

HV SLOW Control SYstem.

RD51 Collaboration

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SLOW Control SYSTEM

Intro

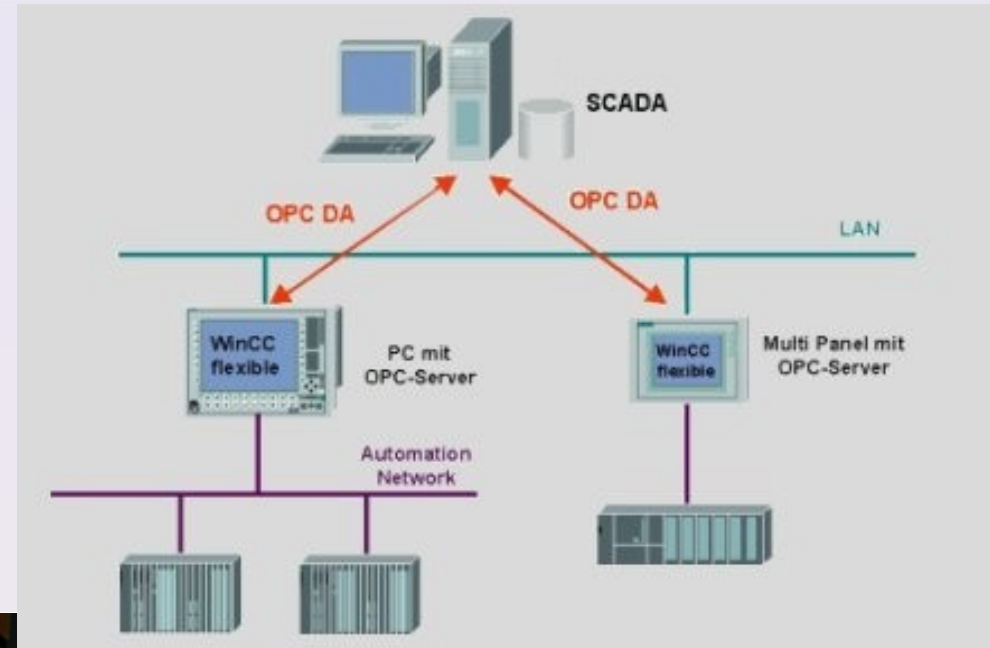
Main
○○○

Init
○○

Config
○○

Export
○○

Prospects



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Vision_1: main.pnl

Module Panel Scale Help

en_US.iso88591

RD51

View Settings Archive Export Close

03_00	vMon	0.00	V	iMon	0.000	uA	03_05	vMon	0.00	V	iMon	0.000	uA	04_00	vMon	3.00	V	iMon	0.000	uA
03_01	vMon	0.00	V	iMon	0.000	uA	03_07	vMon	0.00	V	iMon	0.000	uA	04_01	vMon	1.00	V	iMon	0.000	uA
03_02	vMon	0.00	V	iMon	0.000	uA	03_08	vMon	0.00	V	iMon	0.000	uA	04_02	vMon	1.00	V	iMon	0.000	uA
03_03	vMon	0.00	V	iMon	0.000	uA	Sac_6	vMon	393.25	V	iMon	0.150	uA	04_03	vMon	0.00	V	iMon	0.000	uA
Mesh	vMon	539.00	V	iMon	0.000	uA	Sac_5	vMon	389.25	V	iMon	0.418	uA	test 1	vMon	0.00	V	iMon	0.000	uA
Drift	vMon	999.50	V	iMon	0.000	uA	03_11	vMon	0.00	V	iMon	0.000	uA	test 2	vMon	1.00	V	iMon	0.000	uA

Main Window

- ✓ Status of all
- ✓ vMon
- ✓ iMon
- ✓ Settings
- ✓ Initialization
- ✓ Export data



