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WINDOWS, MAC

Driver

The ignition uses a CH340 chip which is a Serial to USB converter. This IC needs a driver. Download **CH340G** driver.

Windows:	http://www.arduined.eu/tag/windows-7/
Mac:	https://github.com/wemos/ch340_driver

or on the Chip Manufacturer site

http://www.wch-ic.com/download/CH341SER_EXE.html

Install CH340G driver as "Administrator"

🛃 DriverSetup(X64)	– 🗆 X	👼 DriverSetup(X64)	– 🗆 X
Device Driver Select INF	Install / UnInstall	Device Driver Install / UnIn Select INF CHAMISED INF	stall
INSTALL	WCH.CN USB-SERIAL CH340	INSTAL	×
UNINSTALL	08/08/2014, 3.4.2014	UNINSTA Driver install su	ICCESS! 3.4.2014
HELP		HELP	ок

Restart the computer.

Head over to the "*Device Manager*" go down to "*Ports*" open that up. Plug in the ACCDI v10 or TCI v10 via USB connector, you should ear a bell sound, the ignition device pop up into "*Ports*" section.

Now you ready to go.

Moniteurs	Propriétés de : USB-SERIAL CH340 (COM18)	
⊳ 🚛 Ordinateur		
Périphériques d'interface utilisateur	Général Paramètres du port Pilote Détails	
Périphériques système		
Ports (COM et LPT)	USB-SERIAL CH340 (COM18)	
Port de communication (COM1)		
Port imprimante FCP (LPT1)		
	Foumisseur du pliote : wch.cn	
	Date du pilote : 08/08/2014	
Processeurs	Version du pilote : 3 4 2014 8	
Souris et autres peripheriques de pointa		
	Signataire numérique : Microsoft Windows Hardware Compatibility	
	Détails du pilote	
	Mettro à jaur la silato	
	USB-SERIAL CH340 (CON(18)	
	Version precedente	
	C:\Windows\System32\Drivers\CH341S64.SY	S
	Désactiver Désactiver Désactiver	

A) if another Windows driver is in there then right-clic, select "*Update driver*", find the downloaded driver for CH340-CH341, unzip it and install it.

B) If Windows does not recognize the device and doesn't show it,
 it may appear in "*Other devices*" or in "*Serial Bus Controler*" folder with a exclamation mark.
 Check what you see there before and after you connected the device.



Restart the computer, if the driver still appear with a exclamation mark, then right-clic on the driver, read the information in the status bar.

C) Right-clic on the driver, clic "*Update driver*", find the downloaded driver for CH340-CH341, unzip it and install it.

C) If the device in not shown in "*Port (COM&LPT)*", "*Other devices*" or "*Serial Bus Controler*" folders then restart the computer, try another USB port or data cable.

D) Clic on CH340G driver, choose "Uninstall".

Try to connect the ignition box to the computer before installing the driver again.

E) I like to use <u>USBDeview from Nir Sofer</u> to have more information on USB devices connected to my PC.

COM Port

Open "Device Manager". Under "Ports (COM&LPT)" you should notice a new COM-port.

Note the number.

🚓 Gestionnaire de peripheriques
Fichier Action Affichage ?
🔺 🚔 Thierry-HP
Appareils mobiles
D States graphiques
Cartes réseau
Demo Claviers
Contrôleurs audio, vidéo et jeu
Contrôleurs de bus USB
Contrôleurs IDE ATA/ATAPI
Eccteurs de disque
Lecteurs de DVD/CD-ROM
D- Moniteurs
Diale Ordinateur
Peripheriques d'interrace utilisateur
Perprendues systeme Ports (COM et LPT)
Port de communication (COM1)
Port imprimante ECP (LPT1)
USB-SERIAL CH340 (COM16)
Processeurs
Souris et autres périphériques de pointage

Terminal

Launch a terminal on your PC (I recommend **CoolTerm** <u>http://freeware.the-meiers.org</u>) But <u>Putty</u> or <u>Kitty</u>, <u>Teraterm</u> are useable too...

Go to Options > Serial Port, Setup the terminal to 115200.N.8.1



Select the **COM-port** you have noted above.

🛷 Untitled_0								
File Edit Co	nnectio	on View V	Vindow He	lp				
New Open	H Save	Connect	Disconnect	Clear Data	Options	HEX View Hex	? Help	
· ·	Con	nection Ontic	ons (Untitled	0)				
		needon opa	Sils (ondice	_0)				
		Serial Port		Serial Port Op	otions			
		Receive		Port:	COM1		-	
		Transmit Miscellaneo	us	Baudrate:	COM1 COM16	5		
				Data Bits:	8		•	
				Parity:	none		•	
				Stop Bits:	1		•	
				Flow Control:	СТ5			
					DTR			
					XON			
				Software S	upported Fl	low Control		
				🔽 Block Keys	trokes while	e flow is halte	d	
				Initial Line Sta	ates when P	ort opens:		
				OTR On	O DTF	R Off		
				RTS On	© RTS	Off		
F								
Smart Switch					Re-Scan	Serial Ports		
						Cancel		
						Cancer		

Under **Options > Terminal** check *Line Mode, Enter Key Emulation, local Echo* and *Format TAB >* **OK**.

