

## User's Guide DriveBrowser

The screenshot displays the DriveBrowser software interface for an ACS550 drive. The main window is titled "Parameter browser - 550@10.58.18.251 - ACS550". It features a menu bar (File, Edit, View, Drive, Parameter browser, Monitor, Window, Help) and a toolbar with various icons. A status bar at the top right shows "Advanced status" with "Status word: 0000 0000 0001 0011b - 0013h" and "Control word: 0000 0010 0001 0001b - 0211h".

On the left side, there are three main sections: "Connections setup" (showing the IP address 550@10.58.18.251), "Drive status" (showing "Stopped" with 0 Hz, 0 A, 0 kW, and 0 rpm), and "Parameter browser" (the active section). The "Parameter browser" section contains a table of drive parameters.

Name	Value	Unit	Identification
99 START-UP DATA			
1 OPERATING DATA			
01 SPEED & DIR	0	rpm	40101
02 SPEED	0	rpm	40102
03 OUTPUT FREQ	0	Hz	40103
04 CURRENT	0	A	40104
05 TORQUE	0	%	40105
06 POWER	0	kW	40106
07 DC BUS VOLTAGE	329	V	40107
09 OUTPUT VOLTAGE	0	V	40109
10 DRIVE TEMP	26.7	°C	40110
11 EXTERNAL REF 1	12.5	Hz	40111
12 EXTERNAL REF 2	5.7	%	40112
13 CTRL LOCATION	EXT1		40113
14 RUN TIME (R)	6	h	40114
15 KWH COUNTER (R)	0	kWh	40115
16 APPL BLK OUTPUT	5.7	%	40116
18 DI 1-3 STATUS	0		40118
19 DI 4-6 STATUS	0		40119
20 AI 1	0.1	%	40120
21 AI 2	5.7	%	40121
22 RO 1-3 STATUS	5		40122
23 RO 4-6 STATUS	0		40123
24 AO 1	0	mA	40124
25 AO 2	0	mA	40125
26 PID 1 OUTPUT	0	%	40126
27 PID 2 OUTPUT	0	%	40127
28 PID 1 SETPNT	0		40128

At the bottom of the window, the status bar shows "Ready" and two green indicator lights labeled "Drive OK" and "Connection OK".



DriveBrowser

**User's Guide**

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# Introduction to the manual

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## What this chapter contains

The chapter describes the intended audience, compatibility and the contents of this manual. It also includes the safety instructions.

## Compatibility

The document is valid for DriveBrowser PC tool version 1.1 or later.

## Safety instructions

Follow these instructions when using the DriveBrowser PC tool.

**WARNING:** Ignoring the following instructions can cause physical injury or death, or damage to the equipment.

- When using the control panel, you can be far a way from the actual motor. Make sure that starting and stopping the drive can be done safely. **This includes but is not limited to attempted remote control of a drive utilizing the Drive Control Panel within Drive Browser. Any attempt to control the drive from a remote location through a communications switch, which in order to allow this Browser control to function, a choice is made to disable communications loss faults because of the inherent timing delays of the Internet and communications switches or other devices. Without the communication loss fault function enabled the drive can lose communications while still in a run mode, this is an unsafe condition. Do not operate the drive in an unsafe condition.**
- Parameters that are edited with DriveBrowser are not saved to drives permanent memory unless requested by the user.

See also the safety instructions of the connected drive.

## Reader

This manual is intended for persons who install and use the DriveBrowser PC tool.





# Overview of DriveBrowser

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## What this chapter contains

The chapter describes the intended audience, compatibility and the contents of this manual. It also includes the safety instructions.

## Overview

DriveBrowser is a maintenance tool for the ACS350, ACH550, ACS550 and ACS800\* drive series.

DriveBrowser PC tool is designed to run under the Microsoft Windows 2000, Windows XP, Windows Vista and Windows 7 operating systems.

The key functions of DriveBrowser PC tool are the following:

- Make lists of drives and their IP addresses
- Connect one by one to listed drives
- Show the actual status of the connected drive
- View and edit the drive parameters
- Read parameters from drive to PC and transfer parameters from PC to drive
- Monitor drive signals graphically and numerically
- Control a drive

\* ACS800 standard control program,



# Getting started

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## What this chapter contains

This chapter describes how to install the DriveBrowser to a PC and how to connect the PC to a drive via RETA-01, RETA-02 or FENA-01 fieldbus module.

## Computer requirements

To operate DriveBrowser, your computer should meet the following minimum requirements:

*Table 1. System requirements*

Category	Minimum Requirement
Operating System	Windows 2000, Windows XP, Windows Vista and Windows 7
Display	1024x768, 256 colors
Hard Disk Space	80 MB

## Delivery check

Package includes DriveBrowser CD and registration information.

## Connecting drive and PC

DriveBrowser uses PCs Ethernet connection to communicate with the drives.

On the drive side, an Ethernet fieldbus module is required. For ACS350, FENA-01 is needed and for ACH550 and ACS550 a RETA-01 or RETA-02 is needed, for ACS800 a RETA01 or RETA-02 is needed. For installation of the fieldbus module, see corresponding user manual. Module in the drive should be activated from group 98 prior it can be used.

Fieldbus module and the PC can be connected in two ways: point to point or a network.

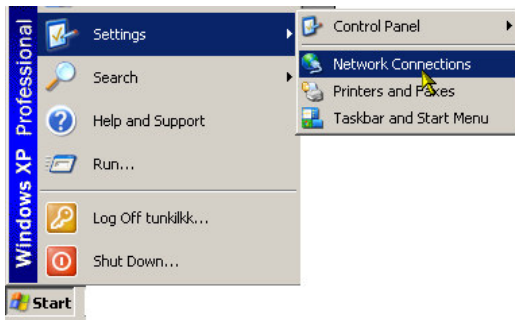
### Point to point connection

In point to point connection, a crossover Ethernet cable between the module and the PC as in figure 1 is used. In such a case, the IP address and the subnet mask of the PC and the module is defined manually.

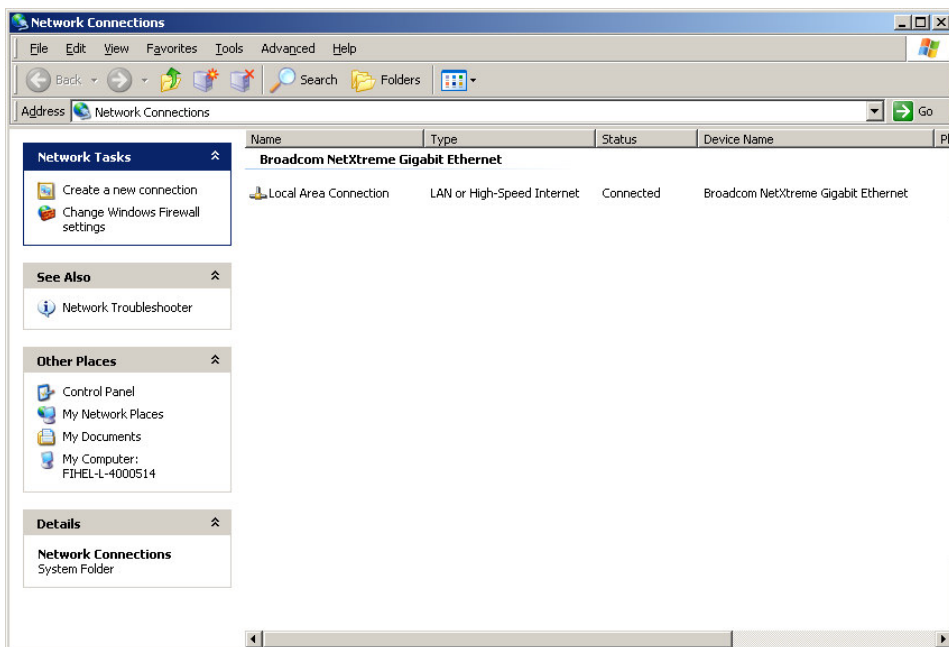


Figure 1. Point to point connection with a crossover cable.

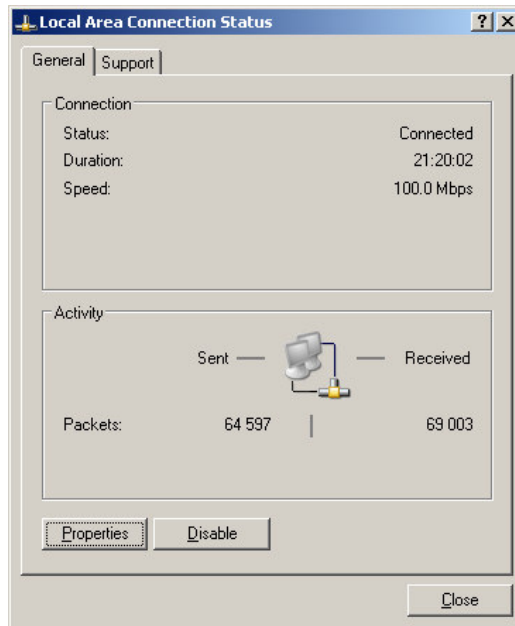
To configure the PC's IP address, open Network Connections of the PC.



