
Drive Faceplates for the CP600 HMI

US Quick installation guide



List of related manuals

HMI manuals and guides	Code (English)
<i>Panel Builder 600 Software Manual</i>	3ADR010277
<i>CP6407, CP6410, CP6415</i>	
<i>Operating instructions</i>	3ADR010470
<i>Installation instructions</i>	3ADR010451
<i>CP6605, CP6607, CP6410, CP6415, CP6621</i>	
<i>Operating instructions</i>	3ADR010108
<i>Installation instructions</i>	3ADR010103
<i>CP604, CP607, CP610</i>	
<i>Operating instructions</i>	3ADR010300
<i>Installation instructions</i>	3ADR010100
<i>Drive manuals and guides</i>	
<i>ACSx80 firmware and hardware manual document numbers</i>	
<i>ACS380</i>	
<i>Firmware</i>	3AXD50000029275
<i>Hardware</i>	3AXD50000029274
<i>ACS480</i>	
<i>Firmware</i>	3AXD50000047399
<i>Hardware</i>	3AXD50000047399
<i>ACS580-01</i>	
<i>Firmware</i>	3AXD50000016097
<i>Hardware</i>	3AXD50000044794
<i>ACS880-01</i>	
<i>Firmware</i>	3AUA0000085967
<i>Hardware</i>	3AUA0000078093
<i>Drive Composer Entry/Pro Manual</i>	3AUA0000094606

Download links

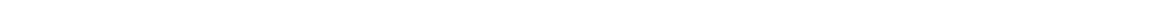
[HMI and faceplate information and download site](#)

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.

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CP600 HMI connection to ACSx80 via Modbus RTU

1 Introduction

This quick-start guide will explain how to download and install the HMI remote keypad project, developed by ABB, onto a CP600 HMI and explain the functionality that is to be expected on each page. For detailed information about the HMI or a particular drive, please refer to the appropriate hardware or firmware manual.

2 Safety

The respective HMI manual and drive manual contain safety standards that must be respected for personal safety and to avoid damage to equipment.

There are three levels of severity:

DANGER: Indicates that a failure to observe safety rules may cause death or serious injuries.

ATTENTION: Indicates that a failure to observe safety rules may cause damage.

CAUTION: Indicates that a failure to observe safety rules may cause defects to the equipment or inconsistencies.

The screenshot displays the ABB Basic Control HMI interface for an ACS380-D1 drive. The interface is divided into several sections:

- Header:** ABB Basic Control, engineer1, 05:08:27 PM, 30-Jun-2020.
- Motor Parameters (ACS380-D1):**
 - Remote ACS380 701rpm
 - Motor Frequency: 25.00 Hz
 - Motor Current: 0.01 A
 - Motor Torque: 31.6 %
 - Speed Reference (Hz): 25.0
 - Buttons: STOP, START, Reset.
- IO Status:**
 - DI 1 LevelSw1 (Off)
 - DI 2 LevelSw2 (Off)
 - DI 3 FlowSw1 (Off)
 - DI 4 FlowSw2 (Off)
 - AO 1 Current: 10.01 mA
 - STO Safe Torque Off (On)
 - DIO 1 WarningLED (Off)
 - DIO 2 EnableExt (On)
 - RO 1 FaultLED (On)
- Alarms List:**
 - ACS380-D1 (Green)
 - ACS580-D2 (Yellow)
 - ACS880-D11 (Yellow)
 - ACS880-D12 (Yellow)
 - ACS380-D5 (Yellow)
 - ACS880-D21 (Yellow)
 - ACS880-D22 (Yellow)
 - ACS580-D8 (Yellow)
- Status Bar:** Advance, Trend, Alarms, -D11 has Warning Message.* [ACSDrive not Alarms 4]

3 Drives Faceplate Overview:

The Drives Faceplates for the CP600 HMI offer easy operator interface for the ACSx80 All-Compatible drives. Use this document to setup the face plates and connect to the drives.

3.1 Flow chart

- Perform ACSx80 installation according to the manual, make necessary communication cable connections
- Perform drive parameter setup according to the parameter table shown in this guide
- Perform HMI installation according to the manual
- Obtain HMI project file from microsite, and save to the USB drive
- Insert the USB drive with HMI project file into the HMI USB port
- Apply power to the HMI
- Using the instructions in this guide for the correct HMI panel, load the HMI project file from the USB drive
- Alternatively, use Panel Builder software to install the HMI project file

3.2 Hardware requirements

- CP600 HMI
 - 24VDC power supply
 - USB-pen drive (to load the HMI project to the panel)
 - CP600 Modbus RTU serial cable - TK682
 - ACSx80 drive(s)
 - Optional: Ethernet patch cable RJ45 (future capability)
 - 24V supply wiring
 - Optional: USB comm cable for DriveComposer
-

4 Communications connectivity

The current project file available uses ModbusRTU protocol to communicate to the ACSx80 series All Compatible drives.

4.1 Modbus RTU

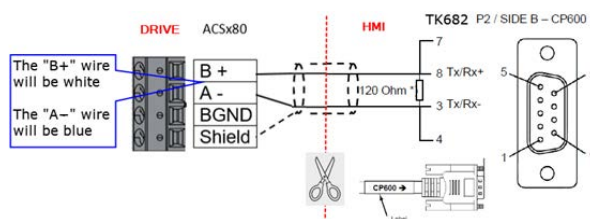
Using the ModbusRTU protocol with 2-wire RS485 wiring, up to 8 drives can be connected to the HMI network.

4.1.1 Modbus RTU serial cable

The TK682 cable can be used to provide the connection between the HMI and the first ACSx80 drive. Subsequent drives in the network should follow the ModbusRTU wiring instructions provided in the respective drive manual.