File Edit Connection View Window Help	
New Open Save Connect Disconnect	Clear Data
	Connection Options (ESP8266_COM6.stc)
	Serial Port Terminal Receive Tansmit Miscellaneous Terminal Mode: Image: Im

Save this configuration

Connection

Click on "Connect" button



ACCDI v10 or TCI v10 banner is displayed:



After being powered on, the ignition box waits <u>15 seconds</u> to let you connect the communication software. A blue led inside the CDI/TCI blinks 1 time per second.

Launch the Terminal console (CoolTerm, Putty) during those 15 seconds.

If you connect the Terminal <u>after</u> the countdown is finished then press ? (*question mark key*) at any time to display the Menu.

ANDROID

You can use an Android phone too.

OTG capable phone and cable





Use a Male-Male USB OTG connector.

MicroType B on Ignition side, micro-USB Type B or type-C depending on your phone

I'm using this one

Terminal Android App

Then install this <u>Serial USB Terminal by Kai Morich</u> App on the phone.

Adjust Settings :



Connect the phone to the ignition box with the OTG cable.

Serial USB Terminal App should detect the USB device and starts automatically

Connect the App:



See <u>video</u>

10:26			'''II 🖄	; 89 '
≡ Te	rminal			:
104^I0 108^I0 112^I50 116^I0 120^I3 124^I0				
pickup Position pickup Type dwelL duration Setup timing Modify data AutoSpark Mode Bypass advance console Output Read eprom Write and save Clear eprom dUmp eprom about Version Quit setting Help Syntax	BTDC: P : T : L : S : M : A : B : 0 : R : W : C : U : V : Q : ?	<pre>Syntax:</pre>	2:NP)>	(@112) (@108) (@120) (@104) (@126) (@124)
[000]:F4 01 00 [016]:B8 0B 00 [032]:00 00 00 [048]:00 00 00 [064]:00 00 00 [080]:00 00 00 [096]:00 00 00 [112]:32 00 00	00 05 00 00 28 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 E8 03 00 00 05 00 00 40 1F 00 00 1E 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00 00
pickup Position pickup Type dwelL duration Setup timing Modify data AutoSpark Mode Bypass advance console Output Read eprom Write and save Clear eprom dUmp eprom about Version Quit setting Help Syntax	BTDC: P : T : L : S : M : A : B : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0	<pre>Syntax:</pre>	2:NP)>	(@112) (@108) (@120) (@104) (@126) (@124)
U				

V10R3C7

Menu

When the countdown is done or ? key has been entered, the Setup MENU is displayed:

Battery : 0.95volts Console detected, goto Programming Mode! _____ Startup Times : 38 Pickup Position : 50 ----- Syntax: ----pickup Position BTDC: P <deg BTDC>
pickup Type : T <value (0:Auto,1:PN,2:NP)>
dwelL duration : L <1 to 10ms>
Setup timing : S <rpm> <degrees>
Modify data : M <line> <new value>
buteSpeek Mede : D AutoSpark Mode:A Bypass advance:B console Output:O O :I Read eprom : R Write and save : W Clear eprom : С dUmp eprom : U about Version . . v : Q Quit setting Help Syntax : ? _____

Setup

Assuming you want this ignition timing:



One can define the curve with 4 points but you can use up to 13 points.

(0 to 500rpm at 0° BTDC is hard coded for no kickback.)

```
Console detected, goto Programing Mode!
-----
Startup Times
                     : 1
Pickup Position : 0
Load Coil duration: 0
----- Syntax: -----
pickup Position BTDC: P <deg BTDC>
pickup Position Bibt: P (deg Bibt)

pickup Type : T <value (0:Auto,1:PN,2:NP)>

dwelL duration : L <1 to 10ms>

Setup timing : S <rpm> <degrees>

Modify data : M <line> <new value>

AutoSpark Mode : A <value (0:off,1:on)>

Bypass advance : B <value (0:off,1:on)>

console Output : O <value> (0:no, 1:yes)

Read eprom
Read eprom
                          : R
Write and save
                          : W
Clear eprom
                          :
                               С
dUmp eprom
                          : U
about Version
                          : V
Quit setting
                          : Q
Help Syntax
                          : ?
_____
```

Ρ	50		capital P <space> 50 <enter></enter></space>
		Pickup Position: 50 deg BTDC.	
L	3		capital L <space> 3 <enter></enter></space>
		Load Coil Duration(ms): 3	
S	500 5		capital S <space> 500 <space> 5 <enter></enter></space></space>
		@1 500rpm = 5deg.	
S	1000 5		
		@9 1000rpm = 5deg.	
S	4000 30		
		@17 4000rpm = 30deg.	
S	7000 35		
		025 7000rpm = 35deg.	

