

Le royaume d'éole

Mach3 plugin for Huanyang VFD

[Une version française est disponible](#)

[Download vfdPlugin-1.7.1](#)

If you uses the plugin, do not hesitate to donate! it will help me to pay web server and domain name to keep it free...many thanks.



Mach3 software has been selected to control milling machine. Going further, I also chose to control the spindle with a Huanyang VFD. The problem is that those VFD ar not fully compliant with the modbus protocol. So As a specific driver was needed, i first looked over the net.

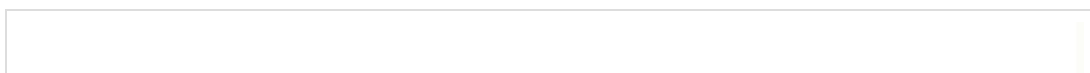
The 'famous' Huanyang VFD controller plugin

Anyone who wanted to control this chinese VFD began to use this [plugin](#)

So after buying the RS485 adapter on ebay, after tests, tests and other tests, I found that the plugin worked, but not as I wanted. I discovered several problems:

- Does not support the pulley system (RF45 has a 6 speed gearbox!)
- Designed specifically for spindles at 3000rpm at 50Hz
- User DRO required to monitor the rpm

To summarize the problems, this driver is pretty good for people who have a spindle that looks like this:





on my side, the need is different. The spindle is not running by default at 3000rpm @ 50hz. My mill also have a gearbox. So despite hours and hours trying to configure the plugin, i failed. I was unable to have the right RPM. Then I checked the internal structure of the plugin and that's how i discovered that this plugin was designed only for chinese spindle or whatever motor running à 3000rpm@50hz. That's why i decided to build my own driver.

My own driver

features:

- Start/stop of the spindle
- CW (clockWise) and CCW (counter ClockWise) management
- RPM monitoring through system DRO(39), no need to modify screen set
- Takes into account the rated frequency (pd004) and rated speed declared in the drive (PD144). Thus, the driver will be able to handle any kind of motor, not just those that run at 3000rpm @ 50hz .. You just need to configure your VFD on the right way.
- Can Manage the pulley system. If we set the option, the calculation of the RPM will be done using ratio declared in Mach3. Indeed, the first driver is specific to chinese spindle, the pulley system was useless. But on my RF45 or other machine with a gearbox, spindle speed depends on the gear ... But it is the speed of tool that interests us, not the motor ...
- If the spindle stops (eg you press the stop button on the VFD), it causes an emergency stop in Mach3 disabled because of many noise problem
- Monitor one or more Vfd status variable (out frequency,current,speed,ac or dc voltage) by mapping them to user DRO.
- Define some limits for those status variable. A Estop will be triggered as soon as the limit has been reached. For example, you could define a limit to 10A for the current. If the plugin detects that current is 10.1A then an Estop will occur. it's an easy way to protect your VFD

Depending of the interest for this plugin, i'll maybe add some extra features.

Prerequisites

You will need:

- Mach3 in version 3.0 or greater (working with 2.62 but without rpm monitoring)
- [VC++ 2008 redistribuables \(to download and install\)](#)
- a Huanyang VFD with the RS485 cheap
- a RS485 adapter. I found mine on ebay, for less than 5 euros. Here a photo of mine:



For people having problems with the adapter driver, here a link to download the ones i used.

[PL2303 Prolific Driver v1417](#)

The Rs485 adapter wiring

I was asked about the wiring between the rs485 and the VFD....so here it is (click on the picture for full size)



Download

Warning: this plugin is provided as it without any kind of warranty...use it at your own risk...

You can download the plugin here:[Download vfdPlugin-1.7.1](#)

Installation

The plugin installation is simple. Copy dll file in the folder 'Plugins' for your installation Mach3. For example, for installation in 'C:\Mach3', just copy the file in 'C:\Mach3\PlugIns'.

