

Table of Contents

- 1 Setup.....1
- 1.1 Short introduction.....1
- 1.2 System requirements.....1
- 1.3 Realisation.....1
- 2 Measurement & Results.....5
- 3 Documentation Version.....6

1 Setup

1.1 Short introduction




The task was to create a digital output, which goes “1” as soon as the system is armed (DEWESoft switches from Channel Setup to Measure), and goes to “0” when the measurement is stopped, is in Channel Setup, or hangs (because of operating system malfunction).

So, the “DS-NET/DEWESoft Status Output” provides online information, if the measurement system is operating correctly.

Especially when operated in a bigger system, where the DEWESoft measurement system is only one part of it, this status is important.

1.2 System requirements

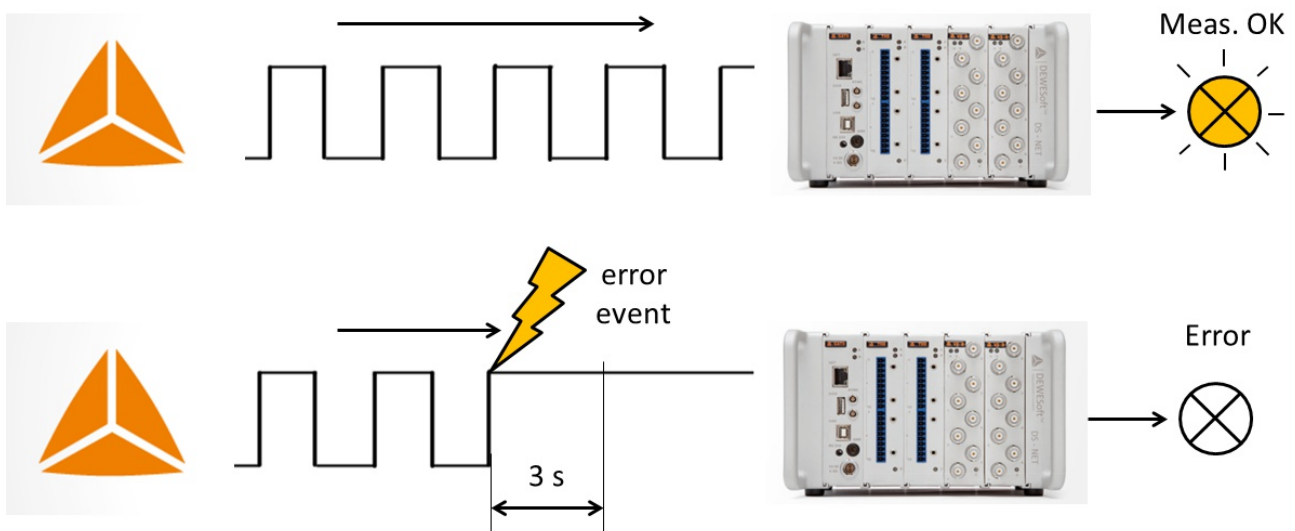
For this example the following things are required:

-  DS-NET system with 1 digital output (e.g. DIO8 module)
-  DEWESoft Software
-  test.commander Software (should usually be installed on the system)