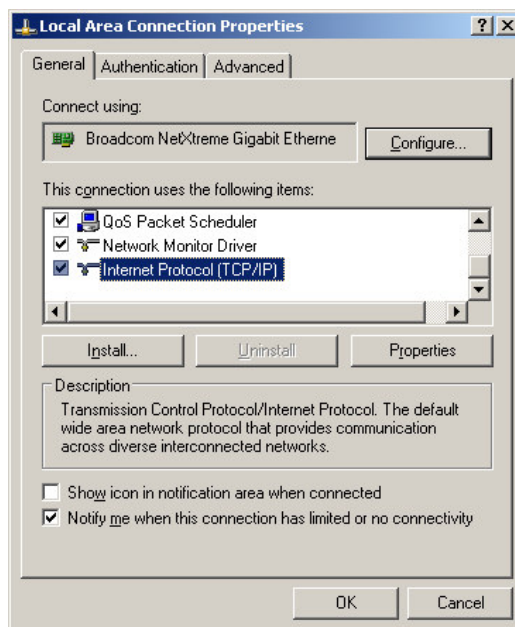
After click the Network Connections window is presented.



Double click the used connection and a Local Area Connection Setup window is presented.



Click the Properties.



Select Internet Properties (TCP/IP) and click OK.

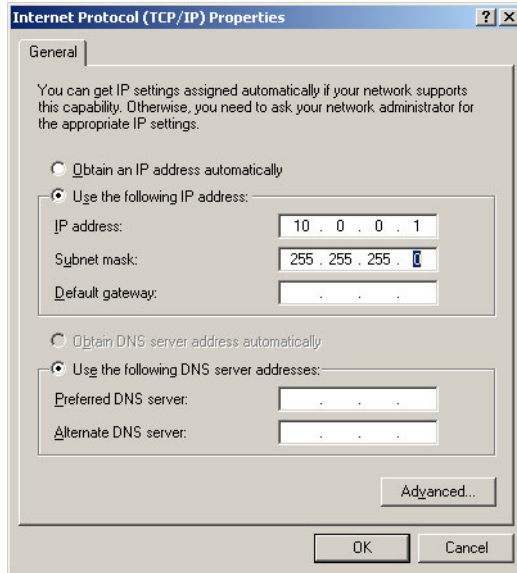


Figure 2. Internet Protocol (TCP/IP) Properties.

Select Use the following IP address, then type in the IP address and the Subnet mask. There is no need to define the Default gateway. Click OK to accept changes.

For configuration of the module, see corresponding module manual. With ACS350, ACS550, ACH550 and ACS800, the module is activated from parameter 9802. IP address, subnet mask, used protocol etc. are selected from group 51.

**Note!** Configuration of the module is done with DriveWindow Light or the control panel. This is because DriveBrowser is not able to communicate with the module before these settings are in use.

## Network connection

Another way for connection is to use an Ethernet network. Standard Ethernet cabling is used between the PC and a switch and the module and the switch as in figure 3.

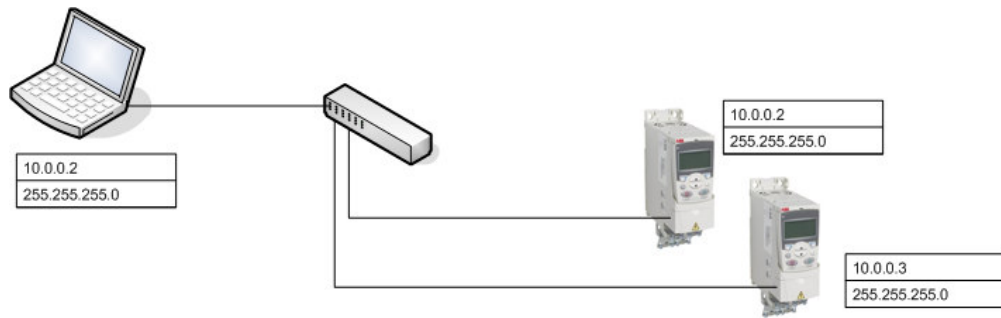


Figure 3. Network connection with an Ethernet switch.

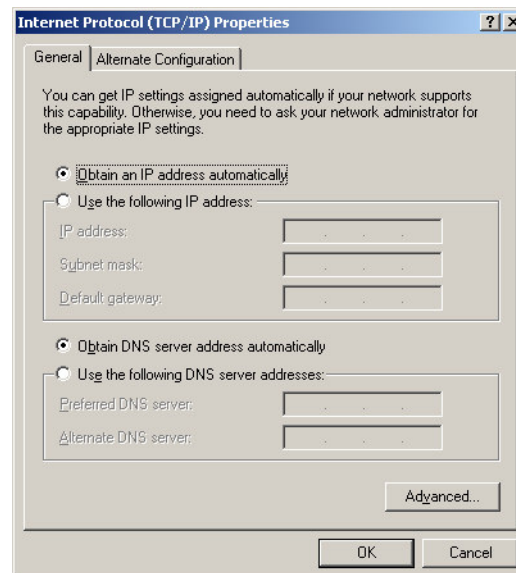
In a network, an IP address and a subnet mask is set automatically by DHCP server to all network components or they are configured manually.

**Note!** DriveBrowser is intended to be used inside one firewall zone. If you want to use it outside firewall, please contact your local IT administrator to advise with firewall settings.

#### Network connection with DHCP server

In a network that contains a DHCP server, the IP address and subnet mask are configured automatically. All communication components connected to the network should be configured in a way that they use the IP address and subnet mask given by the DHCP server.

Check PCs configuration from Network Connections as described in section Point to point connection. PC should be configured in a way that it obtains IP address and subnet mask automatically.



For configuration of the module, see corresponding module manual. With ACS350, ACS550, ACH550 and ACS800, the module is activated from parameter 9802. IP address, subnet mask, used protocol etc. are selected from group 51.

**Note!** IP configuration of the module should be set to DHCP or DHCP should be enabled from group 51.

#### *Network connection with static IP configuration*

In a network that does not contain a DHCP server, the IP address and subnet mask are configured manually. All communication components connected to the network are configured in a way that their IP address and subnet mask are defined manually.

Check PCs configuration from Network Connections as described in section Point to point connection. PC should be configured in a way that it uses the IP address and the Subnet mask defined by the user. If there are modules outside given subnet mask, also the Default gateway should be given.

For configuration of the module, see corresponding module manual. With ACS350, ACS550, ACH550 and ACS800, the module is activated from parameter 9802. IP address, subnet mask, used protocol etc. are selected from group 51.

**Note!** IP configuration of the module should be set to Static or DHCP should be disabled from group 51.

## Installing DriveBrowser

Please read carefully the license agreement (License.pdf) before installing DriveBrowser. You should quit all applications before starting the installation. We recommend that you uninstall all previous versions of DriveBrowser before installing.

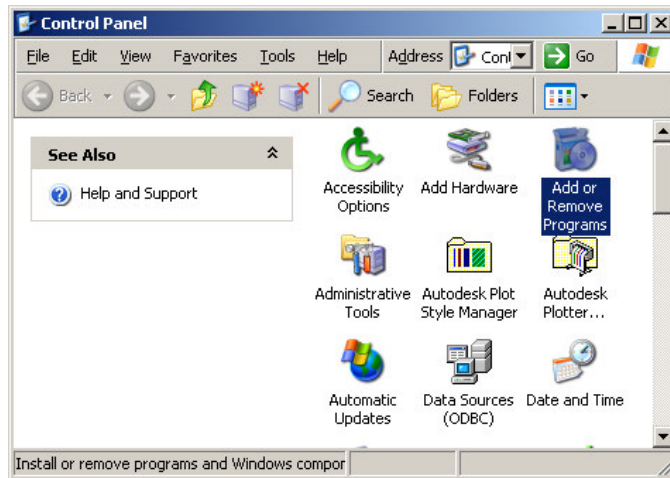
**Note!** *You should have Administrator privileges to be able to do the installing.*

Your PC may be configured in such a way that when you insert the DriveBrowser installation CD into your CD drive, installation starts automatically. Answer the questions and follow the instructions given by the installation program.

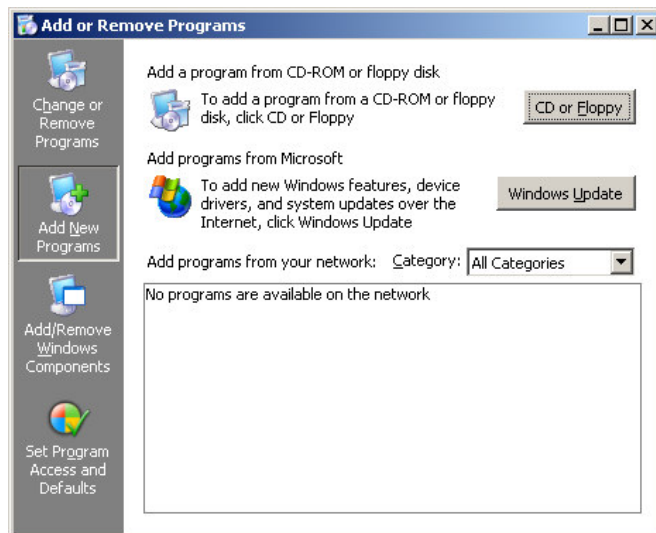
If installation does not start automatically, you can start the SETUP program from the Control Panel as follows.