VFD Configuration

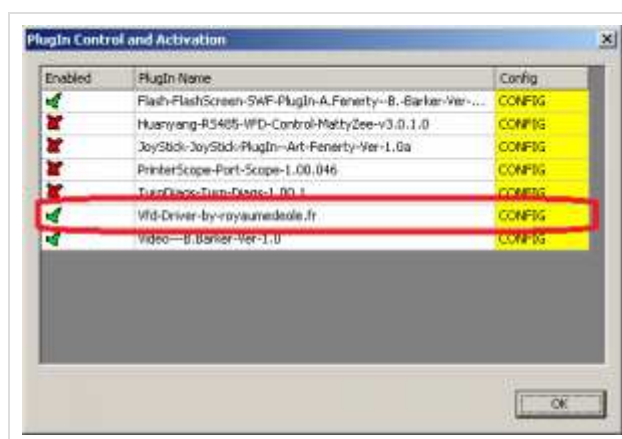
Here, I do not go into details, I just give the values to enter in the VFD

Parameter	Value	Description
PD001	02	Enable commands on port rs485
PD002	02	Enable speed control on port rs485
PD004	depending on motor (mainly 50hz or 60hz)	The rate frequency of your motor (see motor plate)
PD023	01	Enable reverse rotation (only if you want to run CCW)
PD144	depending on motor	Rated speed of the motor at rated frequency (see motor plate)
PD163	1	Vfd address (here 1)
PD164	1	Line Speed(1 for 9600 bauds)
PD165	3	Transfert mode (here 8N1 RTU)

Mach3 Configuration

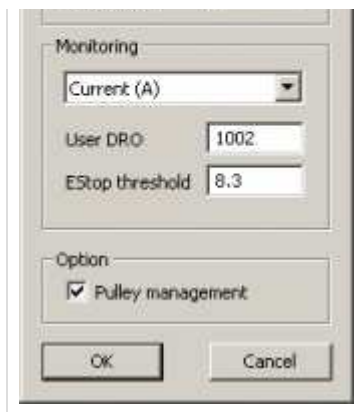
Open popup plugins (Setup Menu and Config plugins).

You should have a screen like this.



Activate the plugin, then press the Setup button. the popup appears:





In principle, you should only have to change the COM port number in communication group box.

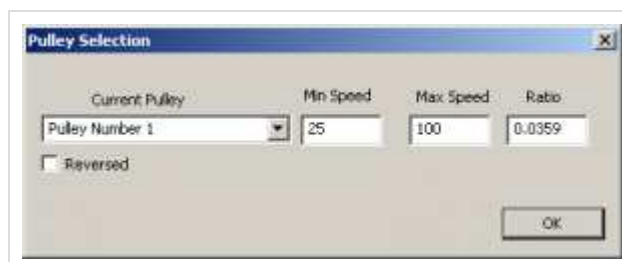
The monitoring group allows you map some internal vfd status variable with custom DRO. the combobox contains variables you can monitor. Choose one in the list then fill the dro you want to use. For example, if you want the current to be in user DRO 1002, simply choose the variable 'current' in drop list and fill the edit user dro with 1002. If you leave this field blank or with value zero, then the variable will not be extracted from vfd.

The 'Estop threshold' input allows you to specify an upper limit to this variable. A mach3 Estop will be triggered as soon as the variable overs the limit. For example, if you want the current not to over 8.3A, then type 8.3 in the edit box. When milling, if for some reason the current raise to 9A, then an Estop will be triggered... It's a simple way to protect your vfd. If you leave the field blank or fill it with zero, then this fonctionnality will not be enabled.

The « pulley management » allows to take into account the Mach3 pulley system. Warning: There is a small limitation in this feature. The idea here is to work with the tool speed , not the motor speed. Indeed, it is what interests us and not the motor speed. For example, on my machine, the first gear have a ratio of 0.0359. So I configured the first Mach3 pulley with that ratio. Specifying min and max in addition, it keeps me from doing stupid things ..

Finally the « Rated Frequency » allows to disable the automatic rated frequency detection by overriding it.