Use the following steps and the Figure below to convert a TK682 cable to connect the CP600 HMI to an ACSx80 Drive:

1. A TK682 cable will need to be stripped on the "AC500-eCo" labeled end to connect to the ACSx80 embedded fieldbus terminals, while the other end will mate with the CP600 HMI.
2. Each end of the TK682 cable has a 120 Ohm as a termination resistor between pins 8 and 3. These will remain in the cable on the CP600 side.
3. The wires on the Drive end, (originally labeled AC500-eCo), must be exposed, stripped and connected as follows:
 - White: connect to the B+ terminal on the ACSx80 Drive
 - Blue: connect to the A- terminal on the ACSx80 Drive
 - Shield: connect to the Shield terminal on the ACSx80 Drive

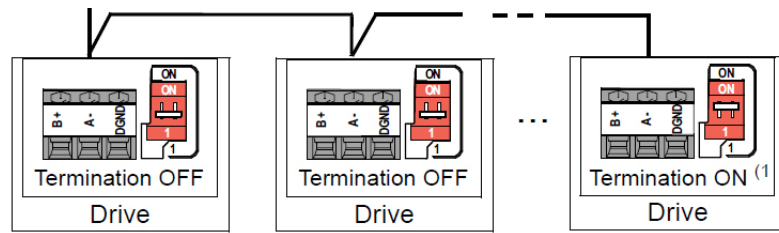


4.1.2 Single drive switch settings

- a. Set the termination resistor switch to "ON" as per the diagram on the drive.
- b. Set the bias resistor switch to "ON" as per the diagram on the drive.

4.1.3 Multiple drive switch settings

- a. Connect drive to drive by connecting Terminal B+ to B+, terminal A- to terminal A- and Shield to Shield terminal.
- b. As per the diagram on the drive;
 - i. Set the termination resistor and bias switch(es) in the middle drives to "OFF"
 - ii. Set the termination resistor and bias resistor switch(es) in the last ACSx80 drive to "ON".



4.1.4 Example switch settings for ACS380



4.1.4.1 Termination resistor OFF



4.1.4.2 Termination resistor ON

5 Software

5.1 Configuring and programming software tools

The Drive and HMI can be setup and configured using the Drive Keypad and HMI Touchscreen. Software tools can also be used to setup and configure the drive and HMI. These optional programs are Panel Builder 600 and Drive Composer Entry or Drive Composer Pro.

Panel Builder 600: This software provides configuration, application loading and programming for the CP600 HMI. Use this software to load the application to the HMI directly from a PC without the use of a USB memory stick. The Panel Builder program would also be necessary if the user decides to modify the HMI project in any way, or to design their own screens. Please refer to the Panel Builder 600 manual.

Drive Composer Entry/Pro: These software tools provides configuration and parameter setting for the ABB Drive products. The Drive Composer PC Tool can be used to save and download a parameter file from and to the drive, or to adjust parameters manually. The drive parameter file would accompany the use of Drive Composer Entry/Pro.

5.2 Software needed

HMI project update file - to be copied onto the USB-pen drive to upload to the HMI

Optional: Panel Builder 600 Software

(Link to download:

<https://new.abb.com/plc/automationbuilder/platform/software>)

1. Select Installer options and additional tools
2. Check "HMI" > "Control Panel - CP600"
3. Basic license is enough for CP607. Other panels need Standard license)

Optional: Drive Composer Entry/Pro

5.3 Accessing the Software

Drives Faceplate File

Optional: *Panel Builder 600 or Automation Builder Software* (Panel Builder 600 can be purchased separately or as part of Automation Builder)

Optional: Drive Composer Entry/Pro (*Drive Composer - Software Tools*)

6 Setup

6.1 Drive setup

- Perform ACSx80 drive installation according to the drive manual, make necessary communication cable connections
- Use the drive keypad or Drive Composer to setup the drive parameters using the parameter table shown below
- The ACS380 provides the option to use the macro "AC500 Modbus RTU" with Par. 96.3

6.1.1 Minimum required parameter settings (based on factory default settings)

Parameter	Description	Setting	Comment
58.01	Protocol enable	Modbus RTU (1)	Initializes embedded fieldbus communication. (50.02 = disabled)
58.03	Node address	[Address]	Modbus RTU mode address of the drive
58.04	BAUD RATE	19.2 kbit/s (example)	Transfer rate of the link. Same baud rate must be defined in the Modbus RTU master. (HMI)
58.05	PARITY	8 EVEN 1 (example)	Parity and stop bits. Same parity and stop bits must be defined in the Modbus RTU master. (HMI)
58.14	Communication loss action	[optional] e.g. Fault (1)	Defines the drive operation after the communication loss.
58.15	Communication loss mode	Any message (1)	Defines how the drives check for a communication loss. This must not be set to "CW / Ref1 / Ref2" as those are only written in specifics screens.
51.16	Communication loss time	[optional] e.g. 60	Time between communication break detection and the selected action. 1 = 100 ms.
58.25	Control Profile	ABB Drives (0)	Communication profile "ABB Drives" is mandatory
58.26	EFB ref1 type	Speed or frequency (0)	Speed or Frequency is mandatory. The selection is made via control mode (Par. 99.04)
58.28	EFB ref1 type	Speed or frequency (0)	Speed or Frequency is mandatory. The selection is made via control mode (Par. 99.04)
58.33	Addressing mode	Mode0 (0)	16-bit values (groups 1...99, indexes 1...99)
58.101	Data I/O 1	CW 16bit (1)	Control Word in 16 bit
58.102	Data I/O 2	Ref1 16bit (2)	Reference value 1 (e.g. speed) in 16 bit
58.103	Data I/O 3	Ref2 16bit (3)	Reference value 2 (e.g. torque) in 16 bit
58.104	Data I/O 4	SW 16bit (4)	Status Word in 16 bit
58.105	Data I/O 5	Act1 16 bit (5)	Actual value 1 (e.g. speed) in 16 bit
58.106	Data I/O 6	Act2 16 bit (6)	Actual value 2 (e.g. torque) in 16 bit
20.01	Ext 1 commands	Embedded fieldbus (14)	Embedded Fieldbus interface as source for start and stop
22.11	Ext1 Speed ref1	EFB ref1	Embedded Fieldbus interface as source for speed reference
58.06	Communication Control	Enable	To refresh the changed communication settings

Check that the motor data is setup correctly.

