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# **DEWESoft<sup>TM</sup> Plugin**

Microstrain® 3DM-GX3®

Document-Version: 1.0.4 Plugin-Version: 1.0.4

www.dewesoft.com

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#### About this document 1

This is the user documentation of the DEWESoft™ Plugin for Microstrain® 3DM-GX3® version 1.0.4.

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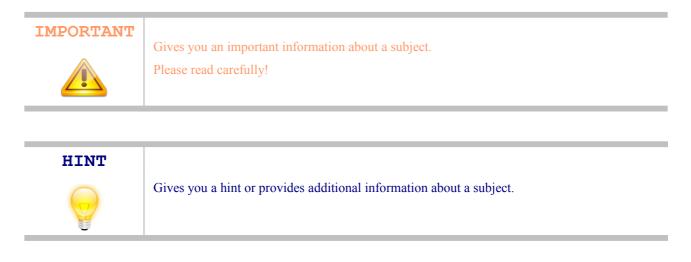
Page numbers in this document always refer to the "3DM-GX3® Data Communications Protocol" version 1.08 Revision May 26, 2010.

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# 1.1 Legend

The following symbols and formats will be used throughout the document.



#### EXAMPLE



Gives you an example of a specific subject.

Example	Meaning	Description
Cancel	Button	a button that you can click
File	Menu Item	a menu item, will open a sub menu or a dialog
Times New Roman	List Item	an item in a list (or tree) that you can select
Events	Tab Sheet	a tab sheet that you can select
C:\Program Files\OpenOffice.org 3\readme.txt	File Path and Name	a file name or path
Windows Key	a term	any kind of term (maybe also compound)

Table 1: Layout formats used in the documentation

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# 2 About the software

# 2.1 Links

- ▲ DEWESoft<sup>™</sup> homepage <u>http://www.dewesoft.com</u> you can download DEWESoft<sup>™</sup> plugins when you go to: <u>Downloads</u> - <u>Plugins</u>
- Sensor information and documentation <u>http://www.microstrain.com/3dm-gx3-25.aspx</u>
   Sensor documentation: <u>http://www.microstrain.com/pdf/3DM-GX3-Data-Communications-Protocol.pdf</u>

# 2.2 Compatibility

The plugin is compatible with  $DEWESoft^{TM} 7$ .

It has been developed and tested with:

- <u>▲</u> DEWESoft<sup>™</sup> 7.0.4b29
- ▲ *MicroStrain*® 3DM-GX3-25<sup>TM</sup> sensor: Firmware must be >= 1.1.27

# 2.3 Features

A list of supported features (page number refer to the Sensor documentation, if not otherwise stated):

- A communication settings: selectable COM Port and BaudRate (not relevant for USB connection)
- k reading firmware version: command 0xE9 on page 36
- reading model number: command 0xEA on page 36 used to determine the max. angular rate and acceleration
- A reading serial number: command 0xEA on page 36
- k reading model name: command *0xEA* on page 36
- A reading device options: command 0xEA on page 36
- switching the continuous mode ON: command 0xC4 on page 15 (see chapter 6 Continuous mode on page 14 of this manual)
  - & using Acceleration, Angular Rate & Magnetometer Vectors & Orientation Matrix see 0xCC on page 21
  - A or Acceleration & Angular Rate (0xC2) on page 14
- switching the continuous mode off: command 0xD4 on page 26
- setting the sampling rate: command 0xDB on page 31
- A activating/deactivating the magnetometer: command 0xDB on page 31 (Bit 8 of Byte 7)
- $\blacktriangle$  realign up and north: command  $\partial xDD$  on page 33
- A you can switch between degree and radians in channel setup
- ▲ DEWESoft<sup>TM</sup> soft-synchronisation is used
- 🔺 Zeroing of Roll, Pitch, Yaw

# 2.4 Files and Directories

The actual location of the directories on your computer may vary dependant on your computer's locale settings and the settings you chose when installing DEWESoft<sup>TM</sup>.