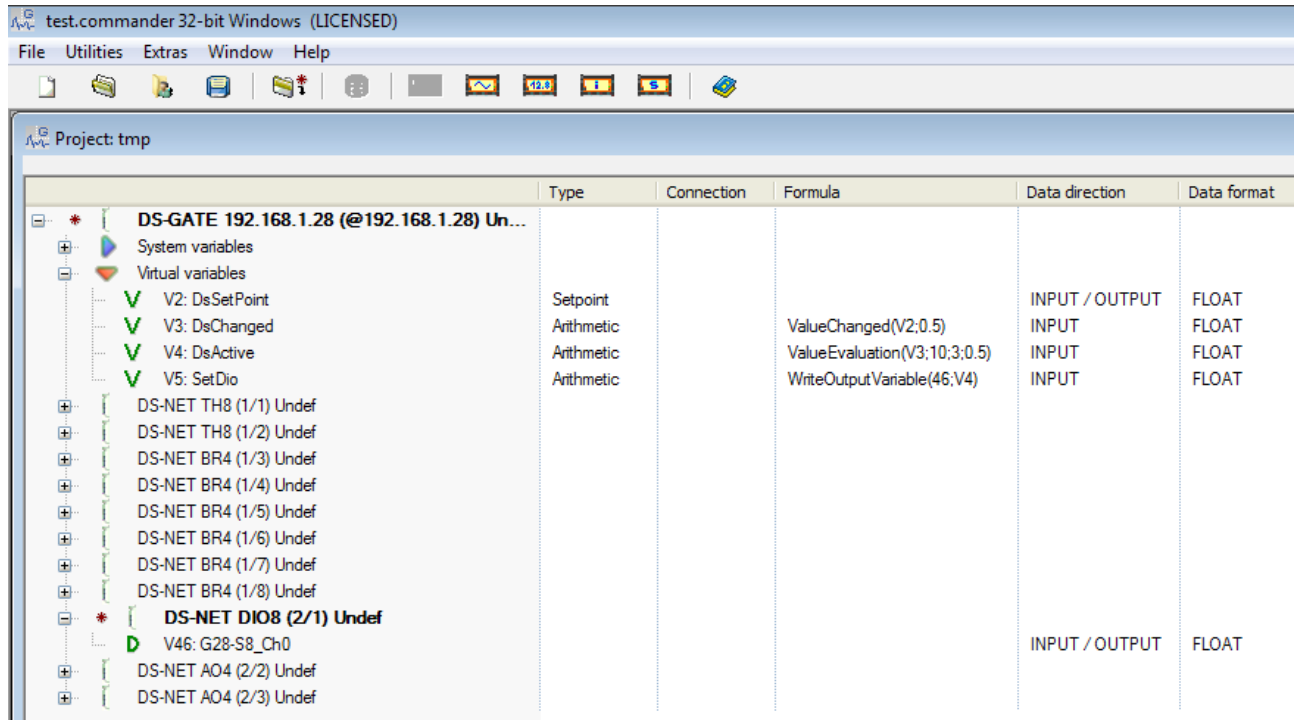
1.3 Realisation

An additional variable called “DsSetPoint” is created inside the DS-GATE module. This can be accessed out of DEWESoft and is periodically toggled between “0” and “1” by an alarm (0.5 sec high, 0.5 sec low). This avoids the use of the DEWESoft Sequencer. The ValueEvaluation function inside the DS-GATE module checks the toggling and if it suddenly stops – because system freezes or connection is lost – waits for a timeout for 3 seconds, before setting the variable “DsActive” low.

Now the only thing left is to route this variable to the real hardware, e.g. to the DIO8 module. This is done inside the DIO8 module, because it must be independent of the Windows operating system and DEWESoft.



The tree view of the test.commander below shows which variables are needed and in which modules they have been realised.

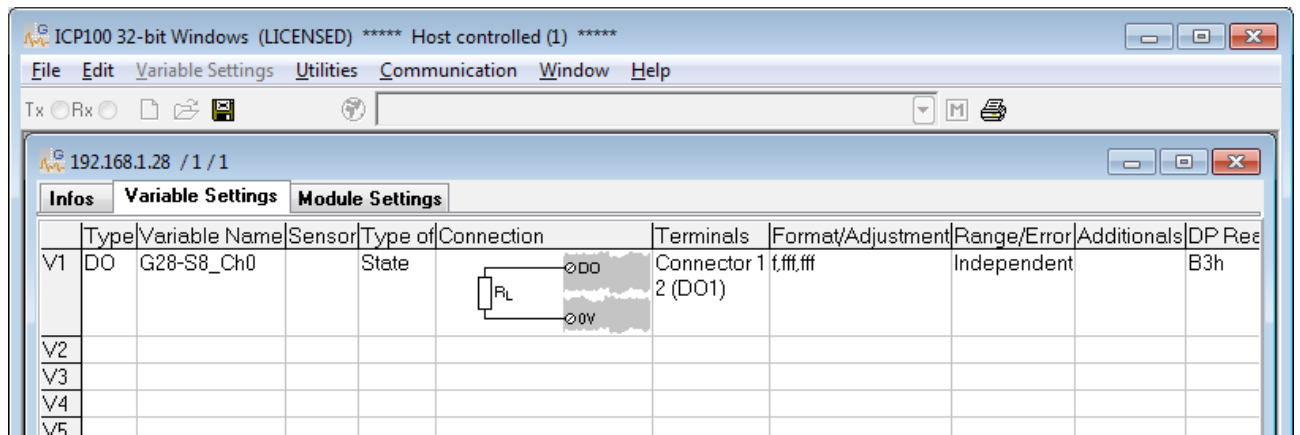


Beneath “Virtual variables” are the DS-GATE variables, and beneath the DS-NET-DIO8 is the digital output variable used.

Please close DEWESoft, start test.commander, “Open new project and read online system”, and just enter any random name. A DLL Scanning Network window will appear, click on the found DS-GATE and OK. The configuration will be read which takes some time, depending on the number of modules of the system, resulting in a “Controllers successfully read” window.

Then please **add all the variables** as listed above.

