

ABB DRIVES

# PSL2 data logger file

## Signals and data word description





# List of related manuals

## General manuals

BCU-02/12/22 control units hardware manual

## Code (English)

3AUA0000113605

## Tool and maintenance manuals

---

Drive composer Start-up and maintenance PC  
tool User's manual

3AUA0000094606

## Option manuals

---

ACX-AP-x assistant control panels user's manual

3AUA0000085685

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

# PSL2 data logger file

## Signals and data word description

Table of contents





# Table of contents

---

## 1. Introduction

Contents of the chapter	7
Compatibility	7
Target audience	7
Terms and abbreviations	8
Related manuals	8

## 2. PSL2 data logger file

Contents of the chapter	9
PSL2 data logger overview	9
PSL2 data logger file	10
Example 1: PSL2 data logger file - graphical view	10
Example 2: PSL2 data logger file - Excel view	11
Example 3: PSL2 data logger file - Matlab view	11



## 3. PSL2 data logger graph

Contents of the chapter	13
Accessing the PSL2 data logger graph	13
Graph title	14
Data logger graphs	15
Keypad and mouse tips	18
Common actions	18
Reading the PSL2 data logger graph	19
Aligning multiple channels on the same axis	19
Analysing the fault area	19
Viewing parameter limits	20
Viewing fault logs	21
Setting calculation parameters	22

## 4. PSL2 data logger text

Contents of the chapter	23
Reading the PSL2 data logger text file	23
PSL2 data logger text file header	25

## Further information

Product and service inquiries	27
Product training	27
Providing feedback on ABB Drives manuals	27
Document library on the Internet	27

---





# Introduction

---

## Contents of the chapter

This chapter contains information of compatibility and target audience for using the Power Stage Link 2 (PSL2) data logger file. It also describes the different terms referred in the data logger file.

## Compatibility

The table below shows the devices/tools compatible with the PSL2 data logger file and their limitations:

Devices/tools	Purpose	Limitations	
		Supported	Not supported
BCU-x2 control unit	PSL2 data logger function: <ul style="list-style-type: none"> <li>• saves data from the PSL2 fault to a file, and</li> <li>• stores data into the SD card</li> </ul>	BCU control unit	ZCU control unit
Drive composer Pro PC tool	Used for uploading and viewing PSL2 data logger files from the SD card of BCU control unit or from the local PC hard drive.	<ul style="list-style-type: none"> <li>• Drive composer pro</li> <li>• Data logger view option is available only in Drive composer pro, version 2.1 and later</li> </ul>	Drive composer entry

## Target audience

The reader is expected to be an automation engineering professional or an electrician and familiar with drive products and the concepts regarding their commissioning and operation, including the parameter system of ABB drives. Also a basic knowledge of Microsoft Windows operating system is needed.

---

## Terms and abbreviations

The table below describes the terms used in this manual.

Terms/ Abbreviation	Description
BCU	Type of control unit used in ACS880 drives, primarily those with parallel-connected inverter or supply modules.
Branching unit	Branching unit connects multiple power stages (e.g. parallel inverter modules) under a single control (modulator).
Control unit	Circuit board in which the control program runs.
CRC	Cyclic redundancy check
CSV	Comma-separated values
FPGA	Field programmable gate array
IGBT	Insulated gate bipolar transistor; a voltage-controlled semiconductor type widely used in inverters and IGBT supply units due to their easy controllability and high switching frequency
ISU	An IGBT supply unit; type of supply unit implemented using IGBT switching components, used in regenerative and low-harmonic drives.
INU	See <a href="#">Inverter unit</a> .
Inverter module	Inverter bridge, related components and drive DC link capacitors enclosed inside a metal frame or enclosure. Intended for cabinet installation.
Inverter unit	Inverter module(s) under control of one control board, and related components. One inverter unit typically controls one motor. See <a href="#">Inverter module</a> .
Power unit	Contains the power electronics and power connections of the drive (or inverter module). The drive control unit is connected to the power unit.
PSL2	Power stage link
SD card	Data logger memory for the fiber optic links
UFF	ABB proprietary/internal file format
VAPS	Logic circuit for power stage.

## Related manuals

See [List of related manuals](#).



# PSL2 data logger file

---

## Contents of the chapter

This chapter contains an overview of the Power stage link2 (PSL2) data logger file.

## PSL2 data logger overview

PSL2 data logger is a diagnostic tool for tracing fault(s) of parallel/non-parallel connected power modules.

The BCU control unit used with certain drive types (especially those with parallel connected power modules) contains a data logger that collects data from the power modules. The data is saved onto the SD memory card attached to the BCU, and can be analyzed by ABB service personnel.

You can also manually trigger the PSL2 data logger function to check, for example, how the output currents are shared between parallel connected modules. Set the service level parameter *96.67 PSL2 data logger control*, bit 2 (Trigger) = True.



**WARNING!** If you triggered the PSL2 data logger manually, the CPU load of the BCU control unit will increase by 10% (approximately). If the CPU load was already high, the control unit will trip due to overload.

---

For the BCU control unit connections, see *BCU\_02/12/22 control units hardware manual*.