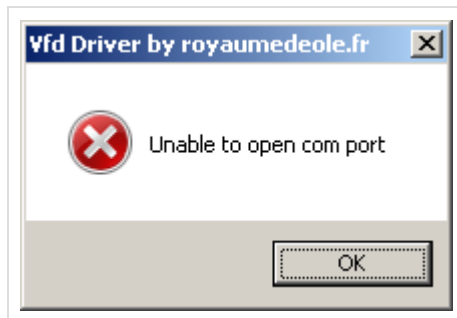
Thus, for people working with chinese spindle, you need to enter 50 in the editbox



Once the configuration is complete, click OK. The plugin will then try to contact the VFD to extract the rated speed (pd144) of your spindle. This feature is the most significant difference btween mattyzee plugin and this one. By reading this parameter, the plugin

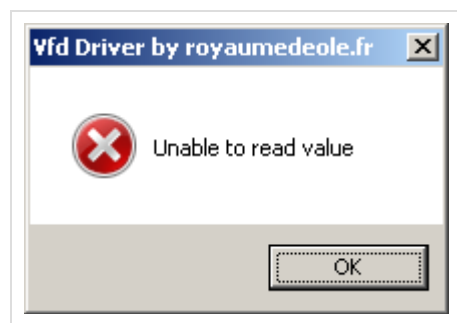
computes the ratio frequency / rotation for your engine. Within the plugin MattyZee, this ratio is fixed. That's why it works with Chinese spindle, but not with other motors

If you get the following error:



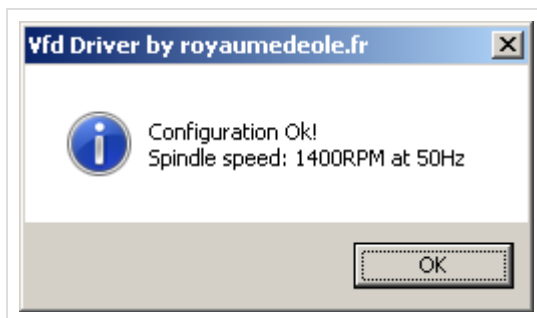
The problem comes from your RS485 adapter. Is it a good port number? is active? ..

If instead you get the message:



Either the wire is not properly connected (inversion?) Or the VFD is misconfigured, or your adapter does not work.

Finally, with a bit of luck, if you see the message:



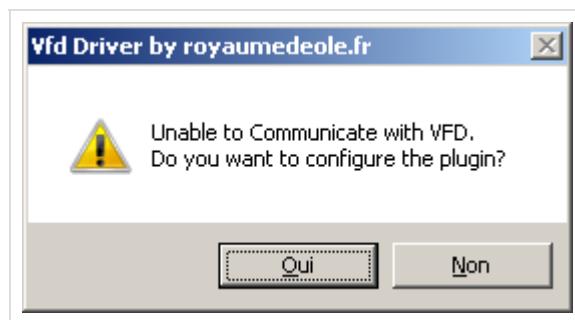
then it means that the plugin successfully communicates with Mach3 and VFD. the popup gives you the speed of your engine as configured in the VFD. You can now try to run your spindle.

Limitations

I didn't manage to load pulley ratios other than at application startup. So if you need to change the pulley ratios, then think to restart Mach3

Checks at startup

Once the plugin is activated, it will be activated the next time Mach3. It is possible in case of problem you see the following message appear. Also, a common reason is that the VFD is not started or the adapter is not connected. This window offers go to the plugin configuration to fix everything.



A small demo

If you uses the plugin, do not hesitate to donate! it will help me to pay web server and domain name t...to keep it free! many thanks.



96 RÉFLEXIONS AU SUJET DE « MACH3 PLUGIN FOR HUANYANG VFD »



Le 3 décembre 2012 à 0 h 27 min,
Gene Collier, Santa Fe, Texas
a dit :

How did you run your wires from the RS485 adaptor to the Huanyang VFD?
Thanks in advance for the plug-in and the help.



Le **9 décembre 2012 à 20 h 22 min**,
sh3nr0n1t4
a dit :

I have updated the article with a picture showing the wiring between the VFD and the adapter



Le **28 janvier 2013 à 23 h 24 min**,
Claudio Tosolini
a dit :

-Bonjour, je suis en train de le faire, mais le pc ne me reconnaît pas l'adaptateur RS485.
Je l'ai acheté sur ebay comme vous me le montrer ici, mais apporté aucun driver.
Je le fais maintenant, vous pouvez obtenir le driver?
-Hello, I'm trying to do this but the pc does not recognize me the RS485 adapter. I
bought it on ebay as you show me here but brought no driver.
I do now, you can get the driver?
-Hola, estoy tratando de hacer esto pero la pc no me reconoce el RS485 adapter. Lo
compre por ebay como me indicas aquí pero no trajo ningún driver.
Que hago ahora, se puede conseguir el driver?