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# 2.4.1 Important DEWESoft™ 7 Directories

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### 2.4.1.1 DEWESoft<sup>™</sup> Measurement Unit [recommended]

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Directory name	Explanation	Default path
Bin	contains DEWSoft.exe	D:\DEWESoft7\Bin\V7_0
Addons	.dll files for plugins must be copied into this directory	D:\DEWESoft7\Bin\V7_0\Addons
Data	this is where DEWESoft <sup>™</sup> will store your measurement data	D:\DEWESoft7\Data
Setups	this is where your DEWESoft <sup>™</sup> setup files will be stored	D:\DEWESoft7\Setups
System	this is where DEWESoft <sup>™</sup> project files are stored	D:\DEWESoft7\System\V7_0
Log	this is where DEWESoft <sup>TM</sup> will store log files	D:\DEWESoft7\System\V7_0\Logs

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### 2.4.1.2 Windows Standard

Directory name	Default path
Bin	C:\Programme\DEWESoft7\Bin\V7_0
Addons	C:\Programme\DEWESoft7\Bin\V7_0\Addons
Data	user dependant directory: C:\Dokumente und Einstellungen\All Users\Dokumente\DEWESoft7\Data
Setups	user dependant directory: C:\Dokumente und Einstellungen\All Users\Dokumente\DEWESoft7\Setups
System	<b>user dependant directory:</b> C:\Dokumente und Einstellungen\All Users\Dokumente\DEWESoft7\System\V7_0
Log	user dependant directory: C:\Dokumente und Einstellungen\All Users\Dokumente\DEWESoft7\System\V7_0\Logs

# 2.5 Licensing

The plugin requires a valid DEWESoft<sup>™</sup> license. To test the plugin you can use an *Evaluation license*.

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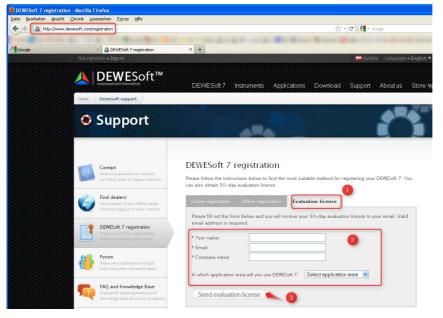
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### 2.5.1 Requesting an Evaluation license

You can request an an Evaluation license from our homepage: http://www.dewesoft.com/registration



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Illustration 1: Request Evaluation License

- (1) Click on Evaluation license
- (2) Fill out all the required fields
- (3) Click the **Send evaluation license** button

# 2.5.2 Activating the Evaluation license

When you have received your trial licence key, open DEWESoft<sup>TM</sup>, go to *Settings* - *Hardware Setup*..., select the Registration tab sheet and enter the license code (if you already have other licenses, you may need to click the **Create** button).

Now enter the license code and click the **Register online** button.

×	🔺 Hardware se	etup			X
Video Math Timing Alarms & Events Analog out NET Plugins Registration	Analog CAN	GPS Video Math Timing	Alarms & Events Analog out NET Plugins Re	gistration	
User location Reference number (optional) Device number (optional)	User name	User location	Reference number (optional)	Device number (optional)	
Austria					
	Existing license(:	5)			
Register online Register offline Cancel	Create	Used License key	Software version and options	Status	
lid ONLY for the measurement hardware (or computer MAC) and options which are chosen at this moment.	Delete	DW7-7QAA-95W4-Z6A2	TRIAL	Valid	
choose all the devices, options and plugins which you will use.	Delete				
to the following hardware	Update				
(3 keys)					
	Registration statu	в			
	TRIAL (03	.09.2011)			ancel
OK Cancel				ок	ancel
Illustration 2: Enter license key		Illustratio	on 3: Valid trial lice	ense	
This in all of 2. Enter heense hey	1				

Then your new license key will show up in the list and should have the *Status Valid*.

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# 2.6 Plug-in Installation

Simply copy the file Microstrain\_3DM\_GX3.dll into the Addons folder of your DEWESoft™ installation. (e.g. D:\DEWESoft7\Bin\V7 0\Addons\) and then start DEWESoft<sup>TM</sup>).

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#### HINT



When you are using Windows® 7, then you must click the Register plugins button once and restart DEWESoft<sup>™</sup> before the plugin shows up.