At last step we have to **activate the digital output**. Double-click on the module “DS-NET DIO8 (2/1) Undef” as shown in the screen above, then the ICP100 setup will open. Add the digital output, type “State”, save and close the window.



Then do a File → Write Project (All)... and after it's finished close the test.commander.

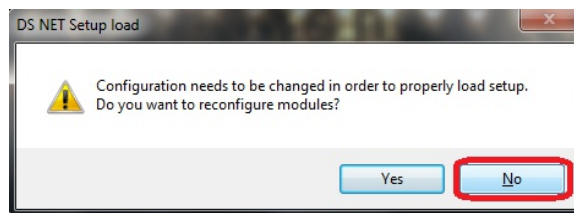
Start DEWESoft and connect to the DS-NET module. You will see the additional variables as in the screenshot below.

The screenshot shows the DEWESoft X software interface. The 'Channel setup' section is expanded to show two DS NET modules: DS NET TH8 (A104) and DS NET DIO8 (D101). The table below represents the data shown in the interface.

CHAN	ON/OFF	COLOR	NAME	AMPLIFIER	VALUES	ZERO	SETUP
0	Used	Blue	DsSetPoint		-	0	Setup
1	Used	Teal	DsChanged		-10	Zero	Setup
2	Used	Olive	DsActive		-10	Zero	Setup
3	Used	Green	SetDio		-	Zero	Setup
0_1 DS NET TH8 (A104)							
0	Unused	Purple	G28-S0_Ch0	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
1	Unused	Pink	G28-S0_Ch1	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
2	Unused	Cyan	G28-S0_Ch2	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
3	Unused	Light Blue	G28-S0_Ch3	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
4	Unused	Grey	G28-S0_Ch4	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
5	Unused	Olive	G28-S0_Ch5	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
6	Unused	Purple	G28-S0_Ch6	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
7	Unused	Green	G28-S0_Ch7	TC Type K; °C -100..1000 °C	-	OVL 1000	Setup
1_1 DS NET DIO8 (D101)							
0	Used	Yellow	G28-S8_Ch0	Digital out	-	OVL 10	Setup

As the variable numbers behind the variables have changed now, it is important to create a new setup. Otherwise, when loading an old setup, the old configuration will be written to the modules and mix up all our changes.

Alternatively, please select NO when this window pops up. Then save as a new setup.



Because we want to simulate a system freeze, we add a ControlChannel variable, e.g. called "NoAlarm", which will then overrule our alarm condition.

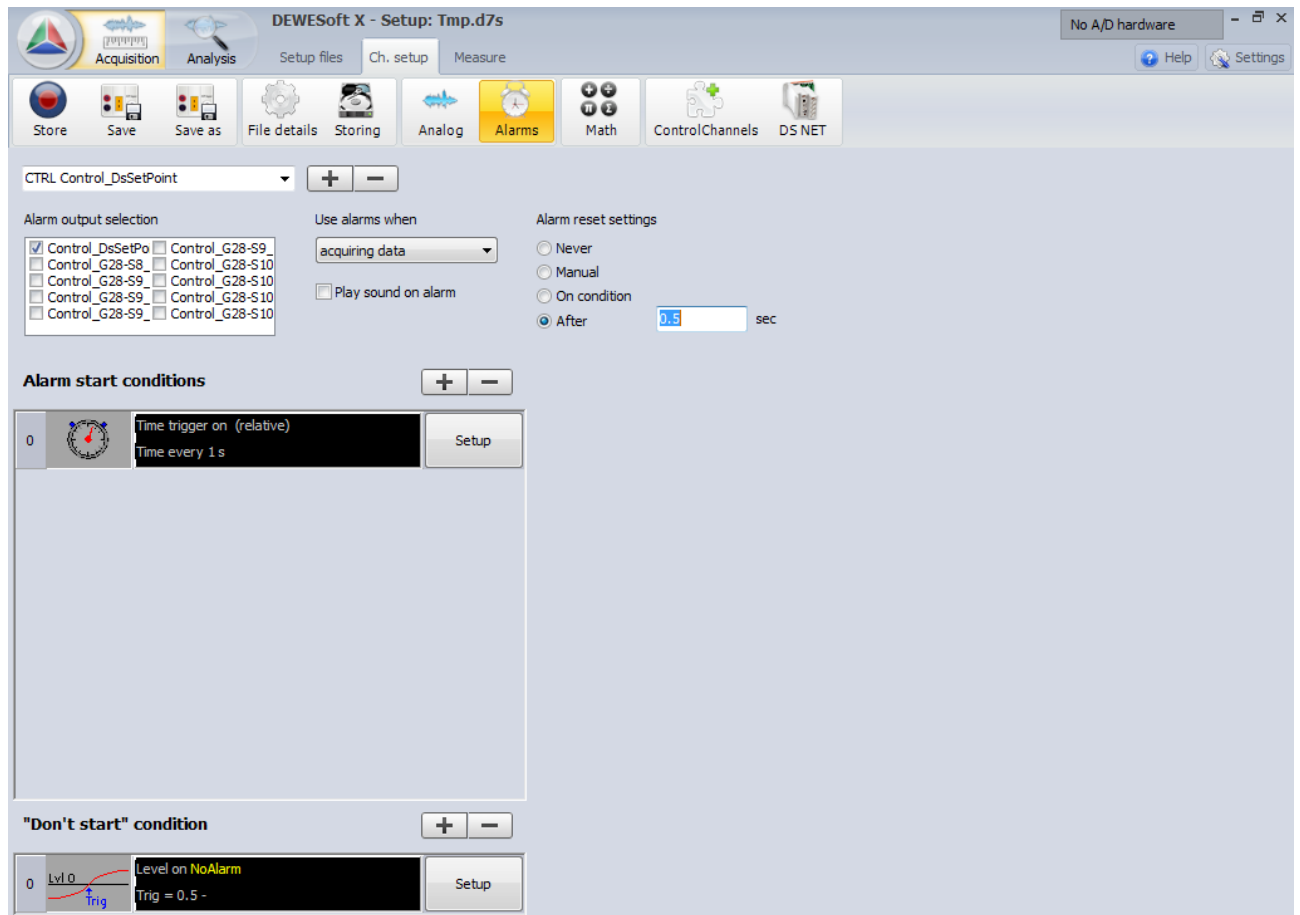
The screenshot shows the 'Control channels' section of the DEWESoft X software. A table lists the control channels, including a newly added 'NoAlarm' channel.