Start the Control Panel program and double-click the *Add or Remove Programs* icon.





Click the *Add New Programs* button and then the *CD or Floppy* button.



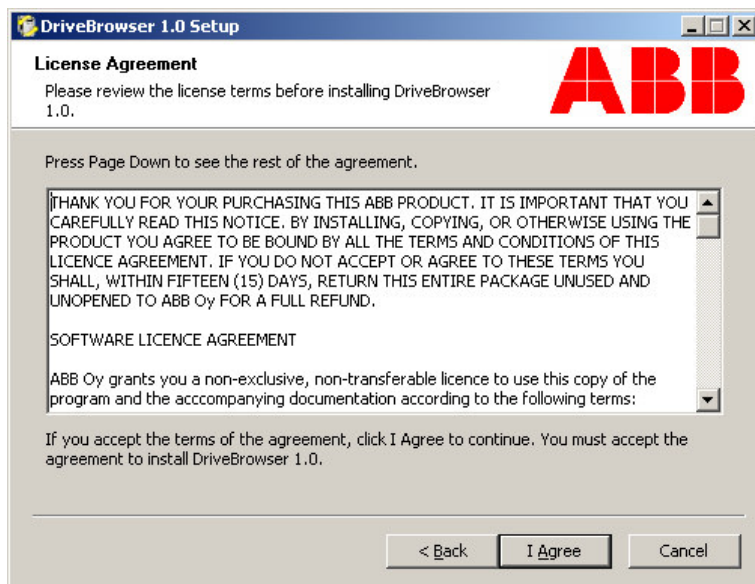
Insert the DriveBrowser installation CD into your CD drive and click the *Next >* button.

If the proper SETUP was not found automatically, enter E:\SETUP.EXE into the Command line for installation program (assuming E: is your CD drive), or click the *Browse* button and select the program by browsing. Finally click the *Finish* button, which starts the SETUP.

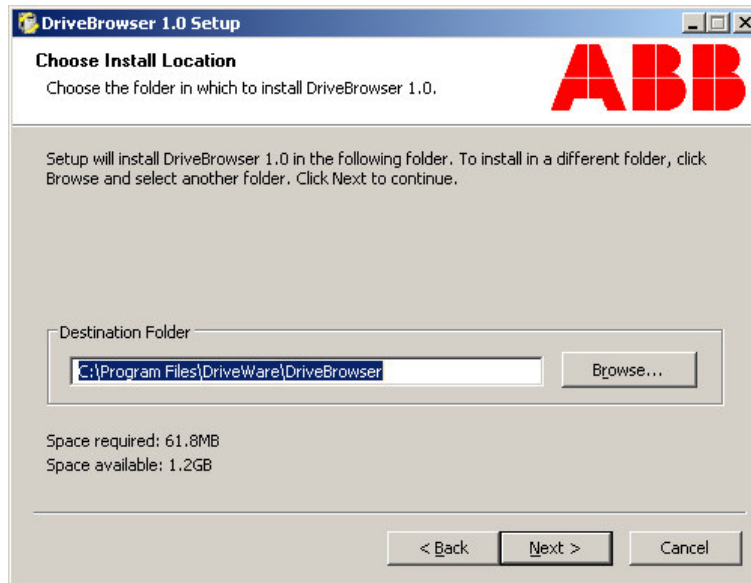
When the DriveBrowser installation wizard window is shown, click the *Next >* button.



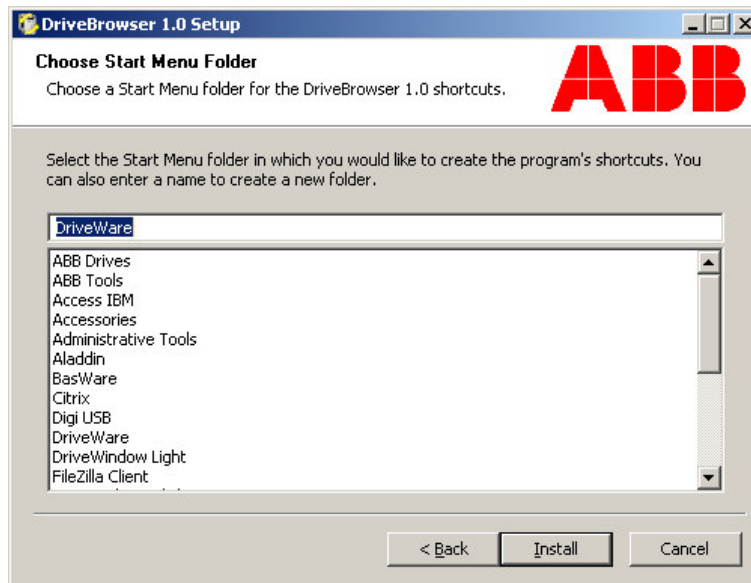
Next screen asks to accept the license agreement.



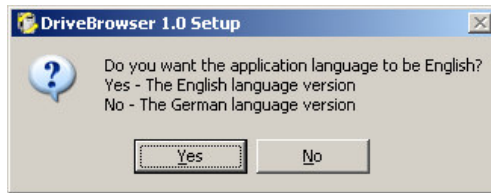
Next screen asks where to install DriveBrowser. If the default location is OK, just click the *Next >* button to continue. Otherwise click the *Browse* button to define another location.



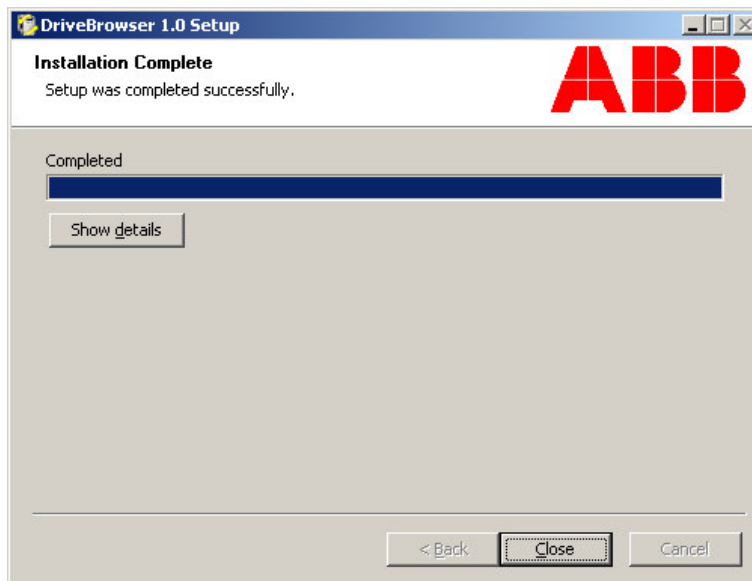
Next screen asks where the DriveBrowser shortcuts are installed. If the default location is OK, just click the *Install* button to continue.



At the end the installation, user is prompted to select if the language for DriveBrowser user interface is English. Click Yes to select English, click no to select German.



After the files are copied to the specified location on your hard disk, click the *Close* button to end the installation procedure. DriveBrowser is now ready for you to use.



## Starting DriveBrowser

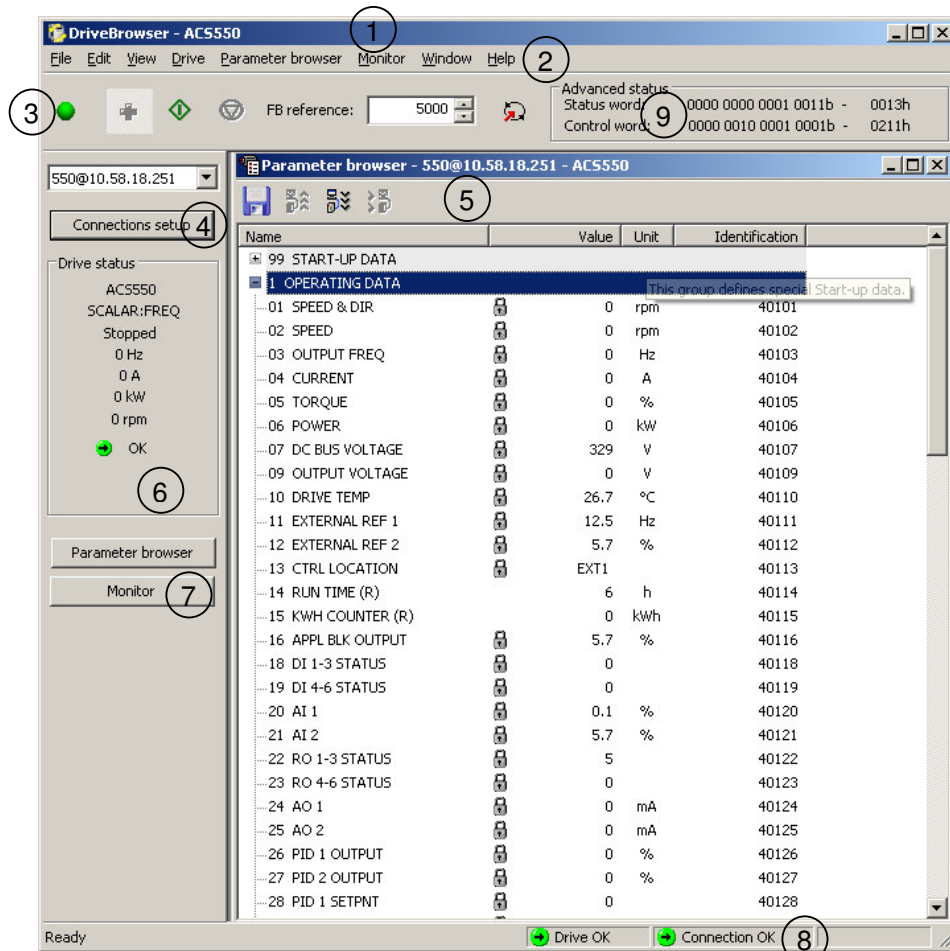
To start DriveBrowser, select Start – Programs - DriveWare – DriveBrowser

# User interface

## What this chapter contains

This chapter describes the main user interface of the DriveBrowser.