#### Plugin configuration 3

# 3.1 Hardware Setup

After you have installed the plugin (see 2.6 Plug-in Installation), start DEWESoft<sup>™</sup> and go to Settings – the image below):

Analog	CAN	GPS	Video	Math	Timing	Alarms & Events	Analog out	NET	Plugins	Registration		
ON/OFF		Nam	e	Ver	sion		Description			Vendor		
Used	Ms 3D	M-GX3		1.0.2	1	Microstrain 3DM-GX3	Attitude Hea	ding Refe	erence Sys	te:Dewesoft		
Unused	Calibra	ation		1.11b	08 :	Special Calibration T	pol.			Dewesoft		
Unused	Aphil	est		1.0		Fest plugin				Dewesoft		
Unused	Xbew	40		1.0.2		CrossBow 440 series	inertial system	ns plugin	1	Dewesoft		
Unused	KGG-P	lugin		1.0.5		olugin for GeneSys r	obot			Dewesoft		
Unused	RS232			1.0.3		generic RS232 plugir	n			Dewesoft		
Unused	Weath	ner statio	n (NMEA)	1.1		Weather station plugin for NMEA protocol.				Dewesoft		
Unused	DS NE	т		3.4.4	1	OS NET modules				Dewesoft		
Iuain pr	l opertie	s (Ms 3D	M-6X31		-		···			<b>•</b> •		
COM F Baud I Log le Delay	rate: vel: [ms]:	••••	DM18 🗸	Firm Mod Seri Mod	us 6 Port: ware Ver elNo: alNo: el Name: ice Option	6223-4220 6223.01319 3DM-GX3-25	Jakay					
egistrati	ion stati	JS							_	eaister plugins	ок	Cance

Illustration 4: Hardware Setup Screen - Status Okay

- (4) Click this button to set the plugin to Used
- (5) Select the COM port that your device is connected to. The drop down box will show a list of all available COM ports on your computer.
- (6) Select the *Baud rate* that your device is using. Note: This setting only relevant if your sensor is connected via RS232 to your PC (and irrelevant for USB connections)
- (7) Keep the default Log level: INFO (see 3.1.3.1 Log levels for more details on logging)
- (8) Here you can set a delay time in ms: see 5 Delay time on page 13

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(9) When your device is correctly connected, powered up and all settings are okay, then all fields in the Status box should be green (see also 3.1.1 Status box):

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### 3.1.1 Status box

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The status box (see **9** in Illustration 4) will indicate the connection status of your sensor:

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The status will be updated when:	Status	Retry		
<ul> <li>the hardware setup section of the plugin is displayed for the first time</li> <li>you change the <i>COM Port</i> (see <sup>(2)</sup> in Illustration 4)</li> <li>you change the <i>Baud rate</i> (see <sup>(3)</sup> in Illustration 4)</li> <li>you click the <b>Retry</b> button (see top of Illustration 5)</li> </ul>	Com Port: Firmware Version: ModelNo: SerialNo: Model Name: Device Options:	COM port is okay 1214 6223-4220 6223.01319 3DM-GX3-25 5g 300d/s		
you click the <b>Kerry</b> button (see top of musuation 5)	Model Name: 3DM-GX3-25			

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# 3.1.2 Status conditions

A short overview of status conditions and possible solutions.

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<b>Status request in progress</b> When the status request starts, all status labels will be blue and show <i>'in progress'</i> until the corresponding status is received or a time-out occurs.	<b>COM Port failure</b> This means that the plugin cannot open the <i>COM Port</i> that you have selected. A possible reason for this is, that another application is connected to this <i>COM port</i> (e.g. the <i>3DM-GX3 Monitor</i> application). Close all other applications and click the <b>Retry</b> button.
Status     Retry       Com Port:     COM port is okay       Firmware Version:     in progress       ModelNo:     in progress       SerialNo:     in progress       Model Name:     in progress       Device Options:     in progress	Status     Retry       Com Port:     failed to open COM port: COM18 (wrong port?)       Firmware Version:     -       ModelNo:     -       SerialNo:     -       Model Name:     -       Device Options:     -
Illustration 6: Status request in progress	Illustration 7: Status request COM Port failure