The drive is now ready to be controlled by the HMI.

6.2 HMI setup

6.2.1 HMI setup flow chart

- Perform HMI installation according to the manual, including connecting the ModbusRTU communication cable.
- Obtain HMI project file from microsite, and save to the USB drive
- Insert the USB drive with the HMI project file into the HMI USB port
- Apply power to the HMI and load the project file from the USB drive using the following instructions
- Panel Builder may also be used to load the HMI project file

6.2.2 Downloading the drive faceplate application

The Drive Faceplates applications are available at the HMI and Faceplates (Public) (abnow.com) site. Click the "Download Drive Faceplates Applications" link.

ABB

HMI and Faceplates (Public)

Knowing what's happening in their facility at any given time is critical to your customer's success. Having that view in an easy to access, comprehensive, and understandable way enables them to make good, data-based decisions that can be invaluable to their business. This is why ABB designed the CP600 HMI with faceplate templates to provide them with a comprehensive view into their system, deliver the capabilities they need and ultimately provide the value they require.

Helpful Links

- [Technical support](#)
- [Customer service](#)
- [Download Drive Faceplates Applications](#)

Brochures

- [HMIs and Faceplates Brochure](#)
- [CP600 brochure](#)
- Order Brochures**
Select "Automation Products" from first drop-down list

Presentations

- [HMI Sales Presentation: Gen 2](#)
- [HMI Sales Presentation: General CP600](#)
- [Selling HMIs and Faceplates](#)

Videos

- [CP600 HMI - PB610 - Changing RTC value \(YouTube\)](#)
- [CP600 HMI - PB610 - Changing the color of the shape \(YouTube\)](#)
- [CP600 HMI - PB610 - First Project \(YouTube\)](#)
- [CP600-eCo - First project example \(YouTube\)](#)

Websites

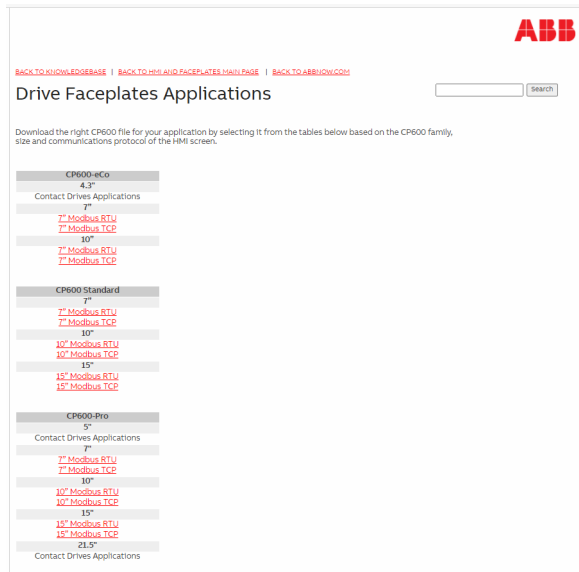
- [CP600 Control Panels \(overview\)](#)
- [CP600-eCo Control Panels \(overview\)](#)

Knowledgebase

- [ABB Documentation Library](#)
- Automation Builder Download**
Contains download to a free 30-day trial of Automation Builder with the integrated Panel Builder 600 (PB610) engineering tool
- [Automation Builder website](#)
- CP600 downloads**
Includes links to application notes, brochures, drawings, data sheets, instructions, manuals, movies, software and more.
- [CP600 website](#)
- [Drive Faceplates Applications](#)
Download the right CP600 file for your application based on the CP600 family, size and communications protocol of the HMI screen.
- [Drive Faceplates Quick Installation Guide](#)
- [PLC website](#)
- Training**
- [Sales Prep & Support](#)
- Technical training for HMIs and Faceplates**
Sign in to search and select HMI classes by entering "HMI" in the Search box using the default "Programs" option.

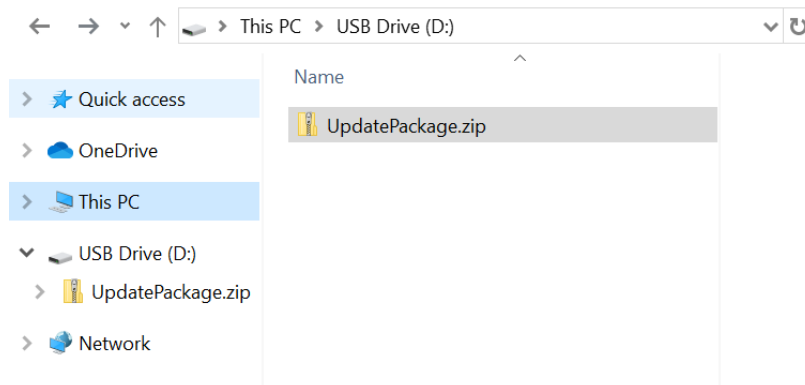
Determine the CP600 Type, Size and communication protocol that will be used and click on the associated link.

After the file downloads, save the file to your computer.