Gracias



Le **18 février 2013 à 16 h 41 min**,
Dmitriy
a dit :

What is Spindle setup in ports and pins?

i have a problem with your plugin((its connects normaly, start spinning spindle and
gets e-stop from VFD immediately after start and become uncontrollable. i cant
change speed and cant stop spindle from Mach3



Le **18 février 2013 à 19 h 55 min**,



sebastien
a dit :

Hello Dmitriy,

You get an E-stop because of protection mechanism.

You may be facing a bug, so i need more information to help you.

one thing you can do is to check with the last Mach3 version (3.46 i think)

If your still facing the problem, send me your mach3 version, your mach3 configuration file and values you modified in your VFD configuration (do not worry about values you do not have modified). Send it to sebastien@royaumedeoie.fr and we will understand and solve the problem

A last point, be sure to have download the last version which is 1.5.1 ...I fixed a bug this week end dealing with speed modification.

Regards



Le 20 février 2013 à 20 h 50 min,
mig
a dit :

The plugin works perfectly.

Mach3 was blocked sometimes, but was solved with shielded cable to the motor, shielded cable from USB-RS485 to the VFD and an EMI filter on the power input of the VFD.

Thanks.



Le 20 février 2013 à 21 h 45 min,
sebastien
a dit :

Hello Mig and thank you very much for your feedback.I'm happy to see that the plugin is usefull and working. Moreover

thank you for your tips concerning shielded cable and EMI Filter.. It may be usefull to other people reading this article.



Le 21 février 2013 à 3 h 39 min,

Jpruel

a dit :

I just install the plugin i can click SPINDLE CW F5 the motor start i can send S command to change RPM but i can t stop the motor i need to click RESET i try M command i try to reclick on SPINDLE CW F5 but nothing work except RESET

Thanks for your support



Le 21 février 2013 à 3 h 55 min,

Jpruel

a dit :

Sorry work with M command but the button SPINDLE CW F5 start the motor but dont stop it

Thanks again



Le 21 février 2013 à 18 h 49 min,

sebastien

a dit :

Hello,

well if i understand , when you hit F5 key on keyboard, the spindle starts. If you hit another time F5, it doesn't stop. Do not hesitate to send me more information at sebastien@royaumededeole.fr.

What version of mach3 are you using?

Are you using a custom screenset?

Do you have the last one version (1.5.1)?

Do not worry will will solve this problem.



Le 22 février 2013 à 1 h 31 min,

Hello

a dit :

Would there be a future update on the plugin regarding the wait until the VFD

reaches its frequency. I know that there is an option that you could dwell on the setup, But it will be nice coming from the VFD signal itself,
Thank you very much for the good work you have done on the plugin



Le **25 février 2013 à 21 h 09 min**,
sebastien
a dit :

Hello,

I will think to this option, but need to check that Mach3 will allow to do such a thing.
My first idea would be to add an option to the plugin. When checked, this option would pause the program until the spindle reached its frequency.



Le **23 mars 2013 à 13 h 24 min**,
Skateboss3
a dit :

Hi there, thanks for this great plugin but I have a strange error.....

when I start the spindle with the plugin enabled the computer freezes then unfreezes every 5 seconds or so.

I have tried using 3 EMI filters (one on the VFD input, one on the RS485 data line and one on the motor output) and CY shielded cable but nothing has stopped this problem.

if I disable the plugin and use the VFD manually from the front panel I have no problems

many thanks Chris



Le **24 mars 2013 à 7 h 36 min**,
Greg
a dit :

Hi,

Firstly, I'd like to say great work with the plugin! I was impressed how easy it was to setup and the instructions on your webpage are clear.

The good news is that speed control and start control (F5-including Mxx start commands) work fine. E-stop also works fine with Mach3 Version R3.043.066. This is a fresh installation of Mach3 with only this spindle plugin installed using the instructions provided on your webpage.