R

capital R <ENTER>

<line><value></value></line>

0 500 <= 5° btdc @ 500rpm 4 5 8 1000 5 12 16 4000 <= 30° btdc @ 4000rpm 20 30 <= 35° btdc @ 7000rpm 24 7000 28<mark>35</mark> 32 0 . . . 104 0 0 108 50 112 0 116 ----- Syntax: -----W capital W <ENTER> <= Setup are ONLY written once you enter W key Saved. capital Q <ENTER> 0

Quit.

Ignition box is now rebooting...

Disconnect the Terminal software and unplug the USB cable.

Modification [M]

If you want to modify the advance timing for 7000rpm and set 34° instead of 35° at line 28:

M 28 34 capital M <space> 28 <space> 34 <ENTER> <Line><new value> Modify Line:28 with new value:34 R 500 0 5 4 1000 8 5 12 16 4000 30 20 24 7000 <= 34° btdc @ 7000rpm 28 **34** 32 0 W Saved.

Q Quit.

Ignition box is now rebooting...

Disconnect Terminal software and unplug the USB cable.

Dump [U]

Read EEPROM addresses 000 to 127 and display them in HEX values

 [000]:F4
 01
 00
 05
 00
 00
 E8
 03
 00
 05
 00
 00
 00

 [016]:B8
 0B
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 17
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 1E
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 [032]:00
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AutoSpark [A]

Default: A = 0

This **autotest function** is only usable with TCI. TCI sends sparks at 3000rpm WITHOUT any pickup connected.

This way you can test the wiring, the TCI, the coil and sparkplug.

			-	-			
ab	out	; Version	:	v			
Qu	lit	setting	:	Q			
He	lp	Syntax	:	?			
					 	-	
A	1						
	CC	M6 / 115200 8-N-1					
	Co	nnected 00:36:54					
7	1					ital A canadaa 1 cENITER	
А	T				cap	ilai A Space> I Senter	1

AutoSpark Mode : 1

W Saved.

Bypass [B]

Default: B = 0

This function bypass the advance timing and trigger a spark AS SOON AS a pickup pulse has been detected.

This function comes handy when you want to know the pickup position with a Timing Lamp : Remove the sparkplug out of the engine and connect it to the metal frame then rotate the engine with a drill machine.

With points and mechanical advance system, TCI is acting as a simple Transistorized Ignition.

/!\ Don't use the function on a running engine with pickups or hall sensors otherwise the spark will append way too soon and can harm the piston !!

B 1 capital B <space> 1 <ENTER> Bypass Mode : 1 W Saved.

Console [C]

Default: C = 0

USB terminal can display the RPM and calculated timing of the engine. Turn console ON:

C 1 capital C <space> 1 <ENTER>

Console Output : 1

W Saved.

Restricted Mode

This function create a temporary rev-limiter that restrict the engine to 3600rpm max.

It is useful for 50cc bikes to seem to be « *Street legal* » in countries where there are limited to 50km/h... ;-)

To enter in this restricted mode :

- Turn on the master ignition key.
- Start the bike
- Flip the Kill switch ON then OFF once during the first 30seconds.
- Engine is now limited to 3600rpm until you stop the engine.

After 30 seconds, the Kill switch acts normally.

EEPROM content

	Address		Address
RPM N°1	0	ADVANCE N°1	4
RPM N°2	8	ADVANCE N°2	12
RPM N°3	16	ADVANCE N°3	20
RPM N°4	24	ADVANCE N°4	28
RPM N°5	32	ADVANCE N°5	36
RPM N°6	40	ADVANCE N°6	44
RPM N°7	48	ADVANCE N°7	52
RPM N°8	56	ADVANCE N°8	60
RPM N°9	64	ADVANCE N°9	68
RPM N°10	72	ADVANCE N°10	76
RPM N°11	80	ADVANCE N°11	84
RPM N°12	88	ADVANCE N°12	92
RPM N°13	96	ADVANCE N°13	100

AutoSpark	104
Pickup Type	108
Pickup Position	112
Dwell type (TCI)	116
Load duration (TCI)	120
Console	124
Bypass	126

Console during Running mode

While the Ignition box is connected via USB to a PC and the countdown is displayed, power the box ON with a +12Vdc power supply.

At the end of the countdown, the box will detect the battery and restart in running mode.

Display setup menu in: 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 Battery : 12.36volts Battery detected, Restart in running mode...

<glibberrish...>

Battery : 12.38volts Load Eprom. Startup Times : 3 Pickup Position : 50 Load Coil duration: 3 -----Pickup Type : AUTO Waiting for Pickup...

Crank the engine

Detected Type: NP Ready to race!

<u>Auto detection mode cannot be 100% reliable</u>, especially when the pickup signal is weak! I hardly recommend to hard setup the *pickup Type* once for all by typing: **T** 1 or **T** 2 accordingly.