6.2.3 Loading the HMI with a USB-pen drive:

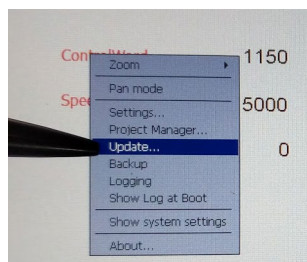
Load the provided file "UpdatePackage.zip" to the root of your USB-pen drive



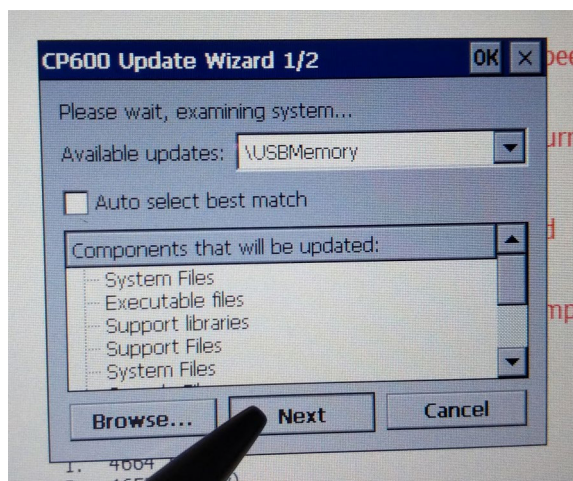
Insert the USB-pen drive into the CP600 HMI

6.2.4 Loading to a panel with an existing project

- Press on a free space on the panel for about 3 seconds: the context menu pops up
- Select "Update"



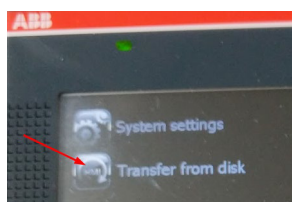
- c. In the update wizard keep defaults and press Next ("USBMemory")



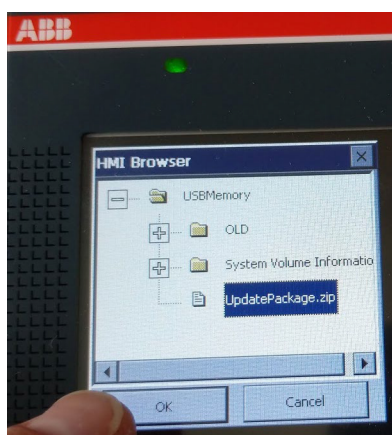
→ the project will be updated and loaded.

6.2.4.1 Loading a new Gen 1 CP600

- a. Press on the "Transfer from disk" icon



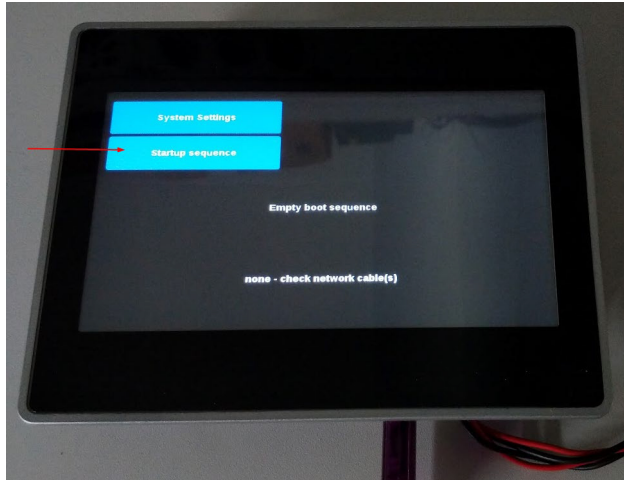
- b. Select the "UpdatePackage.zip" file and press OK



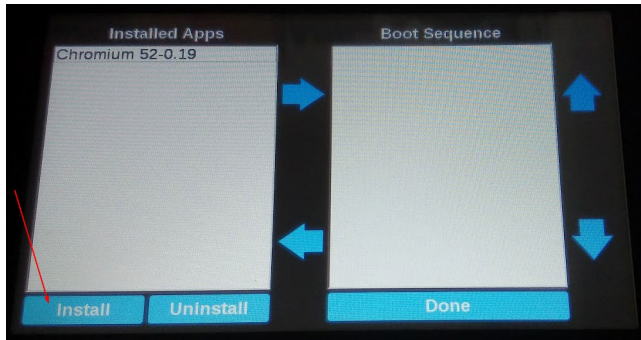
→ the runtime will be installed and the project will be loaded.

6.2.4.2 Loading a new CP600-eCo, -Gen2 Standard or -Pro

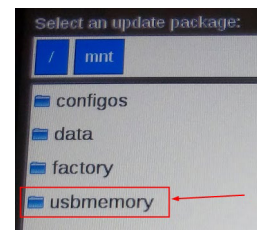
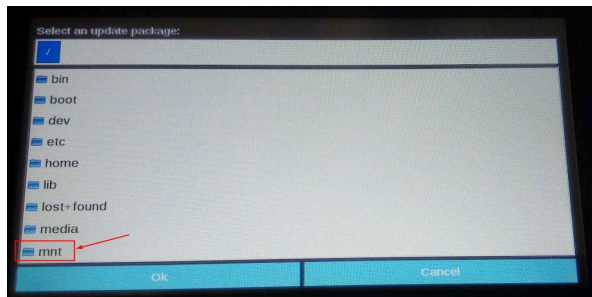
a. On the first screen select click on "Startup Sequence"



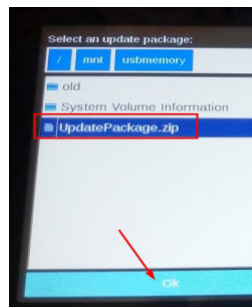
b. Next select "Install" (do not install the Chromium)



c. Next select the path to the USB-pen drive:
mnt/usbmemory/



d. Select the "UpdatePackage.zip" file and press OK



→ the runtime will be installed and the project will be loaded.

After that the panel reboots automatically.