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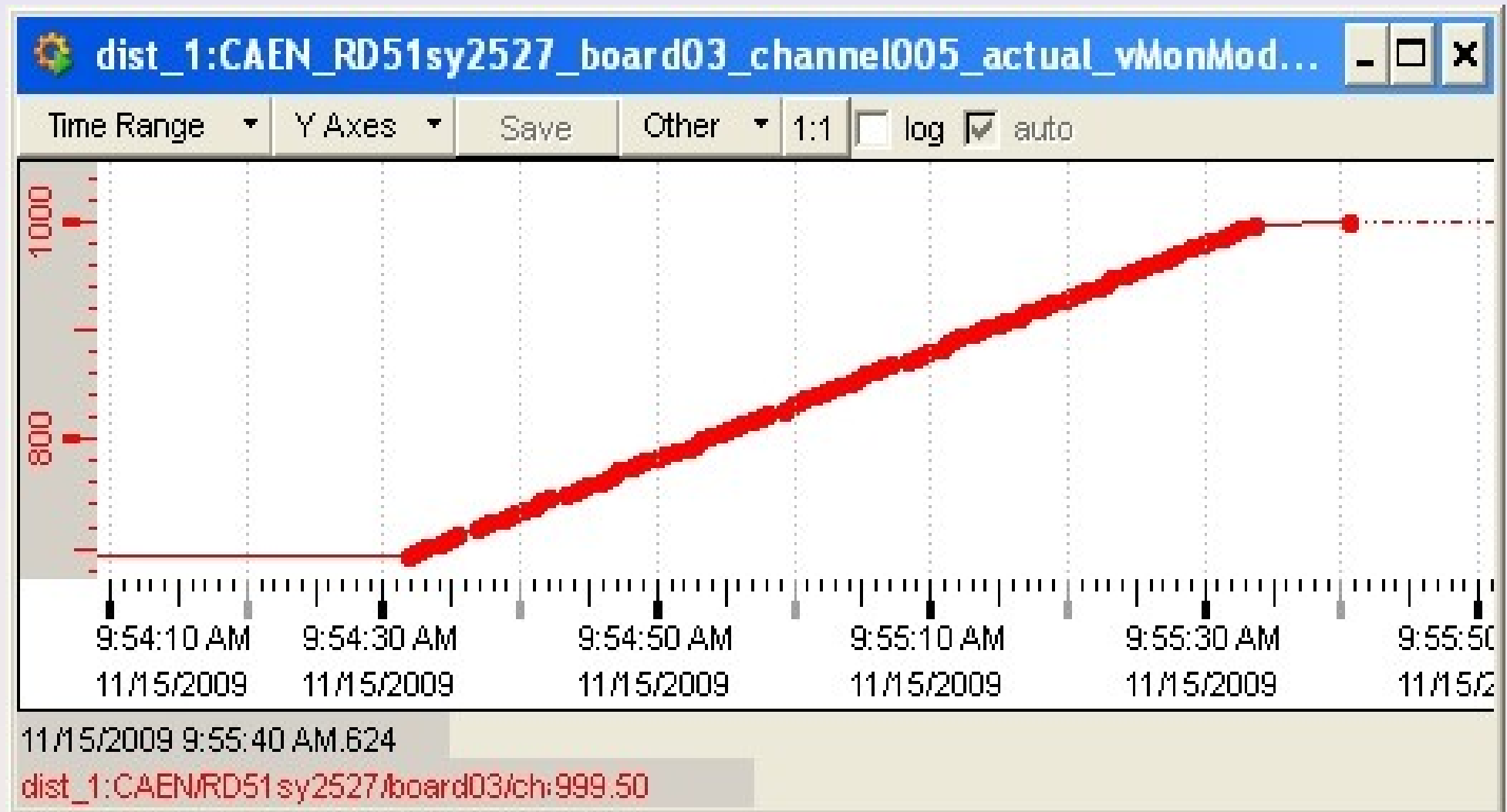
Config

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Direct single plot with right-click on iMon or vMon.