I do have 2 problems however. The first problem is that I can't stop the spindle with F5 nor with the M05 command. I have to use the RESET on Mach3 or press the emergency STOP on the VFD to stop the spindle

The other issue is I also noticed the spindle is only running in a counter-clockwise direction. I tried changing it with a M03 command but it still only runs counter-clockwise. The VFD is setup to run both clockwise+counter-clockwise and works fine with the VFD control panel but not via this modbus plugin control. Any ideas how to fix these two issues? Thank-you.



Le 24 mars 2013 à 9 h 30 min,

sebastien

a dit :

Hello Skateboss3,

There is a simple way to control if noise is the problem.

Simply try to unplug your spindle from your VFD.

The Vfd remains connected to your RS485 adapter, on your computer.

If you're still facing the problem, it means it's not a problem of noise (noise is generated by spindle), and it's a bug.

Do not hesitate to give me the result of the test



Le 24 mars 2013 à 9 h 40 min,

sebastien

a dit :

Hi,

You're facing a strange behaviour.

It's seems that the plugin is half-working.

Well, this may be a bug. In fact, M03 and M05 command (also F5) should be working.

My first idea is that you have a different firmware than the one I use. Commands are almost the same , with small changes (for exemple M03 and M05 command)...

This may explain why it is half working...but this is theory...now I'll need your help to diagnose and fix it.

Here what we are going to do:

1) could you send me the firmware, hardware version? I need values for PD181, PD182, PD183.

On this way I'll know if you have a different version of mine.

2) In a second time, if needed, we will try to monitor communication between computer and VFD...but this is second time...



Le 26 mars 2013 à 12 h 34 min,

Jay Larson

a dit :

Hi, I think that I have the same difficulty with F5 starting but not stopping the spindle. I have to hit the reset to stop it. M03 will also start the spindle after a reset, but M05 will not stop it...

Really great work on this driver! I'm sure this can be fixed easily.

Plug in version 1.5.1

Mach3 Version 3.043.066

VFD registers:

PD181: u -1.00

PD182: 20821

PD183: 65535

Would love to help. Let me know if any other information is required.

Cheers,

-Jay



Le 26 mars 2013 à 12 h 50 min,

sebastien

a dit :

Greg found the solution to this problem....

below the mail he sent me...and a big thanks to him!

Hi,

I was doing some thinking today and realized this may be an issue with the setup in

Mach3. After some looking around at the configuration, I figured out today what was causing this strange behaviour and managed to get your plugin working perfectly. In case this issue comes up with anyone else please feel free to post this on your page.

The solution is as follows:

In Mach3 under Ports & Pins -> Spindle Setup ensure Disable Spindle Relays is unchecked under « Relay Control » Restart Mach3.

This allows for the spindle to start/stop using F5 and all the Mxx commands. The spindle also runs in the proper rotation now and can be reversed.

I will test this further and provide more feedback but so far it seems to work very well. I'm following your posts on <http://www.machsupport.com> and look forward to any

further advancements you make with this plugin.

Thank you, I appreciate all your help and the work you have done!

Greg



Le 29 mars 2013 à 14 h 12 min,

R.Roberto

a dit :

Hi Sebastien

Thanks you for this plug-in

I studied a lot how to control the spindle via mach3, I tried via PWM, realizing my PCB encoder and PCB PWM. They work fine.

Now I'm using your Plug-In, it works very well, but I have to control the spindle at low speed 200-500 RPM (my spindle have not a gear)

Via PWM, I'm controlling the spindle using the feedback in mach3 (close-loop) but, a low speed, the time of response is too low.

There need a PWM with CPU controll to have a good time response, I have a project but is too expensive, like a professional system.

You know that, working the piece, the constant velocity of the tool (mill) is important.

My question is: It is possible use your good plug-in with the configuration mach3's close-loop and PID?

My spindle is a 2,2 Kw cinese as in your picture

Thanks you

Roberto R.



Le 31 mars 2013 à 10 h 32 min,

sebastien

a dit :

Hello Roberto,

we could imagine to achieve such a this. But i think the vfd is not giving you the real speed of the spindle. I mean the VFD is able to give you the current frequency it is applying to the VFD...for example 50hz. Then thanks to the conversion ratio, Mach3 translates this frequency into rpm.