## Overview



The user interface consists of the following parts:

1. Title Bar
2. Menu Bar
3. Control panel
4. Connection setup
5. Window area

6. Drive status
7. Monitor
8. Status bar
9. Advanced status

## Title bar



The title bar is located at the top of the main window. It consists of the following parts:

1. System menu button
2. Application name and version number (DriveBrowser)
3. Minimize button, same as Minimize in the System menu. Reduces the main window to the Taskbar or a sub window of the main window to the window area.
4. Maximize / Restore button (depends on current maximized status of the window), same as Maximize or Restore in the System menu.
5. Close button, same as Close in the System menu

To move the window, drag the title bar. You can also move dialog boxes by dragging their title bars. Note that maximized or minimized windows cannot be moved.

Maximize of the Maximize / Restore button enlarges the window to fill the available space.

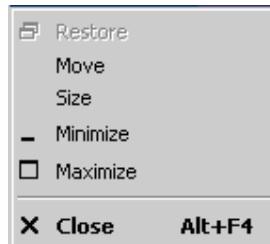
Restore of the Maximize / Restore button returns the window to its size and position it had before you chose Maximize.

You can also do maximizing / restoring by double-clicking the title bar.

Clicking close button ends your DriveBrowser session.

You can close DriveBrowser also by double-clicking the system menu button, by selecting Exit command in the File menu, by selecting Close from the System menu, or by pressing the keyboard shortcut Alt+F4.

## System menu



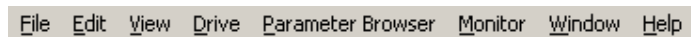
You can open the System menu by left- or right-clicking the System menu button, by pressing the keyboard shortcut Alt+Spacebar, or by right-clicking within the non-button area of the title bar.

Many dialog boxes also have simple system menus. You can open their System menu, in addition to clicking the button, by right-clicking within the non-button area of their title bar, or by pressing the keyboard shortcut Alt+Spacebar.

The menu contains the following commands:

- *Restore* command, the same as the Maximize / Restore button in the title bar, when the window is maximized. Returns the window to its size and position before you chose maximize.
- *Move* command, similar to dragging the title bar. After selecting the command, it is possible to move the window with the arrow keys. To finish the moving, press Enter. To cancel the moving, press Esc.
- *Size* command, similar to dragging any of the sides or corners of the window. After selecting the command, it is possible to resize the window with the arrow keys. To finish resizing, press Enter. To cancel resizing, press Esc.
- *Minimize* command, same as minimize button in the title bar. Reduces the window to the Taskbar or the window area.
- *Maximize* command, same as the Maximize / Restore button in the title bar, when the window is not maximized. Enlarges the window to fill the available space.
- *Close* command, same as close button in the title bar. Ends your DriveBrowser session. DriveBrowser possibly warns you about releasing control, prompts you to save documents with unsaved changes, or reminds you about unfinished printing.

## Menu bar



The menu bar is located immediately below the title bar. It always contains the following drop-down main menus:

- File
- Edit

- View
- Drive
- Parameter browser
- Monitor
- Window
- Help

To open a drop-down menu, click its name on the menu bar. You can also use the underlined letter in the menu name. Press and hold down the Alt key first, then press the key of the underlined letter and release both. For example, Alt+F opens the File menu.

To execute a command from a menu, click its name on the menu. You can also use the arrow keys to navigate within the menu bar and menus. The highlighted command is executed by pressing Enter. Pressing Esc key closes the menu. You can also use the underlined access key in a command name to execute the command. For example, pressing X, while the File menu is displayed, executes Exit.

To get help about command on a menu or submenu, use the arrow keys to highlight the command, and press F1.

**Note!** *Keyboard shortcuts other than F1 do not work while a menu is dropped-down.*

## File menu

File	
Open...	Ctrl+O
Close	Ctrl+W
Save	Ctrl+S
Save As...	F12
Print...	Ctrl+P
Print Setup...	
Exit	Alt+F4

The menu contains the following commands:

- *Open* command presents a dialog for opening a parameter or monitor file into a PC. Keyboard shortcut Ctrl+O.
- *Close* command closes the active window of DriveBrowser.
- *Save* command saves the Browser file into a PC. Keyboard shortcut Ctrl+S.
- *Save As...* command presents a dialog for saving the Browser file into a PC with a new name. Keyboard shortcut F12.



- *Print* command presents a dialog for printing the active document. Keyboard shortcut Ctrl+P.
- *Print setup...* command presents a dialog for changing the printer and the printing options.
- *Exit* command ends your DriveBrowser session. DriveBrowser possibly warns you about releasing control, prompts you to save changed parameters to drives permanent memory, or reminds you about unfinished printing. Keyboard shortcut Alt+F4.

## Edit menu

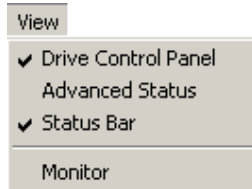
This menu is always located in the menu bar.

Edit	
Undo	Ctrl+Z
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Confirmations and options...	
Drive connections setup...	
Monitor settings...	

The menu contains the following commands:

- *Undo* command cancels the latest command if it is possible. Keyboard shortcut Ctrl+Z.
- *Cut* command removes selected objects and puts them on the clipboard. Not all objects can be cut and they vary between different views. Keyboard shortcut Ctrl+X.
- *Copy* command copies selected objects and puts them on the clipboard. Not all objects can be copied and they vary between different views. Keyboard shortcut Ctrl+C.
- *Paste* command inserts the clipboard contents. Availability of the command depends on the active view and contents of the clipboard. Keyboard shortcut Ctrl+V.
- *Confirmations and options...* command presents a dialog for setting DriveBrowser behavior.
- *Drive connections setup...* presents a dialog for presenting drives and their IP addresses to DriveBrowser.
- *Monitor Settings...* command brings up the Monitor Settings window where the Monitor settings can be modified. This is the same command as the corresponding button in the toolbar.

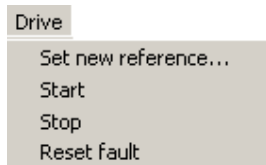
## View menu



The menu contains the following commands:

- *Drive control panel* command shows or hides the control panel interface.
- *Advanced status* command shows or hides the advanced status.
- *Status bar* command shows or hides the status bar.
- *Monitor* command launches the monitor window.

## Drive menu

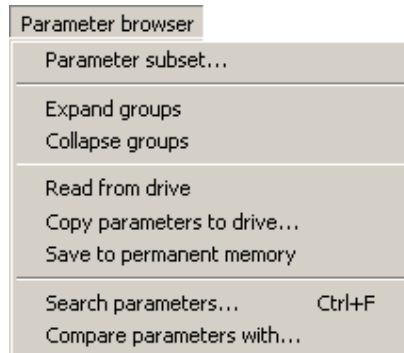


The menu contains the following commands:

- *Set new reference...* command is active only when the connected drive is configured to get the speed or frequency reference from the fieldbus module.
- *Start* command is active only when the connected drive is configured to get the start and stop command from the fieldbus module and drive is in stopped state.
- *Stop* command is active only when the connected drive is configured to get the start and stop command from the fieldbus module and drive is in started state.
- *Reset fault* command resets an active fault from the drive.