6.2.4.3 Accessing the system setting menu

If you make a mistake during the project loading process, you can access the system update menu again, by holding your finger on the screen in any unused space for 3 seconds, after 3 seconds the context menu will pop up. Follow the steps under "To a panel which already has a project loaded" to try reloading the project.

Alternatively, you can cycle power to the panel, and tap the screen several times while the ABB logo is displayed during the boot-up process. This will cause the panel to enter the system settings menu, and a message will be displayed notifying the user that the panel is entering this mode. Once in the system settings mode, you can resume the process to load the project from the USB memory stick.



6.2.5 Loading the HMI with Panel Builder 600 software

Refer to Chapter 8 of the Panel Builder Software Manual "Transferring the Project to HMI Device"

1. See CP600 manual to assign an IP address to the HMI panel
2. Open PanelBuilder600 Software and open the HMI project file (.jpr)
3. From the menu, select "Run" > "Download to target" ()

Once the project has loaded, you can navigate the pages to set up the panel and the drives you have connected.

7 Commissioning the drive faceplate application

Once the HMI project is loaded, the Main page will be displayed. The HMI must now be configured to communicate with the drives that are on the HMI network. To begin, log in to the HMI with admin privileges by following the instructions in the next paragraph.

7.1 Accessing the initial user setup

Once the project is loaded, to access advanced settings for drives and panel configuration, select the user torso icon and enter

User	Password	Operations
admin	1234	can access Drives and Panel settings pages
engineer1	1234	can access Drives and Panel settings pages
operator1	1234	Limited access. Drive monitoring and control only.



User name:

Password:

Show password



7.2 Password

Currently, this can only be done by updating the password settings in the project file using the Panel Builder software. Once updated to the desired password settings, the project must be updated in the HMI.

Updating the password from the panel may be a feature available at a later release of the project file.

7.3 Panel setup

After logging into the HMI with admin. privileges, more options will be seen on the bottom left to configure the panel and drive settings.

Click the button for Panel Settings to access the Panel Configuration page.

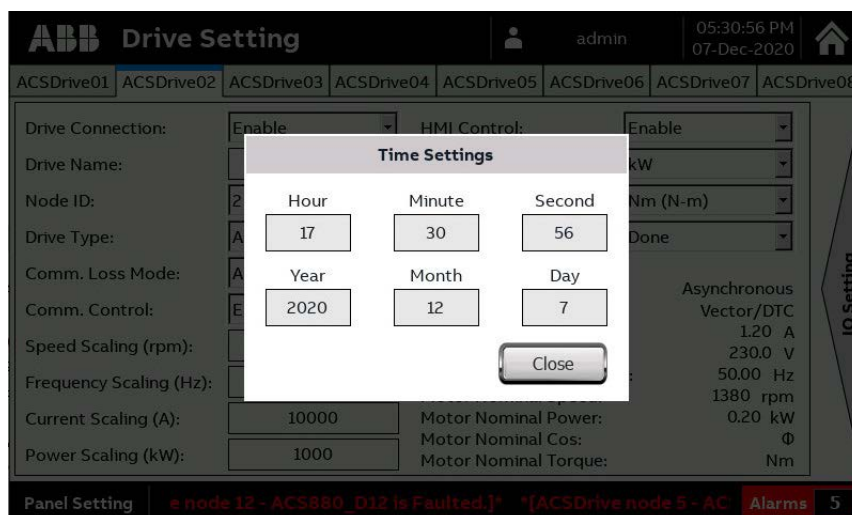
Set the parameters for the panel in the Serial Communication Parameters area, located on the right side of the page.

Adjust the panel settings communicate with the drives that are connected to the network. For the ACS380 it should be; 8 data bits, 1 stop bit, parity EVEN, 19.2k baud, RS485 mode, and press APPLY.

Adjust the display brightness from this page by tapping the Display Brightness dropdown field and selecting the desired brightness percentage.

7.4 Setting date and time

Adjust the panel time by touching the date/time in the upper right corner.



7.5 Communications setup

7.5.1 Modbus RTU setup

Go to the Drive Setting page by pressing the button in the lower left corner.

- Network Adapter Parameters apply to ModbusTCP and will be covered at a later time in an updated version of this document.

ABB Panel Information		engineer1	05:16:23 PM 07-Dec-2020	🏠	
Main OS Version:	UN80AB19M01000538	Display Brightness:	100%		
Runtime Version:	2.8 (1) - Build (447)	Serial Communication Parameters			
Manufacturer Code:	542	Baudrate:	19200	Stop Bits:	1
Available Sys.Mem:	0421.15 MBytes	Parity:	Even	Mode:	RS-485
Flash Free Space:	0578.15 MBytes	Data Bits:	8	Apply	
Backlight Time:	0000727 Hours	Network Adapter Parameters			
System Up Time:	0000728 Hours	eth0	Use DHCP:	No	
Project Date:	07/Dec/2020 - 16:42:46	Mac ID:	00:30:D8:08:E5:23		
Project Name:	Project_ModbusRTU_ACSDrives	IP Address:	192.168.5.47	Apply	
Comm. Status:	Protocol loaded and executed without error.	Subnet Mask:	255.255.240.0		
Comm. Error Count:	0	Gateway:	192.168.0.1	Cancel	
Comm. Error Message:					
Drives Setting		*[ACSDrive node 1 - ACS380-D1 is Faulted.]*		Alarms 1	

7.6 Individual drive setup:

- Apply parameters to each tab for as many drives as you have connected in your serial network, up to 8.