---

## PSL2 data logger file

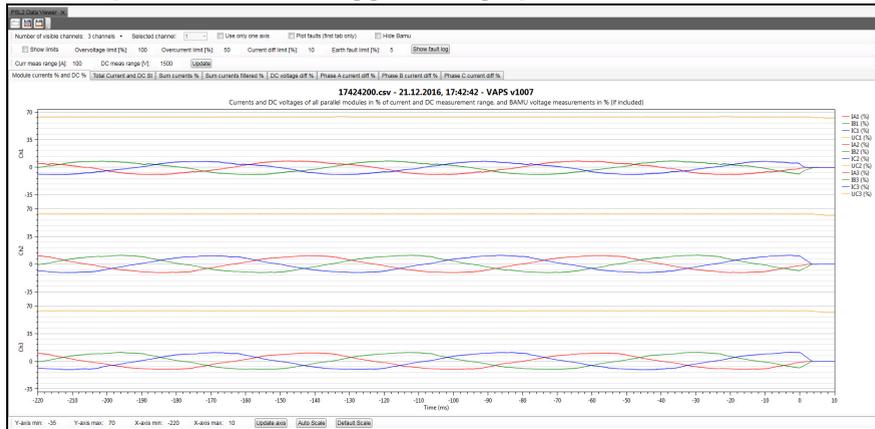
The initial file format of the PSL2 data logger file is in ABB internal file format (.uff), when it is retrieved from the SD card or from the drive flash memory. You can upload this file from the drive to your computer and view the file using the Drive composer pro PC tool. For instructions, see Drive composer start-up and maintenance PC tool user’s manual

When you opened a uff file, Drive composer pro converts the file to csv (readable format) and displays the data in a graphical view. You can open this csv file and read the data using MS-office Excel or Matlab. See the examples in below sections:

- [Example 1: PSL2 data logger file - graphical view](#)
- [Example 2: PSL2 data logger file - Excel view](#)
- [Example 3: PSL2 data logger file - Matlab view.](#)

Note that data is identical in whatever tool you used for viewing the data logger file.

### Example 1: PSL2 data logger file - graphical view



See [Accessing the PSL2 data logger graph](#) on page 13. See also PSL2 data viewer instructions in the Drive composer start-up and maintenance PC tool user’s manual.

### Example 2: PSL2 data logger file - Excel view

PSL2LOG info															
Cause ID: 1															
Reason: FPGA REQUEST															
Priority: 2															
Time: 1380563762030															
Triggered Sample: 15000															
Sample Rate: 1250000															
Sample Size: 768															
Amount of Samples: 20000															
Amount of Headers: 1															
Amount of Data: 15360000 bytes, 14.65 Mb															
Compress ratio: 8.80%															
Wed Dec 21 17:42:42 2016															
Time (ms)	BU1_FAULTS	BU2_FAULTS	Sample counter	DEBUG 1	PL_FAULT 1	PS_FAULT 1	PF_FAULT 1	IA1 (%)	IB1 (%)	IC1 (%)	UC1 (%)	No Comm 1	No Comm Latched 1	Link Error 1	Comm Error 1
-237.5	0x0	0x0	3078823911	0x997	0x0	0x0	0x0	6.54	-8.89	1.81	64.11	0	0	0	0
-237.4875	0x0	0x0	3078823912	0x996	0x0	0x0	0x0	6.49	-8.74	1.81	64.14	0	0	0	0
-237.475	0x0	0x0	3078823913	0xb6b	0x0	0x0	0x0	6.4	-8.64	1.76	64.18	0	0	0	0
-237.4625	0x0	0x0	3078823914	0x172	0x0	0x0	0x0	6.3	-8.59	1.71	64.18	0	0	0	0
-237.45	0x0	0x0	3078823915	0x2cc	0x0	0x0	0x0	6.25	-8.54	1.71	64.18	0	0	0	0

See [Reading the PSL2 data logger text file](#) on page 23.

### Example 3: PSL2 data logger file - Matlab view

PSL2LOG info																
Cause ID: 1																
Reasons: FPGA REQUEST																
Priority: 2																
Time: 126563762030																
Triggered Sample: 15000																
Sample Rate: 1250000																
Sample Size: 768																
Amount of Samples: 20000																
Amount of Headers: 1																
Amount of Data: 15360000 bytes, 14.65 Mb																
Compress ratio: 8.80%																
Mon Aug 1 17:42:42 2016																
Time (ms)	BU1_FAULTS	BU2_FAULTS	Sample counter	DEBUG 1	PL_FAULT 1	PS_FAULT 1	PF_FAULT 1	IA1 (%)	IB1 (%)	IC1 (%)	UC1 (%)	No Comm 1	No Comm Latched 1	Link Error 1	Comm Error 1	
-237.500000	0x0	0x0	30130321	0xaa5	0x0	0x0	0x0	38.53	-16.75	-23.39	76.20	0	0	0	0	
-237.487500	0x0	0x0	30130322	0x0	0x0	0x0	0x0	39.50	-18.36	-22.51	76.44	0	0	0	0	
-237.475000	0x0	0x0	30130323	0x0	0x0	0x0	0x0	39.45	-18.36	-22.95	76.34	0	0	0	0	
-237.462500	0x0	0x0	30130324	0x0	0x0	0x0	0x0	39.36	-17.43	-23.73	76.32	0	0	0	0	
-237.450000	0x0	0x0	30130325	0x0	0x0	0x0	0x0	39.11	-16.11	-24.71	76.32	0	0	0	0	
-237.437500	0x0	0x0	30130326	0x56	0x0	0x0	0x0	38.62	-14.84	-25.93	76.32	0	0	0	0	
-237.425000	0x0	0x0	30130327	0x41	0x0	0x0	0x0	38.33	-13.28	-27.05	76.29	0	0	0	0	
-237.412500	0x0	0x0	30130328	0x50	0x0	0x0	0x0	37.99	-11.72	-28.17	76.27	0	0	0	0	
-237.400000	0x0	0x0	30130329	0x53	0x0	0x0	0x0	37.50	-10.30	-29.30	76.25	0	0	0	0	