On your side, you want the speed to remains constant. But the vfd does not send Mach3 the real speed, it just send the frequency applied. The vfd is working is closed-loop but concerning frequency. So if you try milling something hard and your spindle really slow donw, the vfd won't detect it and ot will say that it is applying the

requested frequency. But, your endmill has slow down...

Another point is that Mach3 plugin are working at 10hz. So the plugin is updated every 100ms...I do not know if it will be enough...

regards



Le 25 avril 2013 à 15 h 16 min,

John Dortch

a dit :

When I attempt to load your plugin, I get this error message: « Plugin DLL defective, reload »

I have tried several from differant locations and get the same response. Mach3 version: R3.043.066.

Any suggestions?



Le 25 avril 2013 à 21 h 04 min,

John Dortch

a dit :

Problem solved. Had wrong version of C++ runtime.

Now, the motor runs slowly when using plugin but is ok under manual control of VFD.

Anyone having this problem?



Le 25 avril 2013 à 21 h 19 min,

sebastien

a dit :

Maybe look at the pulley ratio in Mach3 and ensure that the speed displayed in configuration screen is the good one



Le 25 avril 2013 à 22 h 59 min,

John Dortch

a dit :

All of the pulley ratios are set to 1. It would seem that it is a faulty setting in one of the VFD registers, but I have looked at them so long, I am getting punchy...



Le 6 mai 2013 à 13 h 13 min,

ronny

a dit :

Hello

your plugin will work only with restrictions.

adjusting the speed needed to umsetzung about 5-10 sec. ?

during the milling process, the stepper motors to stand for a short time (2-3 sec.).

Without the plugin milled does not stop. Can you help?



Le 6 mai 2013 à 13 h 14 min,

Ronny

a dit :

Hello

your plugin will work only with restrictions.

Adjusting the speed needed to umsetzung about 5-10 sec. ?

During the milling process, the stepper motors to stand for a short time (2-3 sec.).

Without the plugin milled does not stop. Can you help?

Greetings

Ronny



Le 6 mai 2013 à 13 h 23 min,

sebastien

a dit :

hello Renato,

First of all , sorry for my slow answer, but i must admit i 'm facing some extra work and i do not have enough time to do all i expect.

Can you give me the version you are using (1.5.1 is the last version)?
Are you using extra plugins (some bad interactions)?

My first idea would be to think that the com port speed (9600) is too slow, and taking too much time to communicate with VFD, so delaying the behaviour of other plugins, missing steps. You could try to rise the com port speed (on your computer and on VFD)

BUT!!

Pay attention to have shielded wire between vfd and spindle. You could check this is a noise problem by unplugging the spindle from the vfd. If fact, this is the rotating spindle which produces noises. By unplugging it from the VFD, you will be able to check if things are better or not.

So here are two starting points, let me know the result of your tests.
(It may be a bug from the plugin!)

Regards

Seb



Le 10 mai 2013 à 21 h 40 min,

Sand

a dit :

Hello Sebastien,

For the first it looked like your system would work perfectly. After some tests I've ended up like Ronny.

Once the Spindle is on, the whole system blocks randomly for some seconds.

The result is:

If I'm running a program the machine simple stops for maybe 2 seconds and if I'm just move for instance the z-axis up or down the system sometimes doesn't stop to move for some seconds even if i release the button for the movement. That is quite dangerous if your axis motors are stronger.

The point is, if don't use the rs485 usb-Adapter the machine is running perfectly.

What I've tried, without success:

- debouncing 1000
- PID 146 – 38400bits
- Shielded USB Cable from VFD to USBport of the Laptop



Le 11 mai 2013 à 9 h 04 min,

Sand

a dit :

Update:

I've unplugged the spindle from the vfd during a job and there were no errors. As mentioned before without the plugin the system runs perfectly. So it seems that the noise is coming through the USB cable to the Laptop. During the job I've opened the task manager to see the cpu load and every time the machine stops the cpu load jumps from 18% to 100%.

If the noise is really the problem what kind of filter may i use for the usb cable?