7.6.1 Drive information entry

- Enable the drive connection
- Name the drive
- Set the Node ID for the drive to match the Node Address in Parameter 58.03 for that drive.
- Comm Loss mode must be set to "Any Message"
- Set comm control to "enabled"
- Set the scaling parameters according to your drive
- Set HMI control to "enable"
- Select units accordingly for power and torque
- Select "parameter save" to save your changes

The initial connection is for one drive, go to other drive tabs to enable and configure as many as you have connected, up to 8.

- The IO setting can be accessed from this page.

When the drive settings are complete, the drives on the network will appear on the main page (shown in the main_page description)

ABB Drive Setting | engineer1 | 04:38:53 PM 08-Dec-2020

ACSDrive01 | **ACSDrive02** | ACSDrive03 | ACSDrive04 | ACSDrive05 | ACSDrive06 | ACSDrive07 | ACSDrive08

Drive Connection:	Enable	HMI Control:	Enable
Drive Name:	ACS380_D01	Power Unit Selection:	kW
Node ID:	1	Torque Unit Selection:	Nm (N-m)
Drive Type:	ACS380	Parameter Save:	Done
Comm. Loss Mode:	Any Message	Motor Data (Read Only)	
Comm. Control:	Enabled	Motor Type:	Asynchronous
Speed Scaling (rpm):	1500	Motor Control Mode:	Vector/DTC
Frequency Scaling (Hz):	50.0	Motor Nominal Current:	0.70 A
Current Scaling (A):	100	Motor Nominal Voltage:	230.0 V
Power Scaling (kW):	100	Motor Nominal Frequency:	50.00 Hz
		Motor Nominal Speed:	1370 rpm
		Motor Nominal Power:	0.09 kW

Panel Setting | ***[ACSDrive node 1 - ACS380-D1 is Faulted.]*** | Alarms 1

ABB Drive Setting | engineer1 | 04:49:15 PM 30-Jun-2020

ACSDrive01 | **ACSDrive02** | ACSDrive03 | ACSDrive04 | ACSDrive05 | ACSDrive06 | ACSDrive07 | ACSDrive08

Drive Connection:	Disable
-------------------	---------

Panel Setting | ***[ACSDrive node 1 - ACS380-D1 is Faulted.]*** | Alarms 1

Drive 02 tab initial view

ABB Drive Setting | engineer1 | 04:38:53 PM 08-Dec-2020

ACSDrive01 | **ACSDrive02** | ACSDrive03 | ACSDrive04 | ACSDrive05 | ACSDrive06 | ACSDrive07 | ACSDrive08

Drive Connection:	Enable
Drive Name:	ACS580-D2
Node ID:	Disable

Panel Setting | ***[ACSDrive node 1 - ACS380-D1 is Faulted.]*** | Alarms 1

Drive 02 tab view after 'enable' selected, and name given

Drive 02 tab view completed

7.6.2 I/O information entry:

On this page you have the option to name the IO points that will be displayed on the Basic Control page with the Keypad emulator

The IO can be named for each drive that is connected to the network. Access each IO setting page by clicking on the drive tab you wish to edit.

To return to the Drive Setting page, click the back arrow on the right side of the screen

8 Operating the drive faceplate application:

8.1 Common features:

8.1.1 Features common to all operating pages

- Scrolling alarm/fault display at the bottom of the screen
- Alarm counter at bottom right corner; displays total number of active alarms/faults
- Home icon, to access the main page from any other page
- Time/date display at top right corner, just to the left of the Home icon

8.1.2 Features common to all non-main/home pages:

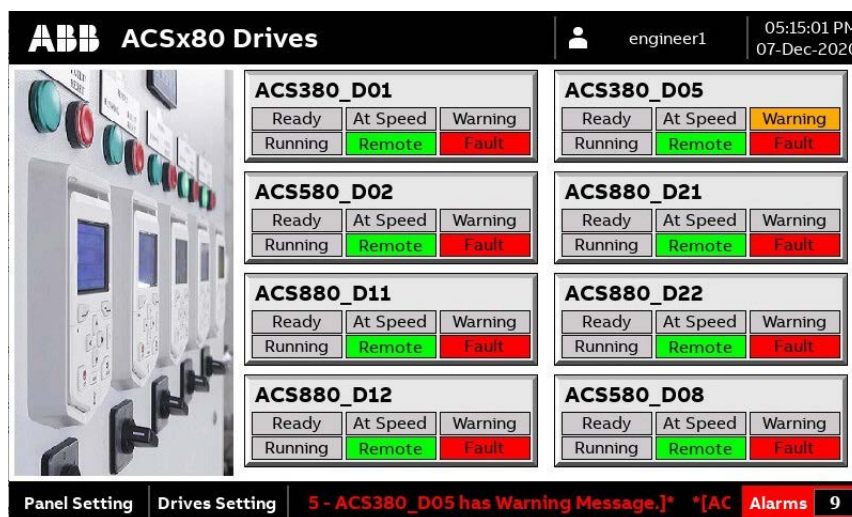
On these pages, there is a column shown on the right side of the screen that displays the current Ready/Faulted/Warning status of all drives and their names which are connected to the network

8.2 Main/Home Page

The main page displays the current time in the upper right corner, the status of the drives that are connected, buttons for drive settings, and panel settings. To access the drive you wish to control, tap on the status box for that drive. This will take you to the Basic Control page with keypad emulator for the selected drive.

The default account that is logged in, is shown in the top bar on the right side. To log in with a different account, such as admin, touch the torso icon. The password for all of the available accounts is the same (1234).

Currently, the available accounts are: admin, Operator1, Engineer1



8.3 Basic control page

This page gives you the ability to use a keypad emulator to control the drive with start, stop, and speed reference controls. The keypad emulator also displays actual values of motor frequency (Hz), motor current (A), and motor torque (%). Fault and warning conditions are indicated by a blinking 'LED' as it would be on the Assistant Control Panel (ACS-AP-x).