See [Reading the PSL2 data logger text file](#) on page 23.





# PSL2 data logger graph

---

## Contents of the chapter

This chapter describes the different tools in PSL2 data logger graph.

## Accessing the PSL2 data logger graph

To open the PSL2 data logger file in Drive composer pro PC tool,

1. Go to **Tools** → **PSL2 Data Viewer** and click  **Open file**.
2. Select the *uff* file located in your computer.

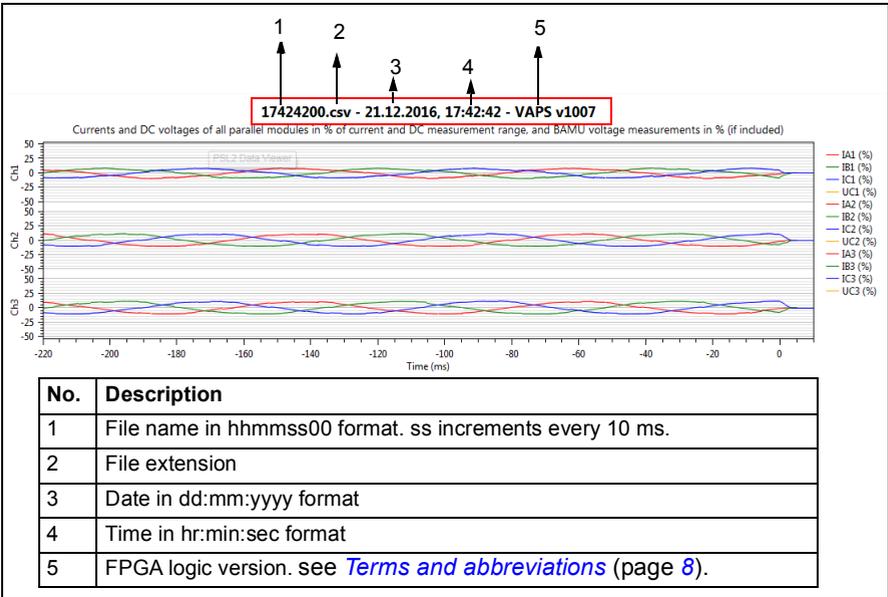
Drive composer converts and opens the file in csv format (graphical view). See example screens in below sections.

See also [Compatibility](#) on page 7.

---

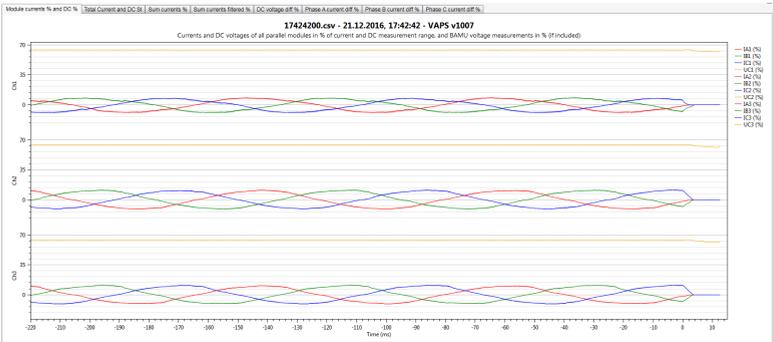
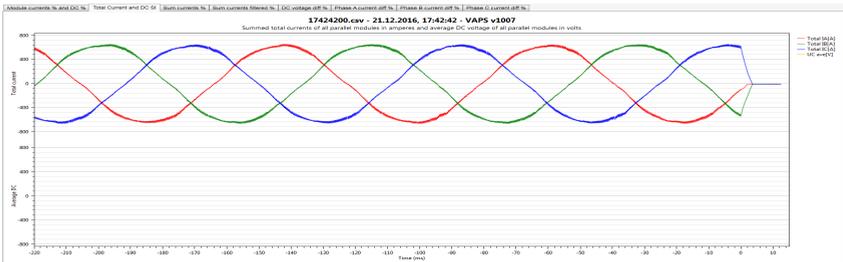
**Graph title**

The data logger graph title represents the following information:



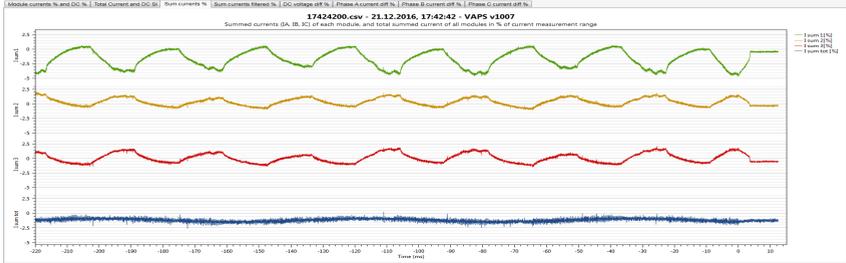
## ■ Data logger graphs

The PSL2 data logger function has a set of predefined graphs for some measured parameters. To view a graph, click on the associated tab. The table below lists the available graphs and their purpose with an example screen.