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<b>COM Port okay</b> This means that the plugin could open the <i>COM Port</i> that you have selected (in contrast to <i>COM Port failure</i> above.) In Illustration 8 below, you can see that the <i>COM Port</i> is okay, but all other requests failed. Possible reasons for this may be:	
<ul> <li>you have selected a wrong COM Port: change the COM Port in Hardware Setup</li> <li>you have selected a wrong Baud rate: change the Baud rate in Hardware Setup</li> <li>your sensor is not powered on or is defect.</li> </ul>	Old Firmware The plugin only supports firmware version 1.1.27 or higher. If your Microstrain® device has an older firmware you must update it.
Status     Retry       Com Port:     COM port is okay       Firmware Version:     timeout       ModelNo:     timeout       SerialNo:     timeout       Model Name:     timeout       Device Options:     timeout	Status     Retry       Com Port:     COM port is okay       Firmware Version:     WARNING: old firmware is not supported: 1.1.12       ModelNo:     6223-4220       SerialNo:     6223.01319       Model Name:     3DM-GX3-25       Device Options:     5g 300d/s
Illustration 8: Status request COM Port okay	Illustration 9: Status: Old Firmware
<b>Status okay</b> when everything is okay, the <i>Status box</i> should look like in Illustration 10 below.	

```
StatusRetryCom Port:COM port is okayFirmware Version:1214ModelNo:6223-4220SerialNo:6223.01319Model Name:3DM-GX3-25Device Options:5g 300d/s
```

Illustration 10: Status request okay

When your settings are okay (like in Illustration 10), you can close the *Hardware setup* and go to *Channel setup* (see 3.2 Channel setup.

# 3.1.3 Log files

The plugin will write log files during operation. The amount of log messages is configurable via the *Log level* drop down box in the *Hardware setup*. The name of the log-file is Microstrain\_3DM\_GX3.log.

When the plugin is started, it will immediately start to log to the windows temporary directory.

As soon as the DEWESoft<sup>TM</sup> application is available to the plugin, all subsequent logs will be written to the standard DEWESoft<sup>TM</sup> log directory (e.g. D:\DEWESoft7\System\V7 0\Logs).

Note: There is also a log file called Microstrain\_3DM\_GX3.dll.log in the Addons directory (see 2.4.1 Important DEWESoft<sup>TM</sup> 7 Directories). This will normally be empty. It will only contain messages when there is a bug very early in the plugin initialization.

#### 3.1.3.1 Log levels

With the log level drop down box you can set the detail level of the logging function.

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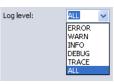
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If you set a high log level (e.g. *TRACE*, *ALL*) a lot of log messages will be written and the logfiles will roll over quite often. This is also dependent on the sample rate – the higher the sample rate is, the more often data will be fetched and thus more log messages will be written.

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For production-use the log level *INFO* is recommended.

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Log level	Description
Error	will only log error messages
Warn	will also log warning messages
Info	will also log info messages – this is <b>recommended</b> for production use
Debug	will also log debug messages
Trace	will also log trace messages: e.g. data that is received via the RS232 port.
All	will log all messages

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# 3.2 Channel setup

Go to Ch. setup (**1**) and click on the *Ms 3DM-GX3* (**2**)icon:

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	Acquisiti		Soft - Setup: MicrostrainDefa	ult.d7s		
Store	Save	Save as	s Storing Analog Counter	Math Ms 3DM-GX3		
	rate: 100 v Online V ıs]: 0	V Magneto	meter O rad	Realign		
ON/OFF			Description	Value	Unit	ZERO 🖹 🔺
Used	Store	Pitch	Pitch (Euler Angle)	-0.325		Zero 🔮
Used	Store	Roll	Roll (Euler Angle)	1.543	• 8	Zero 🛔
Used	Store	Yaw	Yaw (Euler Angle)	-74.613	•	Zero of
Used	Sore	Accel X	accelleration x	0.015	g	
Used	30re	Accel Y	accelleration y	0.011	g	
Used	Store	Accel Z	accelleration z	-2.000	g	
Unused		Ang rate X	angular rate x		°/s	
Used	Store	Ang rate Y	angular rate y	-0.057	°/s	
Used	Store	Ang rate Z	angular rate z	0.153	°/s	
Used	Store	Mag X	magnetometer x	3.258	G	
Used	Store	Mag Y	magnetometer y	-1.059	G	
Used	Store S	Mag Z	magnetometer z	2.732	G	
Used	Sone	M 1,1	orientation matrix 1,1	0.883		
Used	300e	M 1,2	orientation matrix 1,2	-0.964		
Used	Sore	M 1,3	orientation matrix 1,3	-0.026		
Used	Sone	M 2,1	orientation matrix 2,1	0.964		
Used	Store S	M 2,2	orientation matrix 2,2	-0.346		
Used	300E	M 2,3	orientation matrix 2,3	-0.016		
Used	Store S	M 3,1	orientation matrix 3,1	0.017		
Used	Store S	M 3,2	orientation matrix 3,2	0.000		
Used	pore	M 3,3	orientation matrix 3,3	1.000		
Used	Store S	Firmware version	the firmware version of the device	1.2.14		
Used	Store	Model number	the model number of the sensor	6223-4220		
Used	Store S	Serial number	the serial number of the sensor	6223.01319		
Used	300e	Model name	the model name of the sensor	3DM-GX3-25		
Used	Store S	Device options	the device options of the sensor	5g 300d/s		
Used	Store 9	Realign	Realign			