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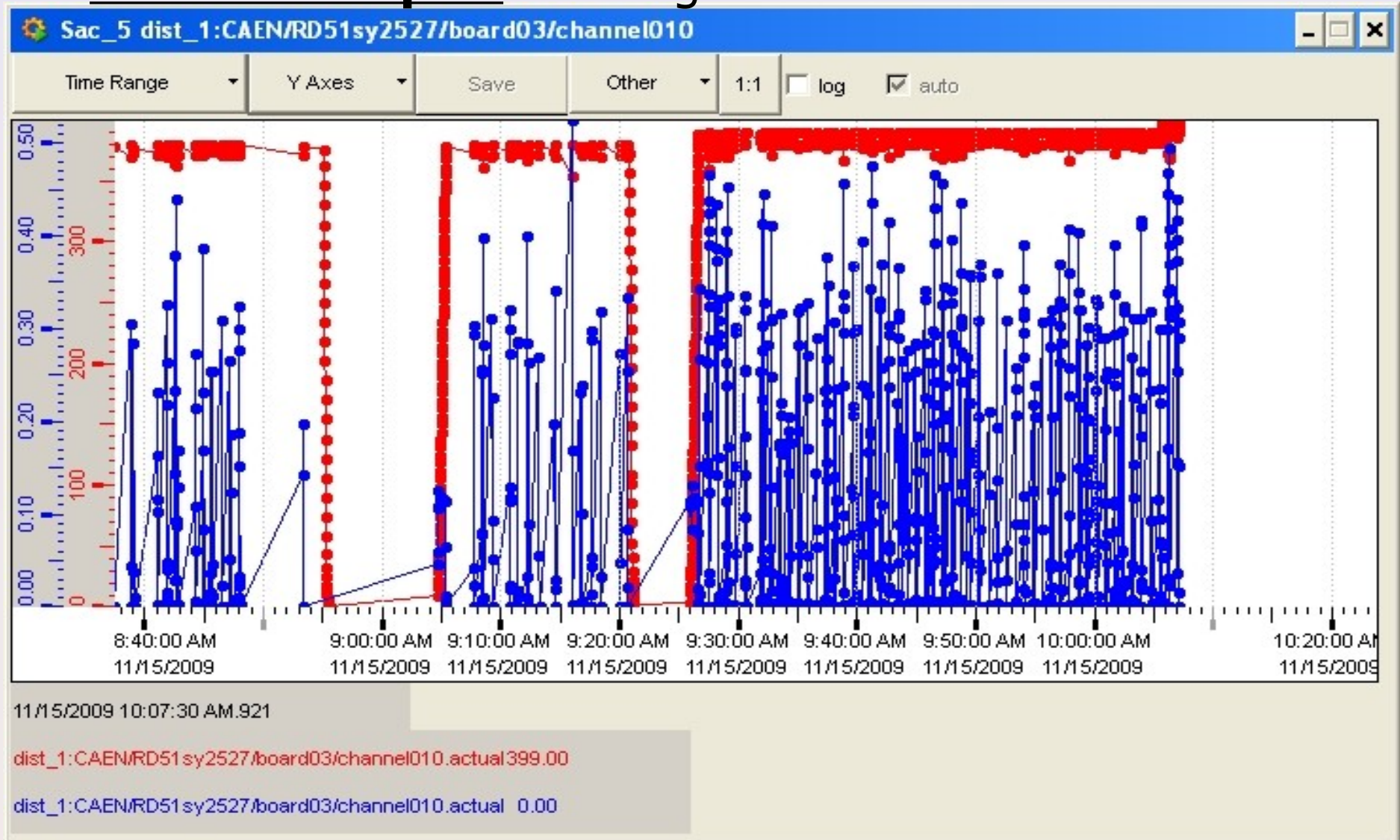
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Direct dual plot with right-click on status of channel.



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Device Editor & Navigator.