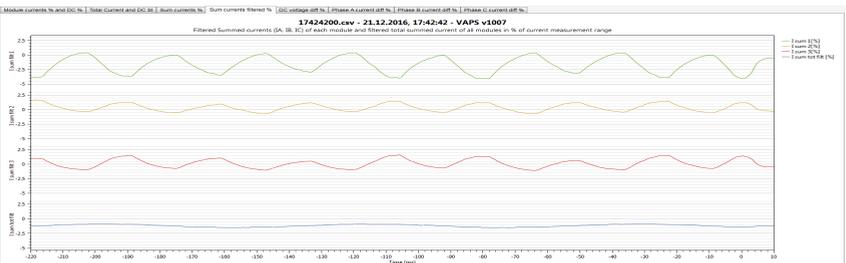
Graph/ tab names	Purpose
<p>Module current % and DC %</p>	<p>Shows currents and DC voltages of all parallel connected modules in % of current and DC measurement range. This graph also includes BAMU voltage measurements in % (if data is available).</p> 
<p>Total current and DC SI</p>	<p>Shows sum of total currents (A) in all parallel connected modules and the average DC voltage (V) of all parallel connected modules.</p> 

Graph/ tab names	Purpose
------------------	---------

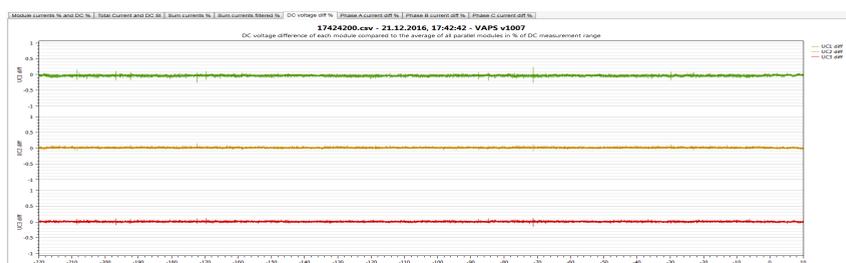
Sum currents %	Shows sum of currents in each phase (IA, IB, IC) for each module and sum of currents in all modules in % of current measurement range.
----------------	--



Sum currents filtered %	Shows filtered sum of currents in each phase (IA, IB, IC) and filtered sum of currents in all modules in % of current measurement range.
-------------------------	--



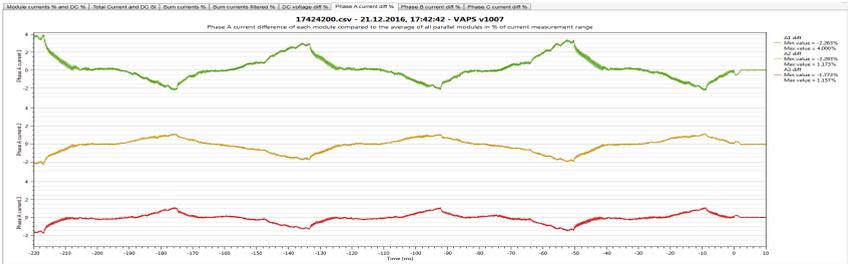
DC voltage diff %	Shows DC voltage difference of each module compared to the average of all parallel modules in % of DC measurement range.
-------------------	--



Graph/ tab names	Purpose
------------------	---------

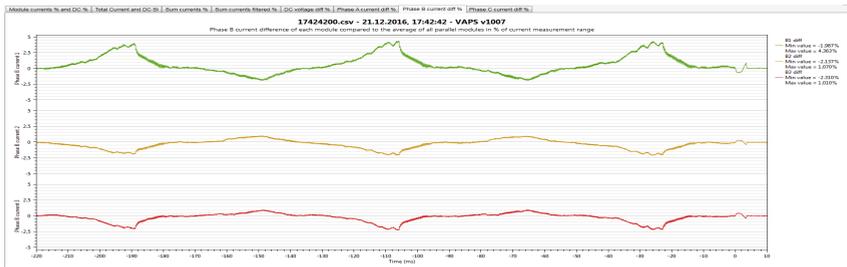
Phase A current diff %

Shows phase A current difference of each module compared to the average of all parallel modules in % of current measurement range.



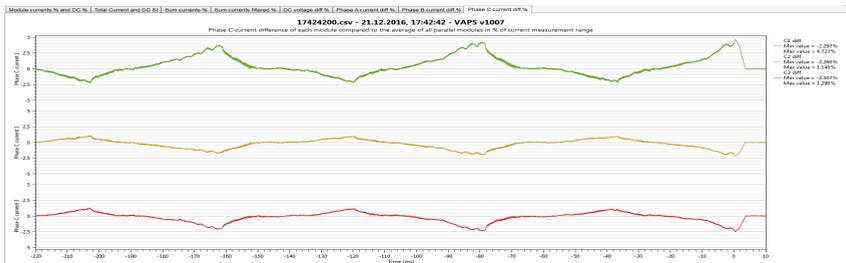
Phase B current diff %

Shows phase B current difference of each module compared to the average of all parallel modules in % of current measurement range.



