## **396-4512Y1 - Sentinel ECU Programming Instructions**

This document explains everything related to updating the software on a Sentinel ECU. The first section explains how to install on your laptop the software necessary to perform the update. The last section explains the actual ECU software update procedure.

First, download the software from the links below. The first link is for the software used to prepare your laptop to load the Sentinel ECU Software. The second link goes to the page where the ECU Software can be found. All ECU Software versions are available. Locate the highest version (the current release version) and click to download it. The Sentinel software file will have a **.hex** extension. The third link is for the Peak (PCAN) driver. These files are located under the *Software Update* heading on the Sentinel page on the SurePoint support site.



Sentinel ECU Level 2 - 3CM



Sentinel ECU Level 1 - 3CS

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Download these to your laptop or to a USB Drive. Downloading to a USB drive may make it easier to locate the files you need.

- 1) https://support.surefireag.com/media/documents/SENTINEL\_ECU\_PROGRAMMING.zip
- 2) http://support.SurePointag.com/products/346 Go to **Software Update.** Be sure to select the software for the ECU you have (see pictures above).
- 3) https://support.surefireag.com/media/documents/PeakOemDrv.exe

#### Setting up the Update Software on your Laptop

#### First time installs

4) Install PeakOemDrv (Application) (should have this downloaded to USB or computer)

Sentinel_VT_L1_3CS_V131	9/7/2022 10:21 AM	Intel HEX binary d
Sentinel_VT_L2_3CM_V131_bUFNBzj	9/7/2022 10:21 AM	Intel HEX binary d
4 ReakOemDrv Double-click	9/7/2022 10:21 AM	Application
SENTINEL_ECU_PROGRAMMING	9/7/2022 10:14 AM	Compressed (zipp

- a.) Next
- b.) I accept the terms... Next
- c.) Next
- d.) Install
- e.) Finish



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#### Setting up the Update Software on your Laptop

- 5.) Extract the files from the Sentinel ECU Programming.zip file
  - a. Right click on Sentinel ECU Programming.zip file and select Extract All



#### b. Use the recommended folder or Browse to change. Extract

Select a Destination and Extract Files		
Files will be extracted to this folder:		
D:\SENTINEL_ECU_PROGRAMMING	b.	Browse
		Extract
Show extracted files when complete		

- 6.) Install Sentinel ECU Flash Utility
  - a.) Open Sentinel ECU Flash Utility Folder

USB Drive (D:) > SENTINEL\_ECU\_PROGRAMMING > Sentinel ECU Flash Utility

#### b.) Run Setup (Application)

Setup Right-click (Run as Administrator) Application

- *i*) Press **Yes** if a pop-up pops up.
- ii) Select Next
- iii) Press Next
- iv) Press Yes

v) Press Next

Your responses will essentially be *Next, Yes, or OK* for the typical installation.

You will need to type in *SurePointNet* in this step (see xiv.) and later in configuring WinFlash (page 4).

*vi)* Press *Next* (Typical)

vii) Make sure PEAK-System GmbH CAN Interface is selected. Press Next.

*viii)*Press **Yes** on popup

- ix) Press OK > Next xiii.) Verify PCAN USB > Next
- x) I agree to accept... Nextxiv.) Select name of CAN network >type in SurePointNet > Next.
- xi) English .... Next
- xii) Press Next > Next > Finish > OK XV.) OK

#### 7. Copy winflash.ini file

a. On the USB Drive or laptop open the ECU Programming Software file that you downloaded and unzipped. Right-click and copy the winflash (Configuration Settings) file.



Skip

Cancel

3

Winflash

Date created: 2/17/2021 10:20 AM

Continue

8.) Plug the CAN Module into the computer and let the drivers install (may take a minute or two). You should get a red light on the PEAK module.