Illustration 11: Channel Setup

(1) Ch. Setup: to switch to Ch. setup mode

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(2) Ms 3DM-GX3: the channel setup section of the Ms 3DM-GX3® plugin

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(3) *Sample Rate:* rate at which the device will send the measurement data packets in *Measure Mode* see also 6 Continuous mode on page 14

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- (4) Show Online Values: If online values are shown in the Value column of the Setup grid Below you can see the delay time (see 5 Delay time on page 13) that can be configured in Hardware setup (3.1 Hardware Setup on page 5).
- (5) Magnetometer enabled: if this is deactivated the following channels will not show up: Mag X, Mag Y, Mag Z

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- (6) *Info channels enabled*: if this is deactivated the following channels will not show up: *Firmware version, Model number, Serial number, Model name, Device options* The info channels have static textual information from the device. The *Unit* column is not relevant for these channels. When these channels are activated, only one value per measurement will be stored in the data file. This can be very useful, because you can tell which hardware and firmware version has been used to create the data file.
- (7) *Realign*: when you press the **Realign** button *Up/North* realignment will be done: Realign time is 10s.
- (8) Angle unit: will affect the unit used for the channels: Pitch, Roll, Yaw, Ang rate X, Ang rate Y, Ang rate Z
- (9) Setup Grid: shows information about all channels of the plugin
  - ON/OFF: only channels that are set to Used will show up in Measure Mode and can be stored in DEWESoft<sup>TM</sup> data files.
     When you click on the header cell (labelled: 'ON/OFF') a pop-up menu will appear and you can set all channels to used/unused at once.
     For Used channels you can also deactivate the Store button. Then you can see and use the values of the button.

this channel in measure mode (and also e.g. in *Math* channels to do some calculations or data reduction), but the values of this channel will not be stored in the data file.

- *Color*: this colour will be used by the displays in *Measure Mode*. You can click on the colour to change it.
- Name: the name of the channel that will be used in Measure Mode. This can be changed by the user.
- *Description*: the name of the channel that will be used in *Measure Mode* This can be changed by the user.
- *Value*: the data value that has been read from the device (only available if *Show Online Values* is checked).
- Unit: the measurement unit of the channel
- ZERO: see 3.2.1 Zeroing below

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#### 3.2.1 Zeroing

Some input channels allow for mathematical zeroing:

	P	adisition	Analysis			i <b>p: Microstr</b> etup Meas		t.d7s					
Store	•	ave	Save as	File details	Storing	Analog	() Counter	Math	Ms 3DM-GX3				
☑ Shov Delay [m	v Onl ıs]: O	100 Hz ine Values	•	Channel activ Magnetom Info chann	eter	Angle () ra () *		Realign					
ON/OFF	: 📰	Color		Name	[	Description		V	alue	Unit	ZERO	Ξ	4
Used	900e		Pitch		Pitch (Euler Angle)				-0.282	•	Zero	Auto	
Used	900e		Roll		Roll (Euler A	(ngle)			•	Zero	Auto		
Used	Sore		Yaw		Yaw (Euler Angle)			170.503 °		•	Zero	Auto	
Used	900e		Accel X		accelleration	nx			0.015	g			
	0		Accel V		accelleration	n. v.			0.011	0			

Left-click the **Zero** button to activate zeroing, and the right-click to deactivate it (reset to the default input offset). When zeroing is already active (e.g. channel *Roll* in the illustration above) you can press the left mouse button again to calculate a new offset.