The fault/warning hex code will also be displayed in the keypad emulator to quickly identify the condition.

One of the main features of the basic control page is the IO status display with the IO names that were given in the Drive Settings step.

Other options on this page are buttons to navigate to the Trend page, Alarms page, and Advance control page, or return to Main page (home icon), or Login page (torso icon).

The screenshot shows the ABB Basic Control HMI interface for drive ACS380-D1. The top bar displays the drive name, user 'engineer1', time '05:25:43 PM', and date '07-Dec-2020'. The main display area is divided into several sections:

- Motor Parameters:** Motor Frequency is 25.00 Hz, Motor Current is 0.01 A, and Motor Torque is 31.6%.
- IO Status:** DI 1 LevelSw1, DI 2 LevelSw2, DI 3 FlowSw1, and DI 4 FlowSw2 are all in a 'LevelSw' state. AI 1 Temp01 is 0.31V, AI 2 FlowRate1 is 0.66 mA, and AO 1 Current is 10.01 mA. DIO 1 WarningLED is off, DIO 2 EnableExt is on, and RO 1 FaultLED is on.
- Control Panel:** A 'STOP' button is highlighted in red, and a 'START' button is highlighted in green. The Speed Reference (Hz) is set to 25.0.
- Alarms:** The bottom status bar shows 'is Faulted.]* *{ACSDrive node 5 - ACS380_D Alarms 5'.

The screenshot shows the ABB Basic Control HMI interface for drive ACS380 D01 in a faulted state. The top bar displays the drive name, user 'engineer1', time '05:24:42 PM', and date '07-Dec-2020'. The main display area is divided into several sections:

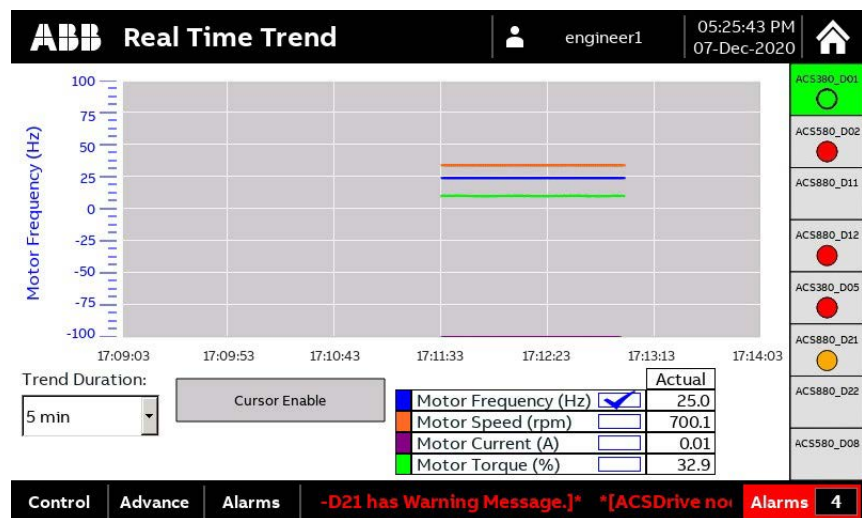
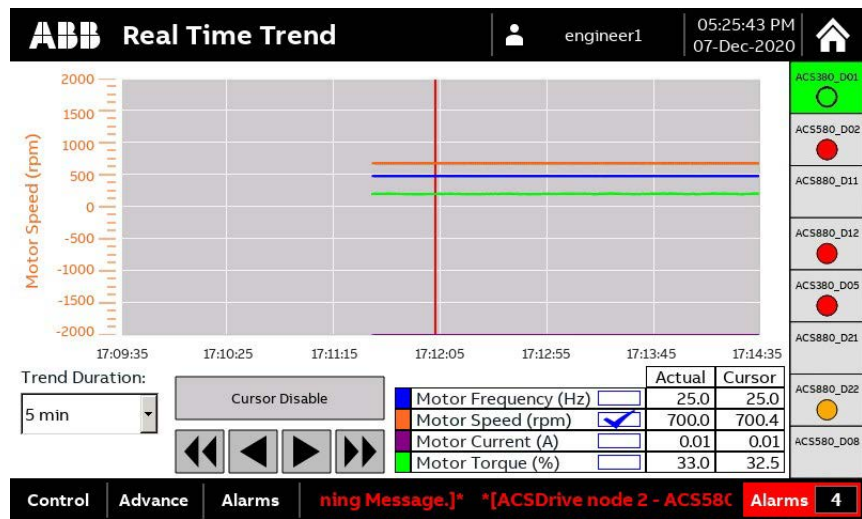
- Motor Parameters:** Motor Frequency is 0.0 Hz. A large red 'X' icon and the number '6681' are displayed, indicating an 'EFB comm loss' fault.
- IO Status:** DI 1 LevelSw1, DI 2 LevelSw2, DI 3 FlowSw1, and DI 4 FlowSw2 are all in a 'LevelSw' state. AI 1 Temp01 is 0.31V, AI 2 FlowRate1 is 0.66 mA, and AO 1 Current is 0.00 mA. DIO 1 WarningLED, DIO 2 EnableExt, and RO 1 FaultLED are all off.
- Control Panel:** A 'STOP' button is highlighted in red, and a 'START' button is highlighted in green. The Speed Reference (Hz) is set to 0.0.
- Alarms:** The bottom status bar shows 'CSDrive node 5 - ACS380_D05 is Faulted.]* * Alarms 9'.

Basic Control page display with faulted condition

8.4 Trending page

- This page will allow you to display a graphical trace of 4 actual values; motor frequency, motor speed, motor current, and motor torque. There is also a 'cursor enable' option. The cursor will allow you to move the cursor on the graph to measure a point of interest on the monitor. You can also change the duration of the window from 1, 5, or 10 minutes. The data in the monitor is not retentive. If you navigate away from the trend page, the monitor will restart.