Phase C current diff %

Shows phase C current difference of each module compared to the average of all parallel modules in % of current measurement range.



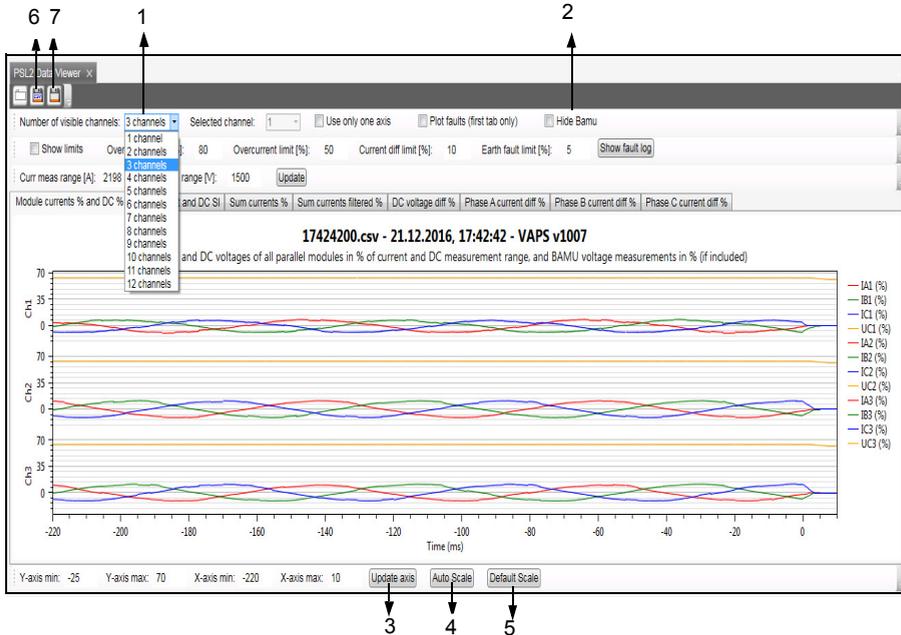
### Keypad and mouse tips

Inside the graph area you can use the following keypad and mouse tips, for better readability of data:

Task	Instruction
Move or pan the graph up/down/left/right	Press the right mouse button and drag the graph up/down/left/right. Observe that the x-/ y-axis moves accordingly.
Zoom graph area	Use the mouse wheel. To zoom multiple channels, use the mouse wheel placing the cursor on an empty space that is, top of upper axis, below the lower axis, or between the axis.
Zoom only marked area	Mark a rectangle with Ctrl + Right mouse button.
View graph tracker	On the selected signal or data, hold the Left mouse button. A rectangle flag displays the tracked information.
Reset axis to set values	While pointing on the graph, press the 'A' key.
Copy bitmap of graph	Press Ctrl+C.

### Common actions

You can also use other common actions marked in this screen.



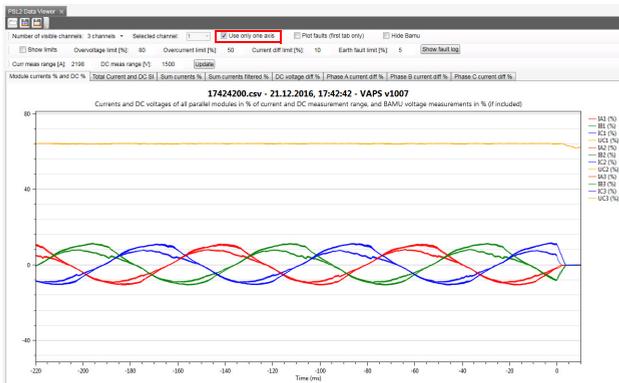
Action	Option	Purpose
1	Number of visible channels	Select the number of channels to view in the graph. Up to 12 channels are allowed.
2	Hide Bamu	Shows/hides BAMU measurement data in the graph.
3	Update axis	Updates changed minimum and maximum values of X-/Y-axis.
4	Auto Scale	Automatically scales X-/Y- axis.
5	Default Scale	Uses default scaling of X-/Y-axis.
6	Save to CSV	Saves any changes to the graph in CSV format.
7	Save plot...	Saves the graph to following selected formats: <i>svg</i> , <i>png</i> or <i>xaml</i>

You can use the Update axis, Auto Scale and Default Scale buttons at any point of time to reset the graph to default scaling.