#	ON/OFF	C	Name	Description	Timebase	Min	Max	Init. value	Value reset	Value	Reset val
1	Used	Yellow	NoAlarm	No Alarm	Async	0	100	0	On start measurement	0	Reset

In the alarm section we add a trigger – on time – every 1 sec. After 0.5 sec it should be reset. This is our 1 Hz toggling function. If toggling stops, something is wrong with DEWESoft or the operating system, the measurement system has to be checked.

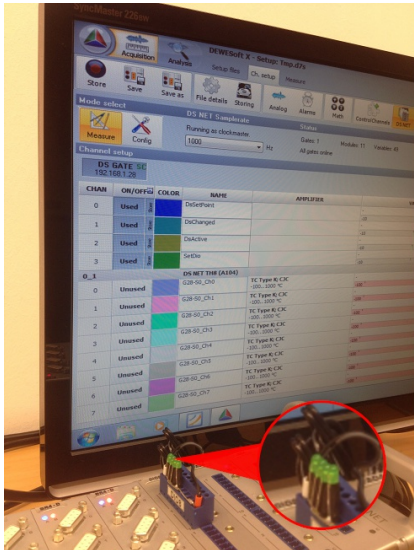
The alarm output is our “DsSetPoint” variable.

For testing purpose we add the “NoAlarm”-ControlChannel as “Don't start” condition. This will overrule the alarm and stop the toggling.

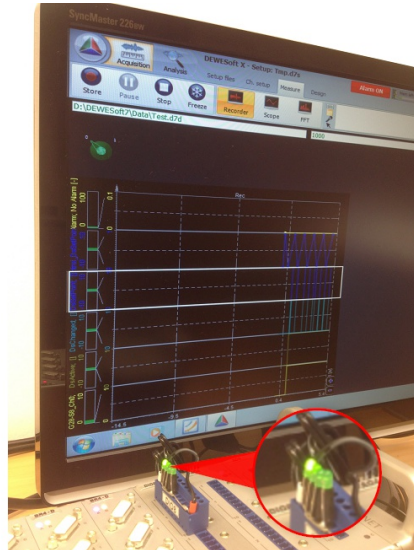


2 Measurement & Results

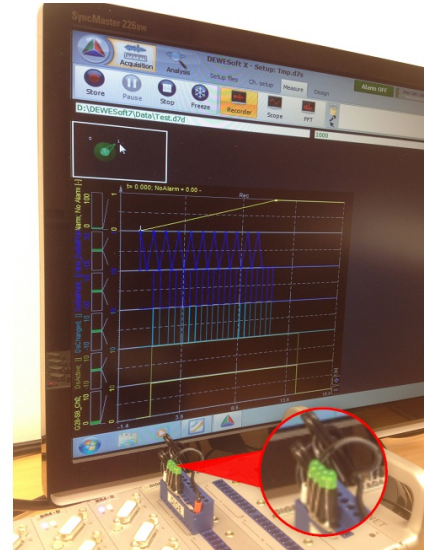
In the three pictures below the DIO8 output is shown by a connected LED, depending on software state.