- Other options on this page are to navigate to main page (Home icon), Login page (torso icon), navigate back to the basic control page, or navigate to the advanced control page.



8.5 Alarms page

- This page displays active faults and warnings as well as most recent faults and warnings. Also shown is actual values at fault; Motor Speed, Output Freq, DC Voltage, Motor Current, Motor Torque, Main Status Word, DI delayed status, Inverter Temp, Reference Used.

Navigation to Main page (home icon), login page (torso icon), Control page, Trend page, and Advanced page

ABB Warnings and Faults			engineer1	05:19:05 PM 30-Jun-2020	
Tripping Fault	5091	Safe torque off	Information At Fault		ACS380-D1
Active Fault 2	0	ACSx80 Drives No Fault Messages...	Motor Speed: 699.9		ACS580-D2
Active Fault 3	0	ACSx80 Drives No Fault Messages...	Output Freq.: 25.0		ACS880-D11
Latest Fault	6681	EFB comm loss	DC Voltage: 320.5		ACS880-D12
2nd Latest Fault	6681	EFB comm loss	Motor Current: 0.0		ACS880-D12
3rd Latest Fault	6681	EFB comm loss	Motor Torque: 34.6		ACS380-D5
Active Warning 1	0	ACSx80 Drives No Warning Messages...	Main Status Word: 1337		ACS880-D21
Active Warning 1	0	ACSx80 Drives No Warning Messages...	DI Delayed Status: 0		ACS880-D22
Active Warning 1	0	ACSx80 Drives No Warning Messages...	Inverter Temp.: 46.0		ACS880-D22
Latest Warning	A7CE	EFB comm loss	Reference Used: 25.0		ACS580-D8
2nd Latest Warning	A7CE	EFB comm loss			
3rd Latest Warning	A7CE	EFB comm loss			

Control Advance Trend **S**Drive node 21 - ACS880-D21 has Warning Me Alarms **3**

8.6 Advance control page

8.6.1 Status and control words with other drive information

- On this page, each bit of the Main Control Word, and the Main Status word is shown. This gives the user a better idea of the full picture of the drive status. Actual values are also shown; Motor Speed, Motor Frequency, Motor Current, Motor Torque; DC Voltage; Output Voltage, Output Power; Inverter Temperature. If the drive has an OFF2 or OFF3 Emergency stop condition, the start inhibit navigation button will appear on the left side, and you can navigate to the start inhibit page to identify the condition.
- The speed reference, Accel time 1, and Decel time 1 can also be changed from the Advance Control page in the upper right part of the page.
- Press the "Start Inhibit Status" triangle to review the status of the Start Inhibit parameter bits

Gray	=	OFF or 0
Green	=	ON or 1
Yellow	=	Alarm

Navigate to Main page (home icon), login screen (torso icon), Basic control page, Trend page, Alarm page.

8.6.2 Start inhibit

- This page shows the start inhibit status word. The Start inhibit status word specifies the source of the inhibiting condition that is preventing the drive from starting. After the condition is removed, the start command must be cycled.

To return to the Advance Control page, press the back arrow on the left side of the screen

The screenshot shows the ABB Advance Control HMI interface. At the top, the title bar includes the ABB logo, 'Advance Control', the user 'engineer1', the time '05:27:25 PM', the date '07-Dec-2020', and a home icon. The main content area is titled 'Start Inhibit Status' and contains a table with 16 rows (bits 0-15). The table has three columns: 'Bit', 'Name', and 'Description'. Bits 3, 5, 12, and 13 are highlighted in yellow. To the right of the table is a vertical column of indicator lights for various drive nodes (ACS380_D01 to ACS580_D08). At the bottom, a navigation bar shows 'Control', 'Trend', 'Alarms', and a red 'Alarms 5' indicator. An active alarm message is displayed: '* [ACSDrive node 5 - ACS380_D05 is Faulte'.

Bit	Name	Description
0		
1		
2		
3	Fault reset	A fault has been reset
4		
5	Lost run enable	Run enable signal missing
6		
7		
8		
9		
10		
11		
12	Em Off2	Emergency stop signal (mode Off2)
13	Em Off3	Emergency stop signal (mode Off3)
14		
15		

Appendix A Cable solutions:

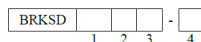
As an alternative to connecting the HMI panel to a drive using the ABB TK682 cable, a 9 pin DSUB breakout board connector could be used to supply your own terminating resistor and cable according to the diagram in the 'Serial Cable and Connection' section above.

- Below is an example from Winford Engineering:

BRKSD9M Rev A Specifications

Ambient Temperature	-20°C to 85°C
Ambient Humidity	10% to 90% RH, non-condensing
Voltage	200V maximum between any two signals
Continuous Current	2.25A maximum on any signal
Screw Terminal Size	Accepts 16 - 26 AWG wire

Part Number Ordering Information



1. Connector Positions

- 9 DB9
- 15 DB15
- 15HD DB15 High Density
- 25 DB25
- 26HD DB26 High Density
- 37 DB37
- 44HD DB44 High Density

2. Connector Gender

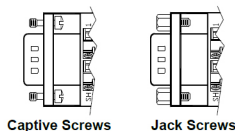
- M Male (Plug)
- F Female (Socket)

3. Product Version

- Vn or blank, depending on product

4. Connector Style and Hardware

- C Right Angle with Captive Male Screws
- R Right Angle with Jack Screws



BRKSD9M Stocked Part Numbers

The following part numbers represent standard options and are stocked:

- BRKSD9M-C
- BRKSD9M-R

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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 www.abb.com/searchchannels.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB manuals

Your comments on our manuals are welcome. Navigate to 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 www.abb.com/drives/documents.



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