## Reading the PSL2 data logger graph

### ■ Aligning multiple channels on the same axis

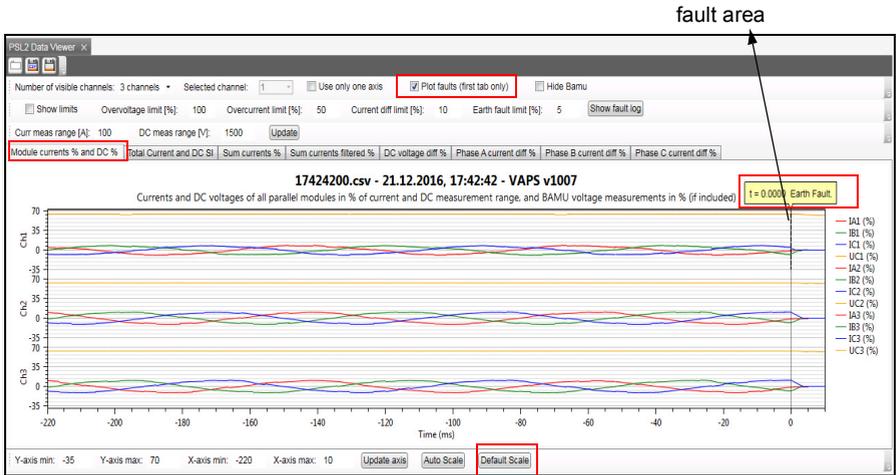
To align multiple channels on the same axis, select the **Use only one axis** option. The below example screen shows three channels aligned on the same axis.



### ■ Analysing the fault area

You can view the faulty area in the recorded data by selecting the **Plot faults (first tab only)** option. This option works only with the first tab (**Module current % and DC**

% tab in this example screen). The fault data is represented by dotted vertical lines. Hold the mouse on the dotted lines to view a rectangle flag with the fault information.

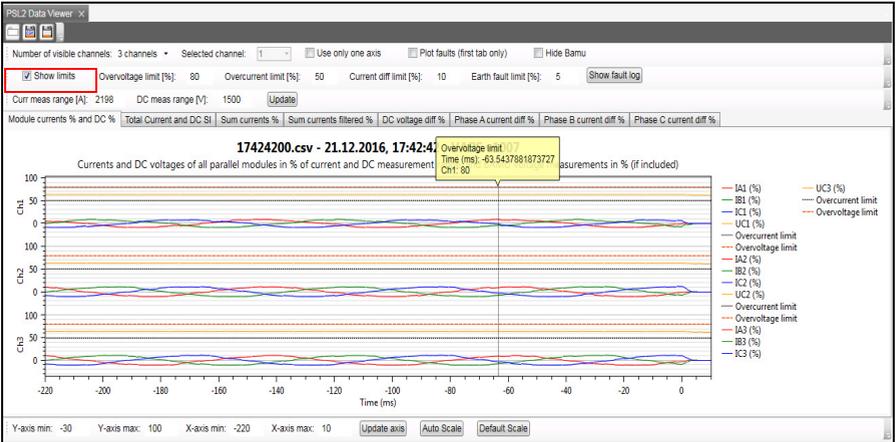


At any instance, click **Default Scale** to reset the plot to default values.

*Keypad and mouse tips:* Mark a rectangle with Ctrl+Right mouse button or Ctrl+Left mouse button to zoom the marked area.

### Viewing parameter limits

To know that channel(s) data is within the set limits, check the **Show limits** option. On the right side of the graph, refer to the representations of overvoltage and overcurrent limits.



*Keypad and mouse tips:* Hold the Left mouse button to view the plot tracker.

## ■ Viewing fault logs

The data logger records fault logs of each connected channel.

1. In the graph view, click **Show fault log**.

The fault list displays faults specific to branching unit 1 and 2 followed by faults of all connected channels.

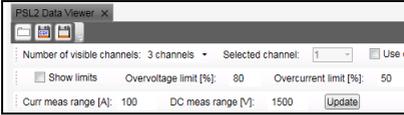
2. To go back to the graph view, click **Close**.



## ■ Setting calculation parameters

You can set calculation parameters to plot and recalculate the data. Set current and voltage values in **Curr meas range [A]** and **DC meas range [V]** and click **Update**.

**Note:** Only whole numbers are allowed.



## 4

# PSL2 data logger text

---

## Contents of the chapter

This chapter describes the signals and data words of the PSL2 data logger file, when viewed in MS-office Excel and Matlab.

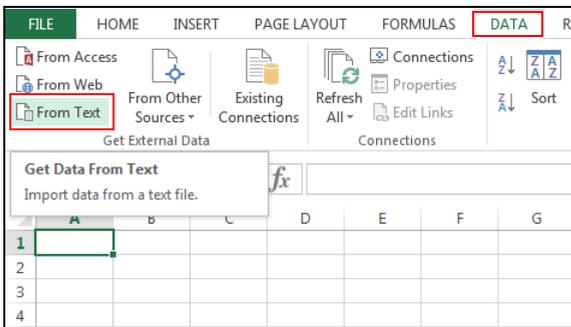
The examples refer to Excel files. The same description applies to the Matlab files.

## Reading the PSL2 data logger text file

You can view the csv file of PSL2 data logger in MS-office Excel or in Matlab.

