

December 12, 2023 – xyztec bv

User manual

How to: Re-calibrate shear height clamp after firmware update

Rev 0



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Abstract

This manual shows the steps required for calibration the shear height clamp after the firmware update end of 2023.

This is to make sure the shear sensor can be used again and is clamped properly.



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Revision History

REV	DATE [YYYY/MM/DD]	CHANGED BY	CHANGES
0	2023/12/11	Daan Joosten	Creation



1 Problem description

After updating the Measurement Unit [MU] firmware to version 5.9.8717.46562 it is required to re-calibrate the shear sensors. If not re-calibrated shear sensors will remain disabled and cannot be used. The reason for this firmware update is improvements in the algorithm behind the shear height clamp settings.

2 After software update

When software is updated and started a message will be shown requesting a firmware update for MU.

The following items may be resolved	-		×
Current firmware version of the measurement unit is '5.9.6255.50952'. The software was originally shipped with version '5.9.8717.4656 The 'startup as xyztec user' option is enabled	2'. Cons	ider upg	rading
Select the items to resolve now Close			

Figure 1 - Firmware upgrade message

This "error" can be resolved in the information screen at tab "Messages and warnings". The error can be resolved by simply clicking the resolve button in front of the message.

Condor Sigma 5.17.23334.1-64 [Default operator]					×
	Resolvable erro	15			
		Description		<u> </u>	<u> </u>
	Resolve	Current firmware version of the measurement unit is '5.9.6255.50952'. The software was originally shipped with version '5.9.8717.46562'. Consider upgrading		Iĕ	"
	Resolve	The 'startup as systec user' option is enabled			
				-	
					5
					2
					2
CONCERNMENT OF THE OWNER					
SPC				ă	
				6	5
1.0				0	3
				4	2
Αυτο					
	Messanes list			Š	
	Time	Sev Error # Description			
	23-12-08 16:	4:17 Advice 100.17 1 Sensor (RotatingShear 100 gf (S/N 36000417) has last been calibrated at 02/09/2020. Calibration exceeded by 826 days			
► 9					

Make sure you are logged on an engineer or supervisor level otherwise an error will be shown that current user does not have sufficient rights.



Figure 2 - Unsufficient rights user



When the resolve button is pressed a message will show asking to wait until the update is successful.



Figure 3 - Wait for update to finish message

After clicking OK on this message another message is show that says the shear height calibration needs to be performed after restart of the software.

XYZIEC	Condorsigma	^
1	Shear clamp calibration required after measurement of update. Wait until the update is finished. Close the s start the software again. In the Information screen, re the sensor clamp current calibration messages to per clamp calibration. Press OK to continue.	unit oftware, esolve form

Figure 4 - Re-calibration shear height message before update

When OK is pressed on this message the update will start, showing a window like below. Wait until update is completed, after this window the update will resume on the background. This can be tracked by looking in the bottom left corner.





Figure 5 - Update progress



When update is completed the red resolve button in front of the message will turn green.



Figure 6 - Resolved message

Now the software can be restarted. After the software is loaded fully a message will show stating that all shear sensors need a new clamp calibration.



3 Re-calibration

The following items may be resolved	-		×
Shear sensor with serial number 27000069 requires a clamp calibration. Perform clamp calibration, otherwise the sens Shear sensor with serial number 36000417 requires a clamp calibration. Perform clamp calibration, otherwise the sens The 'startup as xyztec user' option is enabled	or cannot be or cannot be	used for used for	testing testing
elect the items to resolve now			

Close

Figure 7 - Message re-calibration shear clamp

Again, navigate to the "Messages and warnings" screen and resolve the messages one by one. When clicking the resolve button a new window opens with calibration settings. These settings are default and can be left. The image below shows settings for 1kgf sensor, other sensors can have different default settings.

4 Calibrate shear height clamp current			_		×			
Make sure the	touchdown sensor has been calib	orated!						
Sensor Name	RotatingShear 1kgf							
Body dependent Initial clamp current Max clamp current Current step Current safety margin Max difference touchdown sensor output Touchdown force limit	150 [mA] 800 [mA] 50 [mA] 100 [mA] 9 [AD Counts] 20.0 [%] (of max value)							
Other measurement parameters Landing speed Max distance Touchdown force limit	500 [µm/s] 2000 [µm] Requested 0.0000 [N] 0.00 [gf]	Realised 0.0000	[N]	0.00	[gf]			
Measurement unit Clemp encoder output Raw 0 Touchdown sensor output Raw 0 (AD Counts) 0								
Progress								
Run Abort Suggested clamp current	160 [mA]							

Figure 8 - Shear height calibration screen



Position the shear tool just above a fixed surface and click the "Run" button. Calibration will start, sensor will move down and up several times and clamp current will be increased automatically. When requirement result is OK a suggested clamp current is shown, this can be stored with the save button at the bottom of the shear clamp calibration screen. Note: if after the calibration the shear height is not OK, Please contact your local representative.





Figure 10 - Touchdown position