When you do the zeroing, some of the last samples will be used to calculate an average. This average is then used as offset of the channel values. The number of samples used for the average calculation is  $1/10^{\text{th}}$  of the sample rate: e.g. for 100Hz the last 10 samples will be used, for 100Hz, the last 100 samples will be used.

You can activate the auto-zero function by clicking on the **Auto** button. Then you can zero all those auto-channels at once by using the pop-up menu of the *ZERO* column (see below for details) or you can even do the zeroing during measurement (see also 4.1 Zeroing below).

When you click on the header row of the ZERO column, you can see the zeroing pop-up menu:

ZERO 🖹		Set AUTO fee all abanasia
Zero	Auto	Set AUTO for all channels Clear AUTO for all channels
Zero	Auto	Zero all AUTO channels
Zero	Auto	Reset all AUTO channels

Illustration 12: Zeroing pop-up menu

- **A** Set AUTO for all channels: will activate the **AUTO** button for all channels
- **A** Clear AUTO for all channels: will deactivate the **AUTO** button for all channels
- A Zero all AUTO channels: will perform zeroing on all AUTO-channels
- A Reset all AUTO channels: will clear the zeroing on all AUTO-channels

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When you save the channel setup, also the status of the **Zero** and **AUTO** buttons and the currently used offset will be saved (and also restored when you reload the channel setup later).

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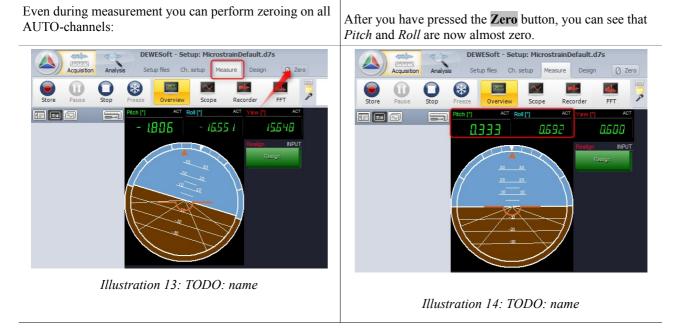
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### 4 Measurement

### 4.1 Zeroing

See also 3.2.1 Zeroing above.



# 4.2 Realign

During measurement you can use the Realign control channel to realign up and north.

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In Design mode, click on the CTRL icon to add a graphical control that can be used with control channels.



Illustration 15: Add control channel

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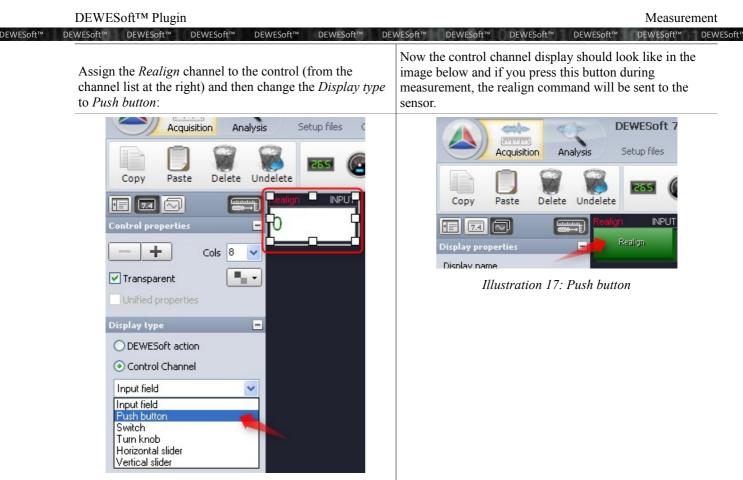


Illustration 16: Change display type

# 5 Delay time

There is of course a certain delay, between the real time when the measurement data is taken and when it is received in DEWESoft<sup>TM</sup>: e.g. because the device is doing some filtering, some calculations and also the transmission of the data to the PC takes some finite amount of time.

With the delay time you react to these time delays.

The following example shows 3 signals:

- A the green signal is a fast acceleration sensor (10kHz) that is physically attached to the Microstrain® sensor
- A the blue signal is the fast signal of a tuning fork (10kHz)

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**k** the red signal is the 'Accel Z' signal from the Microstrain® sensor (1kHz)

For the test the fast signals have been acquired via a DEWE-43 USB device. Then the Microstrain® sensor (with the fast acceleration sensor attached) has been hit with the tuning fork). In Illustration 18 below you can see that the delay between the fast sensor signal and the change of the slow Microstrain® signal is 1,4 ms in this case.