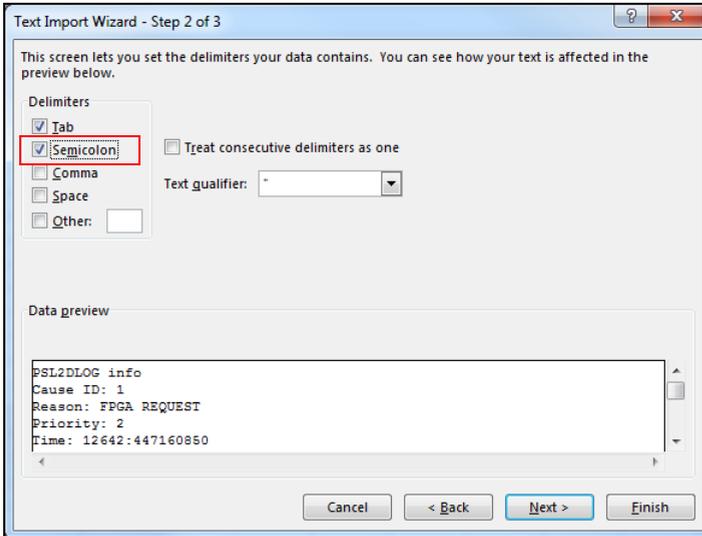
To import data from csv to Excel, follow these steps:

1. In MS-Office Excel, open a blank workbook.
2. Click **DATA** → **From Text**.



3. In the **Import Text File** window, select the csv file and click **Import**.
-

4. Move to the **Text Import Wizard - Step 2 of 3**. Select **Semicolon** option and click **Next**.



5. In the **Text Import Wizard - Step 3 or 3**, click **Finish**.
6. In the **Import Data** window, click **OK**.

The imported data is displayed in rows and columns. See example screen below.

**Note:** In case of parallel connected power units, the number of columns remain the same, that is, data from all 12 power units whether they are used or not.

## PSL2 data logger text file header

PSL2LOG info															
Cause ID: 1															
Reason: FPGA REQUEST															
Priority: 2															
Time: 13505437622030															
Triggered Sample: 19000															
Sample Rate: 1250000															
Sample Size: 768															
Amount of Samples: 20000															
Amount of Headers: 1															
Amount of Data: 15360000 bytes, 14.65 Mb															
Compress ratio: 8.80%															
Wed Dec 21 17:42:42 2016															
Time (ms)	BU1_FAULTS	BU2_FAULTS	Sample counter	DEBUG 1	PL_FAULT 1	PS_FAULT 1	PF_FAULT 1	IA1 (%)	IB1 (%)	IC1 (%)	UC1 (%)	No Comm 1	No Comm Latched 1	Link Error 1	Comm Error
-237.5	0x0	0x0	3078823911	0x997	0x0	0x0	0x0	6.54	-8.89	1.81	64.11	0	0	0	0
-237.4675	0x0	0x0	3078823912	0x99c	0x0	0x0	0x0	6.49	-8.74	1.81	64.14	0	0	0	0
-237.475	0x0	0x0	3078823913	0xb6b	0x0	0x0	0x0	6.4	-8.64	1.76	64.18	0	0	0	0
-237.4625	0x0	0x0	3078823914	0x172	0x0	0x0	0x0	6.3	-8.59	1.71	64.18	0	0	0	0
-237.45	0x0	0x0	3078823915	0x2cc	0x0	0x0	0x0	6.25	-8.54	1.71	64.18	0	0	0	0

The table below describes the column header in csv file.

Label	Meaning																																
Time (ms)	Sampling time in milliseconds																																
BU1_FAULTS	Fault register of branching unit 1. <table border="1" data-bbox="330 651 1019 1102"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Power stage fault. One or more power stage has sent an active fault status bit.</td> </tr> <tr> <td>1</td> <td>Branching unit has detected a earth fault</td> </tr> <tr> <td>2</td> <td>Power unit is lost</td> </tr> <tr> <td>3</td> <td>Difference check fault for main voltage W-V is active</td> </tr> <tr> <td>4</td> <td>Difference check fault for main voltage U-V is active</td> </tr> <tr> <td>5...6</td> <td>Reserved</td> </tr> <tr> <td>7</td> <td>Difference check fault for DC voltage is active</td> </tr> <tr> <td>8</td> <td>Difference check fault of current in phase W is active</td> </tr> <tr> <td>9</td> <td>Difference check fault of current in phase V is active</td> </tr> <tr> <td>10</td> <td>Difference check fault of current in phase U is active</td> </tr> <tr> <td>11</td> <td>One or more power stage has activated STO</td> </tr> <tr> <td>12</td> <td>Reserved</td> </tr> <tr> <td>13</td> <td>PSL2 link error fault is detected at the control unit receiver</td> </tr> <tr> <td>14</td> <td>No PSL2 communication detected at the control unit receiver</td> </tr> <tr> <td>15</td> <td>Reserved</td> </tr> </tbody> </table>	Bit	Description	0	Power stage fault. One or more power stage has sent an active fault status bit.	1	Branching unit has detected a earth fault	2	Power unit is lost	3	Difference check fault for main voltage W-V is active	4	Difference check fault for main voltage U-V is active	5...6	Reserved	7	Difference check fault for DC voltage is active	8	Difference check fault of current in phase W is active	9	Difference check fault of current in phase V is active	10	Difference check fault of current in phase U is active	11	One or more power stage has activated STO	12	Reserved	13	PSL2 link error fault is detected at the control unit receiver	14	No PSL2 communication detected at the control unit receiver	15	Reserved
Bit	Description																																
0	Power stage fault. One or more power stage has sent an active fault status bit.																																
1	Branching unit has detected a earth fault																																
2	Power unit is lost																																
3	Difference check fault for main voltage W-V is active																																
4	Difference check fault for main voltage U-V is active																																
5...6	Reserved																																
7	Difference check fault for DC voltage is active																																
8	Difference check fault of current in phase W is active																																
9	Difference check fault of current in phase V is active																																
10	Difference check fault of current in phase U is active																																
11	One or more power stage has activated STO																																
12	Reserved																																
13	PSL2 link error fault is detected at the control unit receiver																																
14	No PSL2 communication detected at the control unit receiver																																
15	Reserved																																
BU2_FAULTS	Fault register of branching unit 2. See bit description in BU1_FAULTS.																																
Sample counter	Free running counter.																																
DEBUG n	Data field from power unit to branching unit.																																
PL_FAULT n	Power unit fault register. <table border="1" data-bbox="330 1273 1011 1453"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1 = Power failure. Operational voltage is below the permissible limit.</td> </tr> <tr> <td>1</td> <td>1 = Power failure. Operational voltage is below the permissible limit.</td> </tr> <tr> <td>2</td> <td>1 = Link error. Fault in decoding three successive messages, or no messages received during the test period. 0 = No faults</td> </tr> <tr> <td>3...11</td> <td>Undefined</td> </tr> </tbody> </table>	Bit	Description	0	1 = Power failure. Operational voltage is below the permissible limit.	1	1 = Power failure. Operational voltage is below the permissible limit.	2	1 = Link error. Fault in decoding three successive messages, or no messages received during the test period. 0 = No faults	3...11	Undefined																						
Bit	Description																																
0	1 = Power failure. Operational voltage is below the permissible limit.																																
1	1 = Power failure. Operational voltage is below the permissible limit.																																
2	1 = Link error. Fault in decoding three successive messages, or no messages received during the test period. 0 = No faults																																
3...11	Undefined																																