Le 11 mai 2013 à 12 h 38 min,

Renato

a dit :

Hello Seb,

Thank you very much for the quick reply and good plugin. i am using version 1.51. I am not using any plugins except for the galil plugin. I have tried aswell changing the com port speed and its still the same and i have tried different computer and rs485 converter but no avail. My 3 phase power to the spindle motor is shielded.

I know that this is only a minor hiccup and you will be able to fix the problem.

Thank you again for the great plugin

Regards

Renato



Le 11 mai 2013 à 22 h 43 min,

sebastien

a dit :

Hello Renato,

The wire that must be shielded is the one between VFD and Mach3 (thus a signal wire, not 3 phase wire).

In fact, the noise is produced by the spindle, not the 3 phase wire... So try to shield your PC/VFD connection. If I was facing such a problem, i would try with a small cat5 ethernet wire. (cat 5 are shielded wire..)

Somebody on my site was facing similar problem. Once he has reinstall his pc, everything was fine. I cannot guarantee you that it will work, i can just here say what other did.



Le **11 mai 2013 à 23 h 11 min**,
sebastien
a dit :

Well it's a good news that noise is problem!

I think that noise problem occurs mainly between RS485 and VFD.. that's why i'll try first to use some shielded ethernet wire (cat 5 is shielded)

By using only a pair (there are 4 or 5 pairs in a ethernet wire) you'll be able to connect RS485 to VFD and check if it solves your problem.

here what Ronny answered me:

Hi Seb ,

the tip of the shield was the right thing . The mesh has a little detached from the clamp. After the fix were no dropouts more noticeable.

The problem with the speed control is very sluggish but still . From adjusting to a reaction , it takes 5 seconds. Any idea why? The Port Speed I have tried them all . Because nothing changes.

Best regards

Ronny



Le **30 mai 2013 à 3 h 28 min**,
Peter
a dit :

hey seba..

the plugin works great, so i think.....

two things i need to ask you...

one is that i cant go pass 8000 rpm with the plugin....

secont when trying to do S10000 it goes only to 8000 and msg pops « Too Fast For Pulley.Using Max »

and in config of that plugin the pulley menagment is unchecked...

any idea???



Le 30 mai 2013 à 20 h 49 min,

peter

a dit :

hey sebastian....

I wrote here yesterday but i dont know why i cant see it here....

Anyway

Great plugin.... Works great... There is only thing i want to ask you...

Is there any way my spindle can spin faster than 8000rpm.?

If i try s9000 an msg shows, » too fast for pulley, using max. »

In the cconfig of the plugin the pulley is unchecked.....

And my system is all new.. Fresh copy of xp,mach3 v2; and only your plugin is installed

And my spindle is the huanyang 1.5kw 220v....



Le 1 juin 2013 à 3 h 04 min,

peter

a dit :

Hey sebastian....

It worked 😊 i did chande the pulleys in config in mach..... Changet to min 1000 max 24000 just to be safe because my spindle speed is max 24000.....

Thank you for a good plugin...

All tho i havent tryed running any codes yet..... But im pretty sure it will be fine 😊



Le 29 juin 2013 à 16 h 41 min,

Klaus

a dit :

Hello,

is it possible to use your plugin in connection with a USB smooth stepper?

My control is based on an USB smooth stepper (<http://www.warp9td.com/>) and I am wondering whether it would be possible to communicate via the unused 2nd parallel port of the USB smooth stepper?

Klaus



Le 16 août 2013 à 22 h 42 min,

Skateboss

a dit :

Just thought that i would update my posts from a while ago regarding interference, it turned out that after using shielded cable and noise reducers that it was a sub standard PSU in the pc that was picking up noise from the VFD (these things are very dirty on the mains)

Regards Chris



Le 21 août 2013 à 1 h 14 min,

Gene Collier Santa Fe,Texas

a dit :

I'm am having a lot of problems with the machine simple stopping for maybe 2 seconds. Re-installed Mach3 and all the plugins today and found that the VFD is where the problem lies. You say, « it was a sub standard PSU in the pc that was picking up noise from the VFD (these things are very dirty on the mains) ». How would the PSU stop Mach3 for just a second or two? What did you do to fix it?