**(NOTE: Please refer to the warnings and notes in the "Introduction to the manual" "Safety Instructions" section on page 7)**

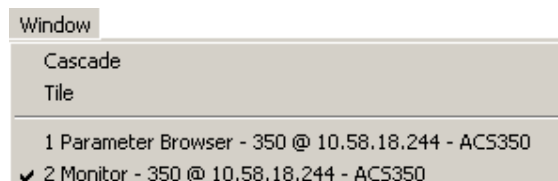
## Parameter browser menu



The menu contains the following commands:

- *Parameter Subset...* command brings up a window where a number of parameters can be chosen from several groups to be displayed in a separate subset group.
- *Expand groups* command shows all visible groups and their parameters in the list.
- *Collapse groups* command shows only the group names in the list.
- *Read from drive* command is used to refresh the drive connection after a network break.
- *Copy parameter file to drive...* command opens a dialog in which you can choose a source for parameter copy function. See Chapter xx Copying parameters for further information.
- *Save to permanent memory* command sends a parameter save request to the target drive.
- *Search parameters* command brings up a dialog asking for a word to search from the names of the visible parameters. Keyboard shortcut Ctrl+F.
- *Compare parameters with...* command brings up a dialog asking for a reference file or drive and target file or drive for comparison.

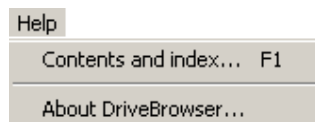
## Window menu



The menu contains the following commands:

- *Cascade* command arranges the open windows so that they overlap.
- *Tile* command arranges the open windows as non-overlapping tiles.

### Help menu



The menu contains the following commands:

- *Contents and index* command brings up the online help window and shows its topics.
- *About DriveBrowser...* command brings up a window displaying program information, version number and copyright.

# Drive status

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## What this chapter contains

This chapter describes how to use the Drive status panel.

## Drive status panel

The Drive status panel is located on the left side of the DriveBrowser main window.

The Drive status panel shows the following information about the drive:

- type of the drive, to which DriveBrowser is connected to
- control mode of the drive
- status: running or stopped
- output frequency [Hz]
- current [A]
- power [kW]
- speed [rpm]
- drive state (OK, Warning or Fault).

The lower part of the Drive Status panel contains the following function buttons:

- Parameter Browser – changes to the Parameter Browser window
- Monitor – changes to the Monitor window.

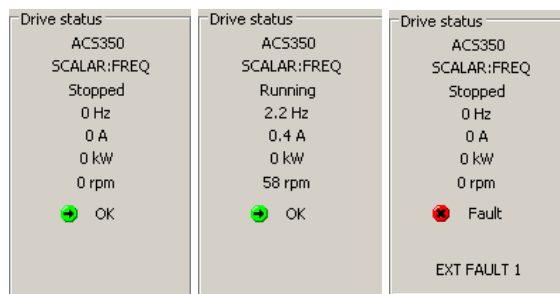


Figure 4. Drive status

## Status bar

The Status bar, located at the bottom of the screen shows the drive and connection status.

To view or hide the status bar, select Status Bar from the View menu.

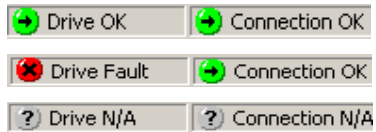


Figure 5. Status bar

## Advanced status

Advanced status is located under the menu bar if control panel is not shown. Otherwise it is located on the right side of the control panel. Advanced status shows the status word and control word of the drive. Status words are shown both in hexadecimal and binary format.

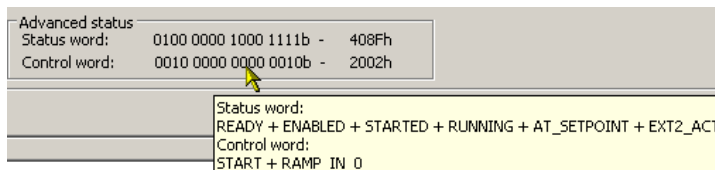


Figure 6. Advanced status with a tooltip

Control word and status word are defined by parameters 301 and 303, see drive manual for further detail. DriveBrowser present the advanced status as a tooltip when cursor is moved on the top of the status box.

# Parameters

## What this chapter contains

This chapter describes how to use the Parameter Browser to view and edit parameters and actual signals.

## Parameter Browser

You can use Parameter Browser to view and edit the parameters.

Parameter Browser is opened when a connection to drive is established. Parameter browser can also be opened by clicking the Parameter Browser button located under the Drive status.

For a list of parameters and their descriptions, see chapter Actual signals and parameters of the user manual of the connected drive.

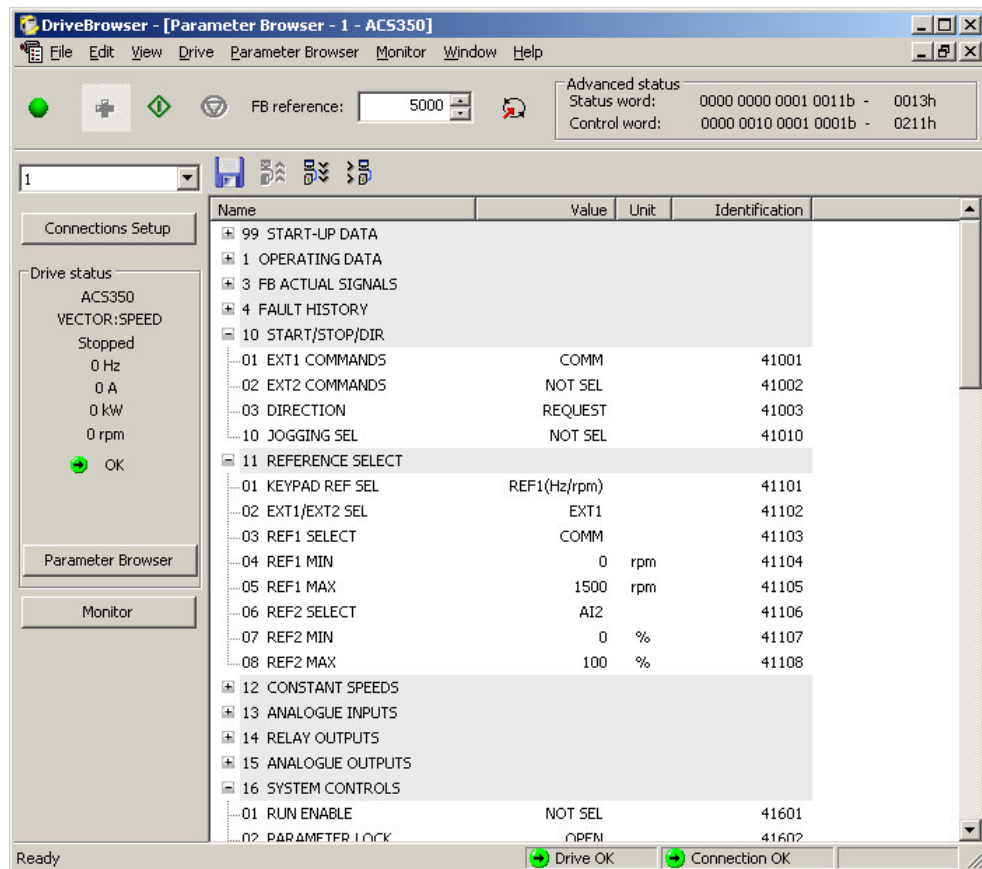


Figure 7. Parameter Browser

### Opening and closing parameter groups

- To open a parameter group, click the plus sign in front of the group or double click the group.
- To close a parameter group, click the minus sign in front of the group or double click the group.
- To expand all parameter groups, select Parameter Browser – Expand all Groups.
- To collapse all parameter groups, select Parameter Browser – Collapse all Groups.

### Editing and viewing parameters and signals

The Parameter Browser shows the parameters and the signals of the drive. Signals as well as some other parameters protected by drive are marked with a lock sign, where as the parameters don't have an icon at all.

To edit a parameter, double click its value and either type in the new value or select it from a list.

Signals are like parameters, but you cannot edit their values.

**Note!** If monitor has not been started, all shown parameter and signal values are updated cyclically in the Parameter Browser.

### Saving parameters to a file

- To save the parameters in a DriveBrowser Parameter file, select Save or Save as... from the File menu or click the save button in the toolbar.
- To open a parameter file and read the parameters, select Open from the file menu. The files are in UNICODE format with semicolon delimiters and can be opened with most spreadsheet applications. However it is recommended not to edit them with other tools than DriveBrowser.

### Copying parameters to drive

- To copy parameters to a drive, connect DriveBrowser to the target drive, then select Copy parameters to drive... from the Parameter browser menu or click corresponding icon in the Parameter browsers toolbar.
- To save parameters to drive's flash memory, click Save to permanent memory button.

**Note!** Parameter values are not saved automatically to drives permanent memory when they are changed via field bus. However if values are not saved when DriveBrowser is closed, used is prompted to save values to permanent memory.



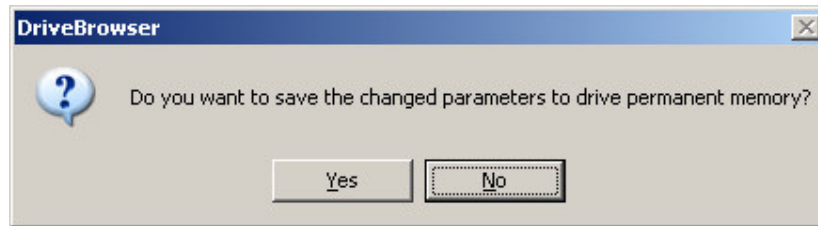


Table 2. Parameter browsers toolbar buttons

Icon	Function
	Save
	Read from drive, same as F5
	Copy parameter file to drive
	Save to permanent memory

### Uploading parameters from drive

Upload and upload all parameters functions are needed when monitor has been started. At all other times parameter and signal values are read cyclically to the Parameter browser.