Label	Meaning																						
PS_FAULT n	<p>Power unit fault register.</p> <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1 = Fault in braking chopper or short circuit detected.</td> </tr> <tr> <td>1</td> <td>1 = Derivate filter has detected too many consecutive or too large changes in some measurements.</td> </tr> <tr> <td>2</td> <td>1 = Short circuit detected.</td> </tr> <tr> <td>3</td> <td>1 = Undervoltage fault.</td> </tr> <tr> <td>4</td> <td>1 = Overvoltage fault.</td> </tr> <tr> <td>5</td> <td>1 = Overcurrent fault.</td> </tr> <tr> <td>6</td> <td>1 = Earth fault.</td> </tr> <tr> <td>7</td> <td>1 = Analog to digital conversion fault.</td> </tr> <tr> <td>8</td> <td>1 = Phase voltage state feedback supervision fault.</td> </tr> <tr> <td>9...11</td> <td>Reserved</td> </tr> </tbody> </table>	Bit	Description	0	1 = Fault in braking chopper or short circuit detected.	1	1 = Derivate filter has detected too many consecutive or too large changes in some measurements.	2	1 = Short circuit detected.	3	1 = Undervoltage fault.	4	1 = Overvoltage fault.	5	1 = Overcurrent fault.	6	1 = Earth fault.	7	1 = Analog to digital conversion fault.	8	1 = Phase voltage state feedback supervision fault.	9...11	Reserved
Bit	Description																						
0	1 = Fault in braking chopper or short circuit detected.																						
1	1 = Derivate filter has detected too many consecutive or too large changes in some measurements.																						
2	1 = Short circuit detected.																						
3	1 = Undervoltage fault.																						
4	1 = Overvoltage fault.																						
5	1 = Overcurrent fault.																						
6	1 = Earth fault.																						
7	1 = Analog to digital conversion fault.																						
8	1 = Phase voltage state feedback supervision fault.																						
9...11	Reserved																						
PF_FAULT n	<p>Power unit fault register</p> <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1 = Safe torque off fault.</td> </tr> <tr> <td>1</td> <td>1 = Charging feedback supervision fault.</td> </tr> <tr> <td>2...11</td> <td>Undefined</td> </tr> </tbody> </table>	Bit	Description	0	1 = Safe torque off fault.	1	1 = Charging feedback supervision fault.	2...11	Undefined														
Bit	Description																						
0	1 = Safe torque off fault.																						
1	1 = Charging feedback supervision fault.																						
2...11	Undefined																						
IAn(%)	Current in phase U expressed in percentage of measurement range (-100...100%).																						
IBn(%)	Current in phase V expressed in percentage of measurement range (-100...100%).																						
ICn(%)	Current in phase C expressed in percentage of measurement range (-100...100%).																						
UCn(%)	DC voltage expressed in percentage of measurement range (0...100%). Measurement range of BINT-12 is 0...1500 V.																						
No Comm n	1 = No PSL2 communication. Used for diagnostic purposes only.																						
No Comm Latched n	1 = No PSL2 communication in the uplink direction and bit is latched.																						
Link Error	Three consecutive PSL2 communication errors.																						
Comm Error n	PSL2 communication error (uplink). 1 = communication fault 0 = no fault Used for diagnostic purposes only.																						

---

# 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).



[abb.com/drives](http://abb.com/drives)