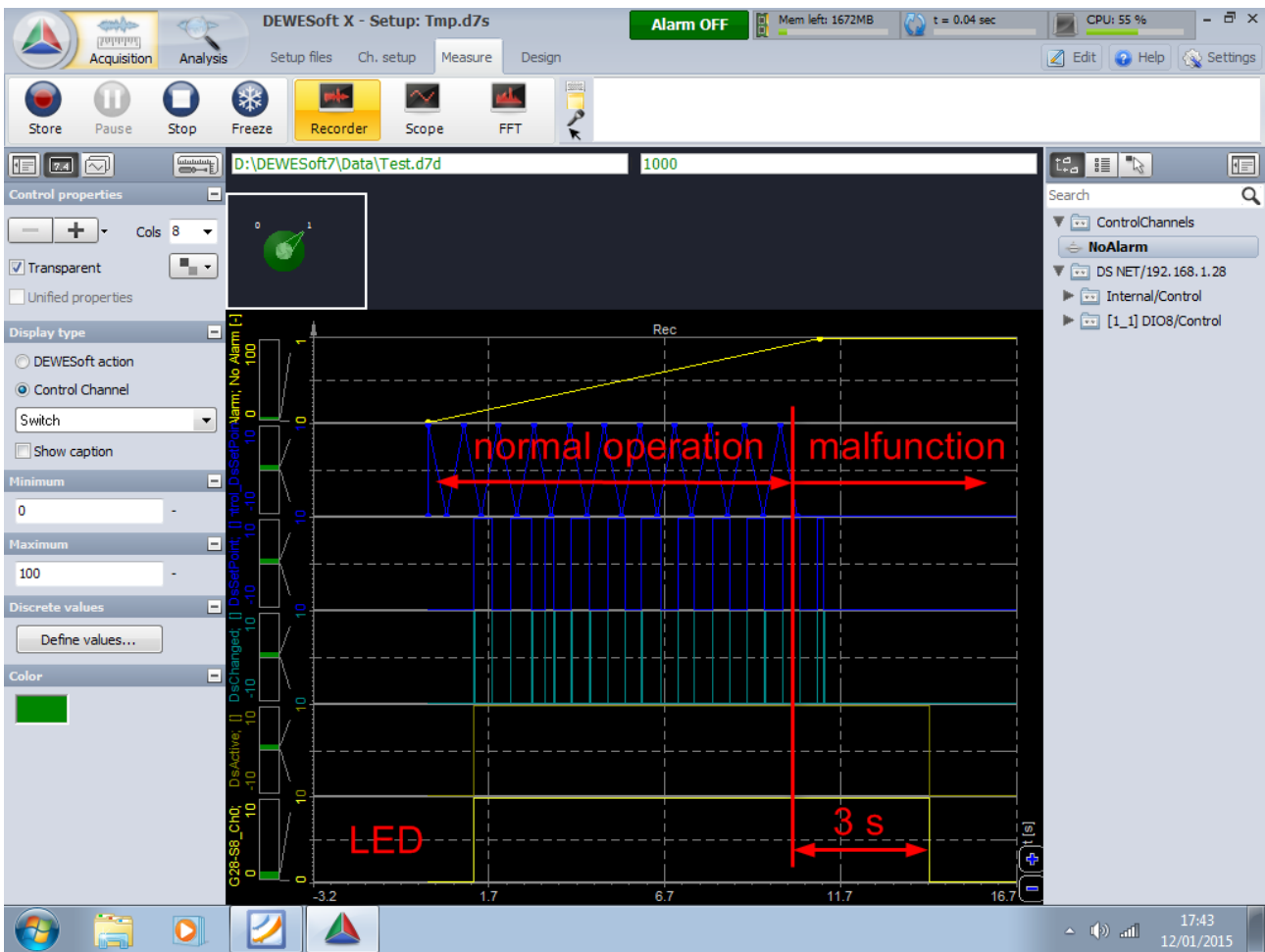
Ch Setup – “0”



Measure - “1”



Simulated Freeze - “0” after 3 sec



3 Documentation Version

Revision number: 114

Last modified: Thu 15 Jan 2015, 15:49

Doc-Version	Date [dd.mm.yy]	Notes
1.1	15.01.15	added how to activate the digital output
1.0	12.01.15	initial revision

For support please contact support at dewesoft.com.