The image shows two windows from the JCOP Framework. The left window, titled "Device Editor & Navigator", displays a tree view of the hardware configuration for "dist_1". The tree structure is as follows:

- dist_1:
 - CAEN
 - RD51sy2527
 - board03
 - board04
 - channel000
 - channel001
 - channel002
 - channel003
 - channel004
 - channel005

Buttons at the bottom of this window include "Editor mode", "Go to Navigator", and "Close".

The right window, titled "DEVICE_MODULE: (NoName) (dist_1 - RD51_SlowControl; #3)", shows the "CAEN Crate Hardware Configuration". The "Crate Name" is "dist_1:CAEN/RD51sy2527". The main area contains a diagram of a crate with two red vertical slots labeled "A1521M" and "A1525M". Below the diagram are slots numbered 0 to 5, with "CAEN" and "SY2527" labels. A "Comment" field contains "dist_1:CAEN/RD51sy2527.". Buttons at the bottom include "Add boards", "Simple Settings", and "Close".



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Alias	Channels
BNLdri	board03/channel000
BNLtop	board03/channel001
BNLbot	board03/channel002
BNLmes	board03/channel003
Mesh	board03/channel004
Drift	board03/channel005
LargeH	board03/channel006
LargeV	board03/channel007
Cathod	board03/channel008
Sac 6	board03/channel009
Sac 5	board03/channel010
	board03/channel011
	board04/channel000
	board04/channel001
	board04/channel002
	board04/channel003
test 1	board04/channel004
test 2	board04/channel005

Init Window

- ✓ Group creating & parameterizing.
- ✓ User creating.
- ✓ E-mail.



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configAll.pnl

Alias	Channels	v0	i0	rUp	rDwn	trip
			0.000			
BNLdri	board03/channel000	666	10.000	100	100	2
BNLtop	board03/channel001	1350	10.000	100	100	2
BNLbot	board03/channel002	750	10.000	100	100	2
BNLmes	board03/channel003	430	10.000	100	100	2
Mesh	board03/channel004	570	4.000	50	100	2
Drift	board03/channel005	870	4.000	50	100	2
LargeH	board03/channel006	530	10.000	20	50	2
LargeV	board03/channel007	520	1.000	5	50	2
Cathod	board03/channel008	730	10.000	5	50	5
Sac 6	board03/channel009	400	0.500	10	25	10
Sac 5	board03/channel010	400	0.500	10	25	10
	board03/channel011	400	0.500	10	25	10
	board04/channel000	0	2.000	25	50	1
	board04/channel001	0	2.000	25	50	1
	board04/channel002	0	2.000	25	50	1
	board04/channel003	0	2.000	25	50	1
test 1	board04/channel004	0	5.000	50	50	1
test 2	board04/channel005	0	5.000	50	50	1

RD51

Username

Password

Cancel Ok

v0 i0 (uA) rUp rDwn tripTime Alias

Alias

Set Config Refresh

Channel On Channel Off Close

Config Window

- ✓ Multiple selecting.
- ✓ User name password required.
- ✓ v0, i0, rUp, rDwn, trip time, alias.
- ✓ On/Off.



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```
logger_1.txt - Notepad
File Edit Format View Help
***** Start *****
23/10/09 19:22      costas
***** channels *****
board03/channe1000
board03/channe1002
board03/channe1003
board03/channe1005
board03/channe1006
board03/channe1008
***** values *****
v0 :              480
***** Start *****
23/10/09 19:22      costas
***** channels *****
board03/channe1001
board03/channe1004
board03/channe1007
***** values *****
v0 :              630
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
***** Start *****
23/10/09 19:46      costas
***** channels *****
board03/channe1009
***** values *****
i0 :              0.100
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
~~~~~ End ~~~~~
***** Start *****
23/10/09 20:18      eleni
***** channels *****
board03/channe1003
board03/channe1008
***** values *****
channels on
~~~~~ End ~~~~~
***** Start *****
23/10/09 20:23      Theios
***** channels *****
board02/channe1002
***** values *****
v0 :              350
~~~~~ End ~~~~~
***** Start *****
23/10/09 20:33      eleni
***** channels *****
board01/channe1000
```

Logbook

- ✓ User
- ✓ Date-time stamp
- ✓ Channel(s)
- ✓ Configuration.