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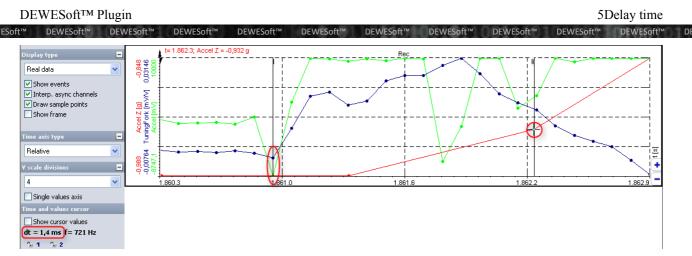


Illustration 18: No delay time set

When we now set a delay time of 10 ms in the Hardware setup (see 3.1 Hardware Setup on page 5), the Microstrain® signal will be shifted by 10 ms to the left on the time axis:

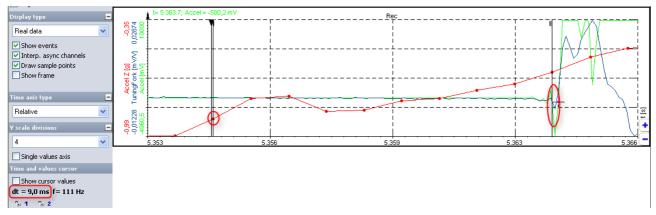


Illustration 19: 10ms delay time set

You can see that the red signal now even appears before the fast signals. There is absolutely no check if the value you enter for the delay is reasonable or not. It is up to the user to select a suitable value.

The delay may vary dependant on the interface (RS232/USB), the size of the data-packets and also on the host-PC (thus, it is not possible to have one fixed delay time).

# 6 Continuous mode

During the measurement the sensor will be switched to the so called Continuous mode, so that it will automatically send data in a periodic interval that can be configured via the sample rate.

The plugin currently supports 2 different continuous mode commands:

- & using Acceleration, Angular Rate & Magnetometer Vectors & Orientation Matrix see 0xCC
- A or Acceleration & Angular Rate (0xC2)

The plugin will automatically choose which of the 2 commands to use.

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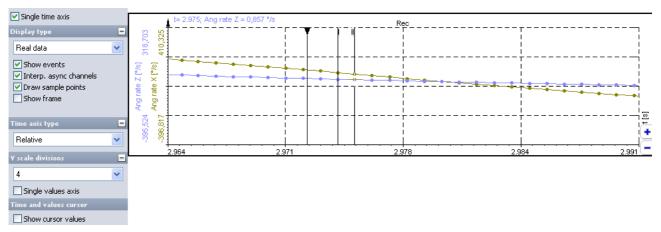
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If only *Acceleration* and *Angular Rate* channels are set to used (note: the information channels and the command channels are irrelevant) in the *Channel setup* (see 3.2 Channel setup on page 9), the command *Acceleration & Angular Rate (0xC2)* will be used. This command sends less data and thus also works reliable at the highest possible sample rate of 1kHz

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#### Illustration 20: 0xC2 command at 1kHz sample rate

If you activate any other measurement channel (e.g. *M1*, *3*) and use the highest sample rate of 1kHz, then you will see a warning in the *Channel setup* screen:

	میں تولیدیامیل cquisition		ESoft - Setup: autoload.d7 p files Ch. setup Measure	\$			
Store	Save	Save as	•••• •	ath Ms 3DM-GX3			
Sample rate:       1000 Hz       Channel activation:       Angle unit         Image: Show Online Values       Image: Mage to make the set of the set							
ON/OFF 🗮	Color	Name	Description	¥alue	Unit 🔼		
Used		Accel Z	accelleration z	-0,997	g		
Used		Ang rate X	angular rate x	-0,024	*/s		
Used		Ang rate Y	angular rate y	0,348	°/s		
Used		Ang rate Z	angular rate z	-0,148	*/s		
Unused		M 1,1	orientation matrix 1,1				
Unused		M 1,2	orientation matrix 1,2				
Used		M1,3	orientation matrix 1,3	-0,055			
Unused		M 2,1	orientation matrix 2,1				
Unused		M 2,2	orientation matrix 2,2				
Unused		M 2,3	orientation matrix 2,3				
Unused		M 3,1	orientation matrix 3,1				
Unused		M 3,2	orientation matrix 3,2				
Unused		М 3,3	orientation matrix 3,3				
Used		Firmware version	the firmware version of the devic	e 1.2.14			
Used		Model number	the model number of the sensor	6223-4220			
Used		Serial number	the serial number of the sensor	6223.01319			