- *a.* It will not look like the computer is doing much, but give it a minute to install the drivers. You may get a message in the bottom left corner that says Device Installed. If this message does not appear, proceed to the next step after a minute.
- b. Run WinFlash (application). Right-click on WinFlash (Application) and select Run as Administrator.

b winflash Right-click (Run as Administrator) 5/20/2016 4:06 PM Application i) Press Select in top right corner of the screen.    iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	OS (C:) > Program Files (x86) > STW > KEFEX Winflash > Winflash
<ul> <li>i) Press Select in top right corner of the screen.</li> </ul>	b System Right-click (Run as Administrator) 5/20/2016 4:06 PM Application
KEFEX WinFlash V1.19r0 [CONFIG1]       ×         File Actions Target Help       CommoLL: C:WINDDWS\system32\stwpeak2.dll       Image: Configure	i) Press <b>Select</b> in top right corner of the screen.
File Actions Target Help CommPDLL: C:\WINDOWS\system32\stwpeak2.dll Configure Select Hex File: C:\\STW Workspace\Vortex V_1_1_4\result\VortexController-3CM_VT.hex View Select Communication Setup Interface DLL: C:\WINDOWS\system32\stwpeak2.dll Signature DLL: C:\WINDOWS\system32\stwpeak2.dll Signature Setup Setup Setup Setup Setup Setup Setup Setup Setup Channel 0 (active) Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup Setup S	KEFEX WinFlash V1.19r0 [CONFIG1] - X
Comm-DLL: C:WINDOWS \system32 \stwpeak2.dll       Image: Configure is select         Hex File:       C\\STW WorkspaceWorkex V_1_1_4/resultWorkexController-3CM_VT.hex       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Communication Setup       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Image: Communication Setup       Image: Configure is select       Image: Configure is select       Image: Configure is select         Setup       Setup       Image: Configure is select       I	File Actions Target Help
Hex File:       C1\STW Workspace\Vortex V_1_1_4\result\VortexController-3CM_VT.hex       Iver       Iver<	Comm-DLL: C:\WINDOWS\system32\stwpeak2.dll
Interface       ii) Press the top Configure button.         III:       C:\WINDOWS\system32\stwpeak2.dll         III:       III:         III:       C:\WINDOWS\system32\stwpeak2.dll         III:       IIII:         III:       C:\WINDOWS\system32\stwpeak2.dll         III:       IIII:         III:       C:\WINDOWS\system32\stwpeak2.dll         III:       IIII:         III:       C:\WINDOWS\system32\stwpeak2.dll         III:       C:\WINDOWS\stwpeak2.dll         III:	Hex File: C:\\STW Workspace\Vortex V_1_1_4\result\VortexController-3CM_VT.hex
CAN Setup stwpeak2.dll DLL-Version: V1.20r2       ×         Channel 0 (active)       *         Network       *         Bitrate kBit/s       *         125       *         Create Network       *         Create network :       *         SurePointNet       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       *         *       * <tr< th=""><th>Communication Setup Interface DLL: C:\WINDOWS\system32\stwpeak2.dll DLL Info Configure ii</th></tr<>	Communication Setup Interface DLL: C:\WINDOWS\system32\stwpeak2.dll DLL Info Configure ii
Create Network       ×         Create Network :       SurePointNet         On interface:       v)         V       Verify Device listed (PCAN-USB) in the On Interface her	CAN Setup stwpeak2.dll DLL-Version: V1.20r2 × Channel 0 (active) Setup Network TestNet Create iii Bitrate kBit/s 125 ~ Handle Busoff automatically Sending Retry sending on busoff Retry timeout: 10 ms
vi vi) Press OK.	Create Network       SurePointNet       iv         Create network :       SurePointNet       iv         On interface:       v       v         IG: PCAN-USB       V       V         VI       Verify Device listed (PCAN-USB) in the On Interface box.         vi       Vi       Verify Device listed (VCAN-USB) in the On Interface box.         vi       Verify Device listed (VCAN-USB) in the On Interface box.         vi       Verify Device listed (VCAN-USB) in the On Interface box.

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vii) Press OK

#### viii) Set *Bit Rate* = 1000

- ix) Press OK to go back to Setup
- x) Press OK to go back to Main Screen
- c.) Set up the new Software Version file
  - i) Press 2nd-from-top **Select** on Hex File line.
  - ii) Find the Sentinel HEX file on the USB drive or the folder on your computer.
  - iii) Press OK or OPEN to select the HEX file.