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exportAll.pnl

Alias	Channels
BNLdri	board03/channel000
BNLtop	board03/channel001
BNLbot	board03/channel002
BNLmes	board03/channel003
Mesh	board03/channel004
Drift	board03/channel005
LargeH	board03/channel006
LargeV	board03/channel007
Cathod	board03/channel008
Sac 6	board03/channel009
Sac 5	board03/channel010
	board03/channel011
	board04/channel000
	board04/channel001
	board04/channel002
	board04/channel003
test 1	board04/channel004
test 2	board04/channel005

Select Start time.

Day: 20, Month: 11, Year: 2009, Hour: 12, Minute: 4

Select End time.

Day: 20, Month: 11, Year: 2009, Hour: 12, Minute: 4

Folder Name: folder_name

Export iMon vMon vSet

Export iMon | Export vMon | Export vSet

Close

Exporting Data

- ✓ Multiple channel selection.
- ✓ Start/End time stamps.
- ✓ Custom folder name (also structure is available)
- ✓ Export iMon, vMon, vSet or all together.



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```
File Edit View Search Tools Documents Help
Open Save Undo
iMon_board03_channel004_16_11.dat
2009_11_15 00 00 31 0072 1.02600000228882
2009_11_15 00 00 31 0994 2.8080000087738
2009_11_15 00 00 32 0963 0.17599999904633
2009_11_15 00 00 33 0431 0.0040000001899898
2009_11_15 00 00 33 0900 0
2009_11_15 00 01 11 0775 2.7279999256134
2009_11_15 00 01 12 0228 1.2300000190735
2009_11_15 00 01 12 0682 0.037999998778105
2009_11_15 00 01 13 0166 1.9739999771118
2009_11_15 00 01 14 0072 1.7999999523163
2009_11_15 00 01 14 0994 0.065999999642372
2009_11_15 00 01 15 0463 3.5659999847412
2009_11_15 00 01 16 0369 0.42399999499321
2009_11_15 00 01 16 0838 0.014000000432134
2009_11_15 00 01 17 0291 0
2009_11_15 00 01 59 0854 0.64200001955032
2009_11_15 00 02 00 0338 3.0339999198914
2009_11_15 00 02 00 0791 0.2119999974966
2009_11_15 00 02 01 0260 0.0040000001899898
2009_11_15 00 02 02 0166 0
2009_11_15 00 02 03 0104 3.0659999847412
2009_11_15 00 02 03 0557 0.82200002670288
2009_11_15 00 02 04 0932 2.9119999408722
2009_11_15 00 02 05 0432 1.0800000429153
2009_11_15 00 02 05 0901 0.035999998450279
2009_11_15 00 02 06 0823 0
2009_11_15 00 02 44 0479 4.3379998207092
2009_11_15 00 02 44 0932 3.2360000610352
2009_11_15 00 02 45 0854 0.28799998760223
2009_11_15 00 02 46 0307 0.012000000104308
2009_11_15 00 02 46 0776 1.3839999437332
2009_11_15 00 02 47 0229 2.3659999370575
2009_11_15 00 02 48 0151 0.11599999666214
Plain Text Tab Width: 8 Ln 1, Col 1 INS
```

Exported Data

- ✓ Date separated with “_”.
- ✓ Time (with spaces) and milliseconds.
- ✓ Value.
- ✓ Information on the file name.



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- ✓ Recipes of configuration.
- ✓ Custom trip handling (after n-trips in given time the channel should be considered tripped).
- ✓ Sound alarm for different states of the channel.
- ✓ Future plans are also to expand this tool for slow control system (i.e. temperature, gas monitor and control etc).

➤ Thanks to Ikarios Manos. for the help on the implementation of the program.