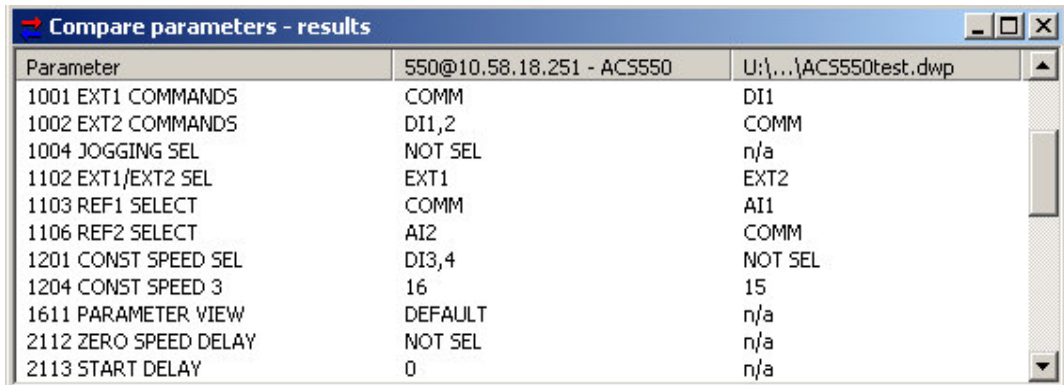
- To upload a parameter or a signal value or all values from a parameter group, select parameter or group, then select click the mouse secondary button and select Upload.
- To upload all parameter and signal values, click the mouse secondary button and select Upload all parameters.

### Compare parameters

To compare parameters in the active Parameter Browser window with another Parameter Browser window or a DriveBrowser Parameter (DWP) file, select Compare parameters with... from Parameter Browser menu.

The Result window shows the differing parameter/group names in the first column. The second column shows the value in the active browser and the third column the value in the other browser window or parameter file.

The comparison is based on the parameter number, which consists of the group number and the parameter's index within the group. The values of the parameters are compared only if both the numbers of the parameters and their names are the same. Otherwise the result shows that the parameter or parameter group is missing (n/a) from either source.



The screenshot shows a window titled "Compare parameters - results" with a table of parameter comparisons. The table has three columns: "Parameter", "550@10.58.18.251 - ACS550", and "U:\...\ACS550test.dwp". The parameters listed include 1001 EXT1 COMMANDS, 1002 EXT2 COMMANDS, 1004 JOGGING SEL, 1102 EXT1/EXT2 SEL, 1103 REF1 SELECT, 1106 REF2 SELECT, 1201 CONST SPEED SEL, 1204 CONST SPEED 3, 1611 PARAMETER VIEW, 2112 ZERO SPEED DELAY, and 2113 START DELAY. The values for each parameter are compared between the two systems.

Parameter	550@10.58.18.251 - ACS550	U:\...\ACS550test.dwp
1001 EXT1 COMMANDS	COMM	DI1
1002 EXT2 COMMANDS	DI1,2	COMM
1004 JOGGING SEL	NOT SEL	n/a
1102 EXT1/EXT2 SEL	EXT1	EXT2
1103 REF1 SELECT	COMM	AI1
1106 REF2 SELECT	AI2	COMM
1201 CONST SPEED SEL	DI3,4	NOT SEL
1204 CONST SPEED 3	16	15
1611 PARAMETER VIEW	DEFAULT	n/a
2112 ZERO SPEED DELAY	NOT SEL	n/a
2113 START DELAY	0	n/a

Figure 8. Results of Compare Parameters

# Drive control panel

---

## What this chapter contains

This chapter describes how to use the Drive control panel to control the drive.

## Operation

Drive control panel is hidden as a default. To view or hide the Drive control panel, select Drive Control Panel from View menu or uncheck Control panel hidden checkbox from Options and Confirmations.

**CAUTION!** DriveBrowser does not disable the control capabilities of other devices, such as PLC's, while DriveBrowser is connected to the drive. Control devices such as PLC's may still issue control commands that the drive will respond to. Users need to be aware of all control devices that may issue commands to the drive while connected with DriveBrowser *(NOTE: Please refer to the Notes in the "Introduction to the manual" "Safety Instructions" section on page 7)*

You can use the Drive control panel to control the drive operation if the drive has been configured to be controlled via communication module. See corresponding drive manual to enable all functions of the control panel. At least following should be configured

- Start/stop parameter of active control place includes COMM selection
- Reference of active control place includes COMM selection
- Fault reset selection is set to COMM

All drive operation commands are found from the Drive menu too. The Drive control panel has the following buttons:

Table 3. Drive control panel buttons








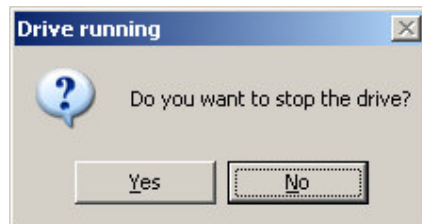
Buttons	Function
	Drive is in external control
	Drive is in local control
	Reset the active fault on drive
	Start the drive
	Stop the drive
	Fieldbus reference edit box, see drive user manual for details
	Download the fieldbus reference to drive



Figure 9. Drive control panel

To control the drive with DriveBrowser, drive should be in external control and active control place should have fieldbus (COMM) as a source for control. To reset a fault from a drive, the fault reset source should be set to fieldbus (COMM). See drive manual for details.

If the DriveBrowser is closed and the drive was started by the DriveBrowser during the session and the control panel is active, user is prompted to stop the drive control.



**Note!** If the DriveBrowser.exe operation is ended with task manager and drive was in local mode and started, drive will be stopped.

# Drive monitoring

---

## What this chapter contains

This chapter describes how to use DriveBrowser to monitor the operation of the connected drive.

## Operation










You can use DriveBrowser to monitor the operation of connected drive. The operational values can be shown in both graphical and numerical format and monitoring data can be saved to a file for later use. Monitoring is controlled with the Monitor toolbar.



Figure 10. Monitor toolbar

The Monitor toolbar has the following buttons:

Table 4. Monitor toolbar buttons

Button	Function
	Monitor settings
	Start lasso zoom. An area can be selected with the mouse. Lasso zoom mode can be disabled with a second click on this button.
	Zoom in the trend line graph
	Zoom out the trend line graph
	Clear the monitoring data from the numeric screen, from the graph and from application's memory
	Start monitoring
	Stop monitoring
	Show monitor data in numerical format. You can open several numerical windows in order to compare monitoring data. <b>Note!</b> In numerical format the values are shown multiplied with the coefficient set either manually or automatically.
	Activate auto scroll. Scrolls automatically to the rightmost position.

## Monitoring settings

You can select the monitored signals and define the monitoring settings in the Monitoring settings dialog. Max number of signals to be monitored is 4.

To open the dialog, select Monitor settings from Monitor menu or click the Monitor settings button in the Monitor toolbar.

There are two kinds of settings: global settings and signal-specific settings.

Global settings are identical for all signals.

You can set the signal-specific settings individually for each signal. First, select the signals displayed in the drop-down menu in the Start Monitoring dialog.

Click the Select... button next to the signal drop-down menu and select the signals from the list.

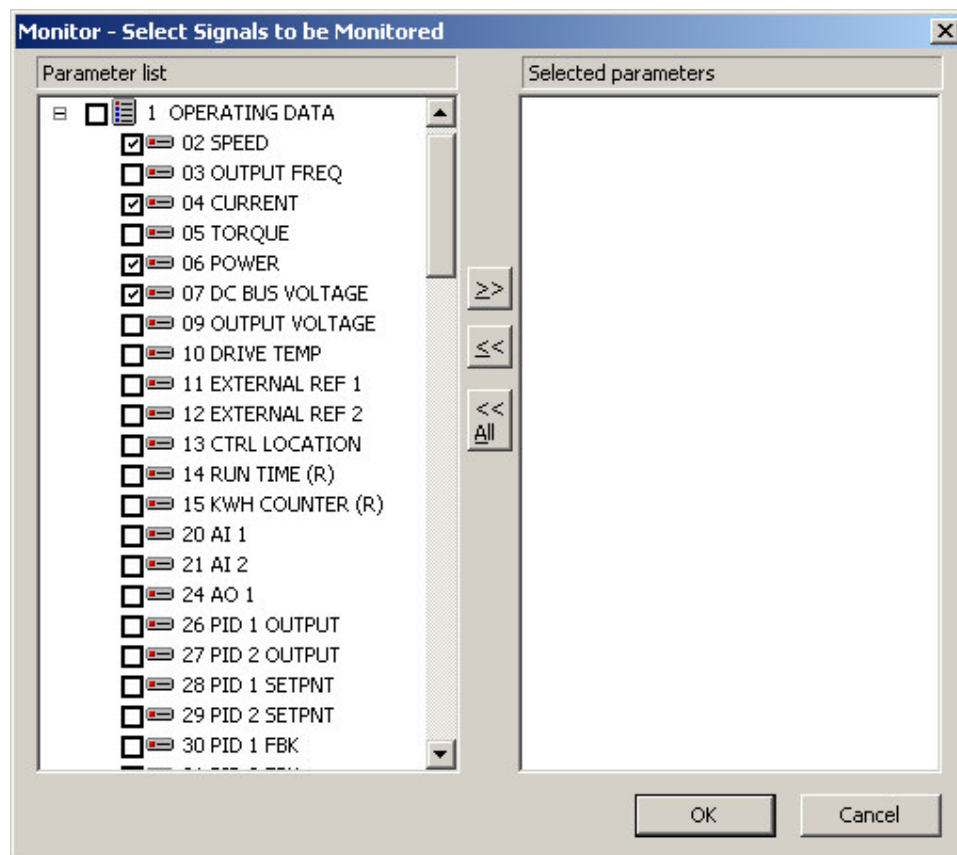


Figure 11. Select signals to be monitored

Expand a group by clicking the + sign in front of the group (as group 1 in figure 11) and check the signal check boxes to be monitored. Then click the >> button to add signals to Selected parameter list. Signals can be removed from the list by selecting

first a parameter to be removed, then click << button. To remove all signals, click << All button.