Illustration 21: Channel setup warning

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If you ignore the warning and record the data, you will see that some samples are missing (see Illustration 22 below). This is not a problem of the plugin, but a limitation of the Microstrain® sensor.

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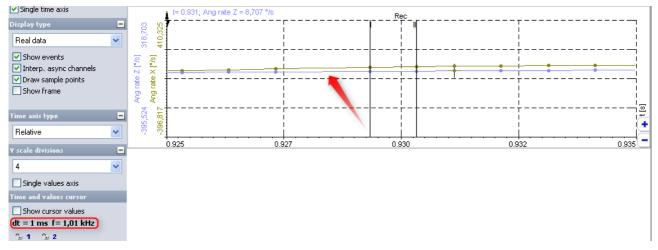


Illustration 22: Missing samples

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# 7 Version History

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# 7.1 Plugin Version

Plugin-Version	Date [dd.mm.yyy]	Notes
1.0.0	28.07.2011	initial revision
1.0.1	08.08.2011	<ul> <li>☑ SoftSync works now</li> <li>☑ fixed memory leak with unused channels</li> <li>☑ removed useless lot number</li> <li>☑ improved delay time when starting the measurement</li> <li>☑ OnStartStoring: changed logic to reset data</li> <li>☑ ExpectedAsyncRate of channels is now set to improve display in recorders</li> <li>☑ added control channel to realign up and north</li> <li>☑ realign time is now 10s</li> <li>☑ fixed problem in TCommunicationHandler.SendCommand()</li> <li>☑ improved handling of sensor-timer rollover</li> <li>☑ online values in display now use the DefaultRes for the number of decimal places</li> </ul>
1.0.2	10.08.2011	<ul> <li>information channels were not stored in the data file</li> <li>continuous mode now supports 0xCC and 0xC2 commands.</li> <li>setup-grid had problems when you scrolled down to the end and then deactivated some channels</li> <li>added delay time to hardware setup</li> <li>Magnetometer channels always were set to Used after activating Show Online Values</li> <li>using channel groups</li> </ul>
1.0.3	12.08.2011	<ul> <li>fixed problem when you had a new setup and increased the sample rate to e.g. 500Hz, only the last data buffer was stored (and displayed in the <i>Recorder</i> screen): now the <i>ExpectedAsyncRate</i> of all channels is also changed when you increase the sample rate</li> <li>added Store button to the ON/OFF column in Ch. Setup</li> </ul>
1.0.4	28/09/11	<ul> <li>☑ Zeroing for Roll, Pitch, Yaw</li> <li>☑ Delay: you can also use decimal places</li> </ul>

# 7.2 Documentation Version

Revision number: 39

Last modified: Wed 28 Sep 2011, 14:16

Doc-Version	Date [dd.mm.yyy]	Notes
1.0.0	28.07.2011	initial revision for plugin version 1.0.0
1.0.1	08.08.2011	<ul> <li>✓ updated screenshots to fit plugin version 1.0.1</li> <li>✓ added chapter "4 Measurement"</li> </ul>
1.0.2	10.08.2011	<ul> <li>✓ updated to plugin version 1.0.2</li> <li>✓ improved Licensing chapter</li> <li>✓ added chapter "5 Delay time"</li> <li>✓ added chapter "6 Continuous mode"</li> </ul>

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	DEWESoft™ Plug	7Version History		
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	Doc-Version	Date [dd.mm.yyy]	Notes	
	1.0.3	12.08.2011	<ul><li>improved Licensing chapter (again)</li><li>Store button: added some description and updated images</li></ul>	
	1.0.4	28/09/11	<ul><li>☑ updated to plugin version 1.0.4</li><li>☑ added description for zeroing</li></ul>	

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