В	itrate kBit/s	
	1000	$\sim$
	100	~
1	125	
	200 viii	-
1.0	250	N N
	400	Q
	500	
	800	
	1000	$\sim$

KEFEX WinFlash V1.19r0 [CONFIG1] File Actions Target Help		×	
Comm-DLL: C:\WINDOWS\system32\stwpeak2.dll			
Hex File: D:\Sentinel_VT_L2_3CM_V131_bUFNBzi.hex Latest Sentinel software Q View Select i			
	Configuration: CONFIG1	Flash Parameters   Communication   Local ID:   0   Company ID:   Send ID:   81   29Bit ID   Bitrate:   1000   kBit/s   Type of Hex File   Automatic	

#### iv) Press Exit.

The computer should be set up.

See Updating the Sentinel ECU on the next page.



# Updating the Sentinel ECU

1.) Make sure that the PCAN programming adapter is plugged into the USB on your computer.



2.) Be sure the Sentinel ECU is powered on (2 green lights by harness connector).

3.) Find the **Program** Connector on the ECU Harness. It is a 4-pin Deutsch connector. Connect the programming adapter cable (212-02-3579Y1) between the PCAN USB adapter and **Program** connector on the ECU Harness



4.) Run *WinFlash App* on the laptop. (Type WinFlash in the search box to find)





5.) Verify or select correct Hex File. This file should be the latest Sentinel ECU software from the SurePoint website.

SEFEX WinFlash V1.19r0 [CONFIG1] File Actions Target Help		– 🗆 X	]
Comm-DLL: C:\WINDDWS\system32\stwpeak2.	dli	Configure Bri Select	
Hex File: C:\Users\kmorgan\Downloads\S III Resetting node III Connected to node 0 Flashloader protocol version: V3.06r0 Block based checksums supported by this node Number of Flash sectors: 20 Device ID: '7_ESX3CM' ID check: scanning hex file for ID ID check: match	Configuration: CONFIG1 ~ Search Nodes	bUFNBzi,hex     Image: Select     5       Flash Parameters     Advanced Parameters       Communication       Local ID:       0       Company ID:       SFR	
Changing hex record length to the maximum supported by the node (255) Sectors to erase: 3 4 5 6 7 8 Erasing sector 8 Total erase time: 26 s Recording username 'kmorgan' on node. Filesize 4170/3888/ytes Timestamp 09.09 2022 09:57:44	Configure Node	Send ID: 81 298it ID Bitrate: 1000 kBit/s 6	6.) Verify <i>Bitrate</i> is <i>1000</i> .
Line 200 / 5862 Byte 70636 / 1482872 at 21.85kB/s Flashing finished.	Flash Node	Automatic	(.) Pless <b>Flash Node</b>

8.) Should see **Resetting Node > Erasing Sectors > various Programming Information.** 

Flashing finished	Flash process will take a minute or two. Wait
Please select	9.) Press <b>OK</b> at the end to <b>Start program</b>
Start program	10.) Bottom line of flash update should say <i>Flashing finished.</i>
O Do not start (stay in sleep mode)	11.) Press <i>Exit</i> , then press <i>OK</i> on screen that pops up.
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The next step will reset the Sentinel to Default Settings. This will delete anything you have set up in the Sentinel. If necessary, take some pictures of the Sentinel setup screens before restoring Default Settings. (Not necessary for all updates, depends on versions from/to.)

12.) On the Sentinel screen restore the system to **Default Settings.** Press (a) Sure(Fire)Point Logo icon > press on (b) Sunburst > Auxiliary Settings Screen > (c) **Default Settings. OK** 





## **Other Sentinel Resources**

Sentinel support site https://support.surepointag.com/products/346

- Product Manuals
- ECU Software Update
- Videos
- Harness Drawings
- Support Bulletins

## 396-4035Y1 Sentinel Liquid Row Monitor and Rate Control Manual

## **396-5477Y1 Sentinel Row Control Manual**

- 396-4953Y1 Manual for PumpRight System using Sentinel Rate Control
- 396-4954Y1 Manual for Tower System using Sentinel Rate Control

<u>SurePoint Liquid Applications on the web</u> https://support.surefireag.com/product\_categories/17

- 396-4608Y1 Gen3 LiquiShift Manual
- 396-4034Y1 PumpRight Pump Manual

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