After you have selected the signals, they are displayed in the drop-down menu. Select the signal to define the signal-specific settings for it. (In the figure below, signal 0102 Actual Frequency1 is selected).

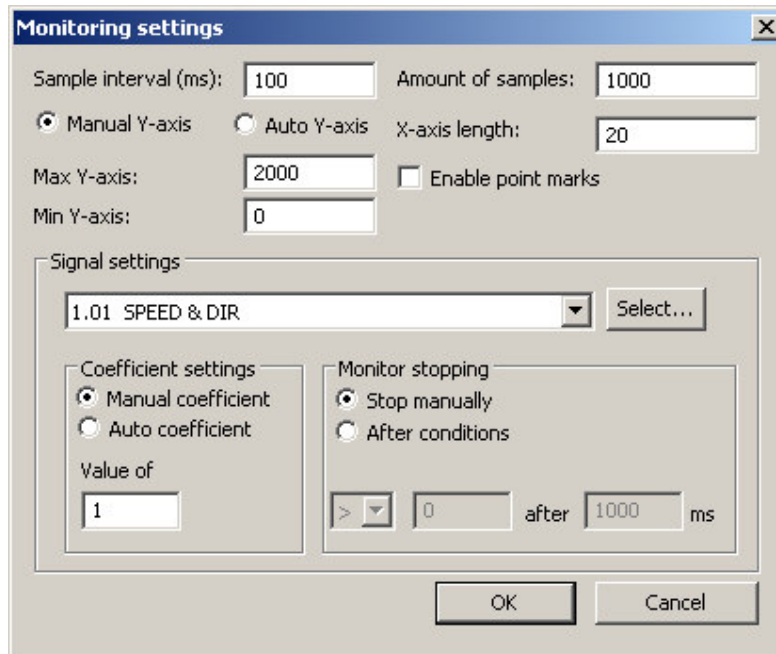


Figure 12. Monitoring settings

Table 5. Global monitoring settings

Dialog Item	Meaning
Sample Interval (ms)	Sample interval in milliseconds.
Manual Y-axis	Set the minimum and maximum values of the Y-axis manually.
Auto Y-axis	The minimum and maximum values of the Y-axis are calculated automatically. <b>Note!</b> The values are calculated when enabling auto mode and when in auto mode closing the parameter subset selection window.
Max Y-axis	Maximum Y-axis value. In Auto Y-axis mode the value for Y-axis maximum is the biggest maximum value of the monitored parameters. <b>Note!</b> The positive Y-axis values are limited to be under 200 000.
Min Y-axis	Minimum Y-axis value. In Auto Y-axis mode the value for Y-axis minimum is the smallest minimum value of the monitored parameters. <b>Note!</b> The negative Y-axis values are limited to be over - 200 000.
Amount of Samples	The number of samples stored in the RAM. The value should be between 1 000 and 1 000 000.
X-axis length	The length of the X-axis in seconds.
Enable Point Marks	Show point marks to represent actual samples in the trend lines.

Table 6. Signal-specific monitoring settings

Dialog Item	Meaning
Select	Select a maximum of four signals for monitoring. Monitoring signals are selected with the parameter subset selection dialog.
Manual Coefficient	Set the coefficient value for the signal selected in the drop down list. The actual sample values received from the drive are multiplied by this value. Coefficients can be used to scale signals in order to improve clarity.
Auto Coefficient	The coefficients are calculated automatically based on the maximum values of the monitored signals and the maximum value of the Y-axis. <b>Note!</b> Auto coefficients are calculated when the Monitoring Settings window is closed. <b>Note!</b> Manual or Auto Coefficient selection is the same for all monitored signals. Only the actual coefficients are signal specific.
Monitor Stopping	Monitoring can be stopped manually with the button in the Monitor Toolbar or automatically when the defined stopping condition is reached.
After conditions	You can define the stopping condition separately for each of the signals. The monitoring is stopped if any of the stopping conditions is true. You can also define the monitoring to continue for certain duration after reaching the stopping condition.



## File operations

To save the monitoring data to a file, select Save from file menu.

To open a monitor file, select Open from File menu.

**Note!** The Monitor window should be active when saving or loading the monitor data.

**Note!** Monitor file can only be opened if Parameter browser is open.

# Settings

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## What this chapter contains

This chapter describes how to change the connection settings, options and confirmation settings.

## Connection setup

Connection setup is launched from a button just above the Drive status. In this window, you can create new, open or edit existing drive lists, set Ethernet adapter IP addresses and modify default connection.

Create a new drive list by clicking New button. Click Add to add to drive and its IP address. After all drives have been added, save list with the Save... button.

To open an existing drive list, click Open...

To remove a drive from a list, first select a drive, then click Remove button.

To add a drive, click Add button.

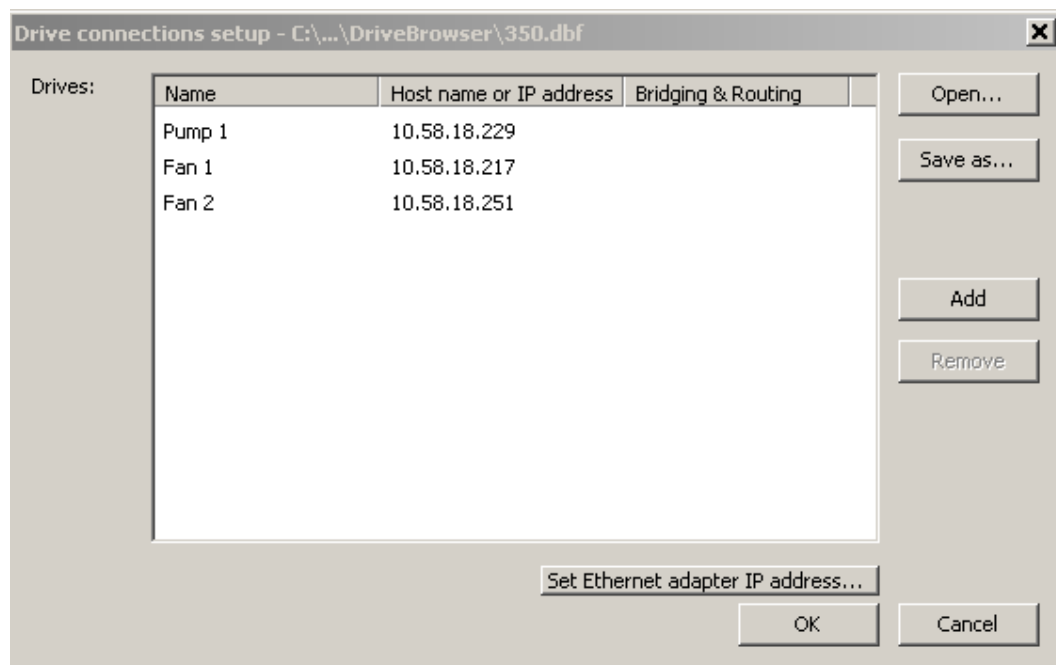


Figure 13. Drive connections setup window

To set IP addresses of the Ethernet adapters using DriveBrowser, click Set Ethernet adapter IP address... button, type in both the IP address and the MAC ID then click the Set button.

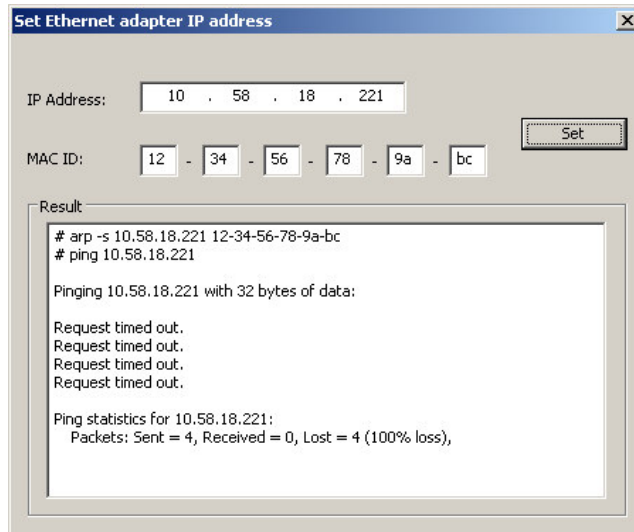


Figure 14. Set Ethernet adapter IP address window with an error message.

