                                                                                             |

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>[ABB Beijing Drive Systems Co., Ltd] declares that the radio equipment type [Cellular Narrow Band Internet of Things (NB-IoT)/Bluetooth terminal, ACS-DCP-W] is in compliance with Directive 2014/53/EU.</p> <p>The full text of the EU declaration of conformity is available at the following internet address:</p> <p><a href="http://abbdrive.yangben.io/#!/material/4eae603357684463a79d5af01b3ff40b">http://abbdrive.yangben.io/#!/material/4eae603357684463a79d5af01b3ff40b</a></p> <p>Body-worn SAR testing has been carried out at a separation distance of 5 mm. To meet RF exposure guidelines during body-worn operation, the device should be positioned at least this distance away from the body.</p> <ul style="list-style-type: none"> <li>• SAR 10g Limit: 2.0 W/Kg,</li> <li>• Body SAR Value: 0.355 W/Kg (Max. 5 mm distance)</li> </ul> |
|  | <p>The waste and recycling marks of electrical and electronic equipment are displayed on the bar code label on the back of the product, indicating that the equipment complies with EU WEEE specification. WEEE specification regulate the treatment and recycling of waste electrical and electronic equipment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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## Disclaimers

### ■ Generic disclaimer

The manufacturer shall have no obligation hereunder with respect to any product which (i) has been improperly repaired or altered; (ii) has been subjected to misuse, negligence or accident; (iii) has been used in a manner contrary to the Manufacturer's instructions; or (iv) has failed as a result of ordinary wear and tear.

### ■ Cybersecurity disclaimer

This product is designed to communicate information and data through the authorized band network of mobile operator. Mobile operator shall protect its network, system and the interface through any appropriate measures to prevent any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.





# Further information

## **Product and service inquiries**

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to [abb.com/searchchannels](http://abb.com/searchchannels).

## **Product training**

For information on ABB product training, navigate to [new.abb.com/service/training](http://new.abb.com/service/training).

## **Providing feedback on ABB Drives manuals**

Your comments on our manuals are welcome. Navigate to [new.abb.com/drives/manuals-feedback-form](http://new.abb.com/drives/manuals-feedback-form).

## **Document library on the Internet**

You can find manuals and other product documents in PDF format on the Internet at [abb.com/drives/documents](http://abb.com/drives/documents).



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