Note! After setting the IP address, DriveBrowser tests the connection using ping. Ping gives an answer if it finds requested IP address even though the used MAC ID would be false.

After Drive connection setup has been made, you can select target drive from a drop down list that is located just above Connection setup button.

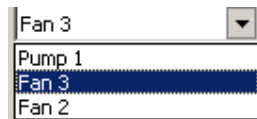


Figure 15. List of configured drives.

### CIP Bridging and Routing / DeviceNet / ControlNet

For bridging and routing from EtherNet/IP to DeviceNet you need to have the ABB SEDG-01 EtherNet/IP / DeviceNet gateway hardware (3AUA0000051448). For bridging and routing from EtherNet/IP to ControlNet you need to have the ABB SECG-01 EtherNet/IP / ControlNet gateway hardware (3AUA0000051449). Please read corresponding manual for installing it. The following example shows how to set-up DriveBrowser with the SEDG-01 EtherNet/IP /DeviceNet gateway.

Launch connections setup

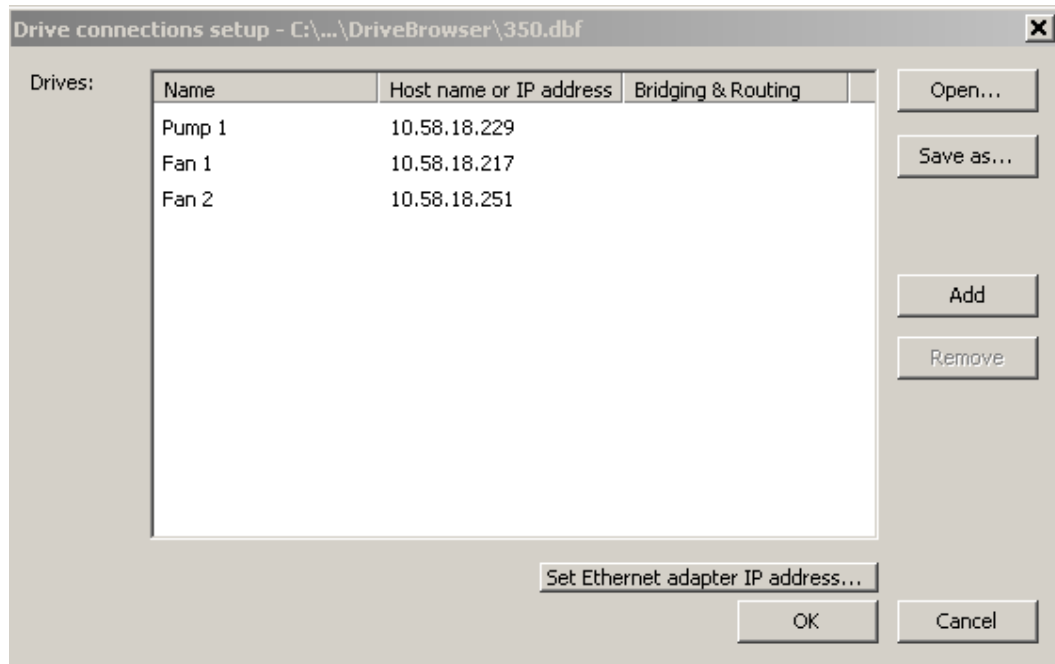


Figure 16. List of configured drives.

Double click on the column Bridging & Routing and the following display opens:

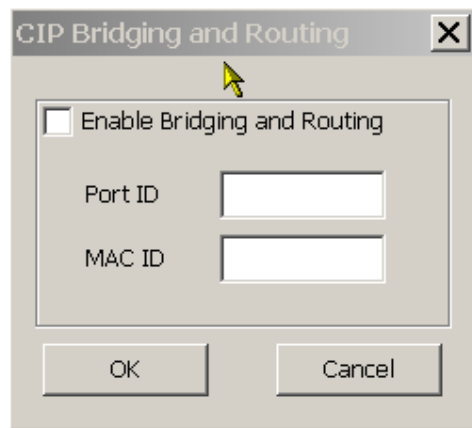


Figure 17. CIP Bridging and Routing.

Figure 18 shows example of CIP Bridging and routing. In this example the gateway hardware has a Port ID = 2 to EtherNet/IP and target device(drive) MAC ID = 5.

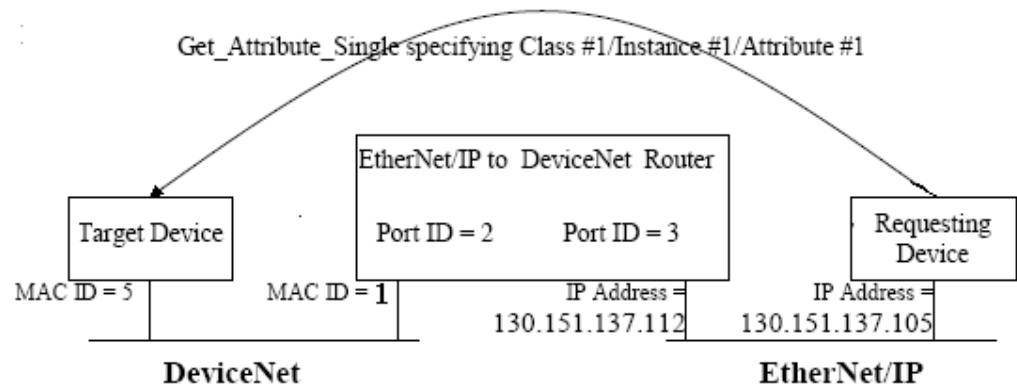


Figure 18. Example for EtherNet/IP / DeviceNet routing

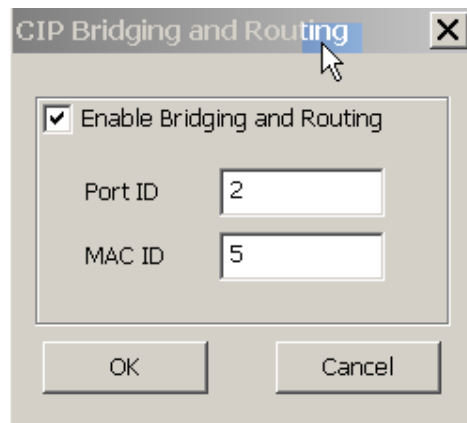


Figure 19. CIP Bridging and routing as in figure 19

The Modbus/TCP or Modbus/UDP connection is tried first. After that the EtherNet/IP connection is tried. However, if EtherNet/IP CIP Routing and Bridging is enabled the Modbus/TCP or Modbus/UDP connection is not tried.

**Note!** ABB SEDG-01 DeviceNet/Ethernet\_IP gateway uses Port ID 3 for DeviceNet

**Note!** More info about DeviceNet routing can be found from root of installation CD. Document ABB EtherNet/IP Bridging and Routing to DeviceNet.pdf

## Confirmation and options

You can set DriveBrowser to show confirmation dialogs for critical operations. To select the desired confirmations, select Confirmation and options... from Edit menu

In options, user has the possibility to activate control panel.

In Confirmations, user has the possibility to select functions that need a confirmation before they are executed. For example, if you click an active start button in the Control panel, user is asked 'Are you sure you want to start the drive?'. The default settings are shown in the figure 17.

Note! As a default, DriveBrowser does not show Control panel.

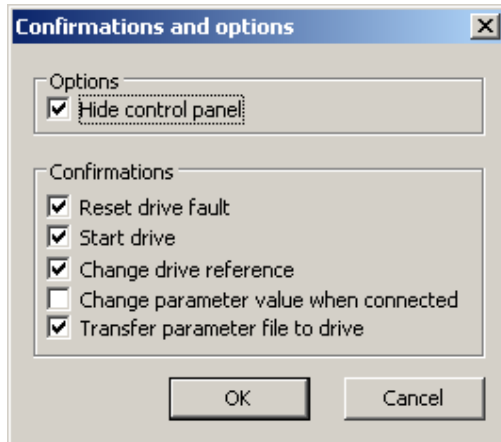


Figure20. Confirmations and Options dialog



# Keyboard shortcuts

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## What this chapter contains

This chapter describes keyboard shortcuts used in DriveBrowser.

## Keyboard shortcuts

*Table 7. Keyboard shortcuts used in DriveBrowser*

Function	Key
Close window	Ctrl + W
Copy	Ctrl + C
Cut	Ctrl + X
Exit	Alt + F4
Help	F1
New Parameter browser window	Ctrl + N
Open	Ctrl + O
Paste	Ctrl + V
Print	Ctrl + P
Read from drive	F5
Save	Ctrl + S
Save as	F12
Search parameters	Ctrl + F
Undo	Ctrl + Z





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