Gene



Le 23 août 2013 à 0 h 22 min,

sebastien

a dit :

i have just builded the 1.6 version where i disabled the bad speed Estop feature. So that all people facing noise problem won't be annoyed anymore with Estop...



Le 11 septembre 2013 à 18 h 08 min,

Jonis

a dit :

Hi!

Could you please add more options to calculate speed of spindle?

I can't use your plugin because of way you do calculations, but i love all features.

My chinese spindle has 400Hz as base-frequency (doesn't work with 50Hz) and 3000 on parameter 144. With this configurations, everything works fine, including speed reading on VFD panel.....but doesn't work with your plugin. Your plugin think that spindle runs 3000RPM on 400Hz.

Also, do you have any idea to make this plugin open-source?

Tks



Le 11 septembre 2013 à 21 h 04 min,
sebastien
a dit :

Hello Jonis,

I'm pretty sure that your VFD is misconfigured.

In fact there are many people using this VFD with chinese spindle and none faced such a problem.

On the other hand, it may be specific to v1.6.

can you enter 24000 in pd144? if yes this solves your problem..

Otherwise, i'll fix the code by detecting chinese spindle.

Concerning openSource, it will become but not at the time.

Source code is based on a specific framework built fro many years, don't want to share it at the time.

I plan to rewrite the plugin fro MAach4 and for EMc2.

At that time the MAch3 version will become openSource.

Regards



Le 12 septembre 2013 à 2 h 15 min,
Jonis
a dit :

Tks sebastien !

Actually, PD144 doesn't support more than 999 as value, so i can't set.

About inverter, the configuration is correct. If i setup 50Hz for base frequency, spindle goes crazy and hot. Just search for 'chinese spindle 2.2kw setup' and you will see.

About you plugin and my problem, please check page 54 of Huanyang manual, specially about PD144 (rated motor revolution). This is the text: « This is setting according to the actual revolution of the motor [...]This set value corresponds to the revolution at 50hz ».

See? So you don't need base frequency to calculate speed. Param 144 is ALWAYS based on 50Hz, not on the base frequency (PD004).

And just to finish: my motorplate say's 400Hz, so it's the rated motor frequency (the correct value of PD004).

Tks.



Le **12 septembre 2013 à 8 h 19 min**,
sebastien
a dit :

Hello Jonis,

the behaviour you ask me was the previous behaviour (until 1.5.1 version).

I add such feature because american users were forced to make some conversion in their pd0144 field (50hz vs 60hz)..

I aimed at making this conversion useless.

But, since it generates more problem than solution... I'll disable it.

So I'll fix it tonight building a 1.6.1 version.

thank you very much for your feedback



Le **12 septembre 2013 à 17 h 56 min**,
Jonis
a dit :

Tks! I'll wait.

Maybe you can put a checkbox so user's can select if they want fixed or variable calculation for frequency/speed.



Le **12 septembre 2013 à 23 h 14 min**,
sebastien
a dit :

Hello Jonis,

1.6.1 version is online. I add a rated frequency EditBox to disable the automatic detection mechanism. Simply enter 50 in the edit box and it should be Ok...waiting for your feedback!



Le 13 septembre 2013 à 0 h 30 min,

Jonis

a dit :

Almost there! 😊

About frequency, it's working.....kind of. If i put 50 on the frequency, i got '3000@0Hz' message box and nothing work. To get exact '50Hz', i should use '5000' as value on options box. This is easily fixed.

Another problem: I can't get RPM feedback to work. If i leave 'User DRO' blank, no RPM on system RPM DRO. If i put '39', they simple ignore and save as blank again. Also, i can't make Current and DC Voltage to work. I know that my VFD are 'answering' these data because i made a program to read that and i got the correct value. I'm using USER DRO ID 1215 and 1252.....also tried with '12152' and '12522' to make sure that's no conflict. Still not working.

Mach 3.42.20



Le 13 septembre 2013 à 7 h 17 min,

sebastien

a dit :

Hello,

I've fixed the problem dealing with frequency.

I have forgotten a x100 factor.

Now it is solved.

Let me know if still problem with current/voltage i'll have a lot. (May due to a new poll algorithm appeared in 1.6 version)



Le 1 octobre 2013 à 22 h 21 min,

Ronald Haverkort (Holland)

a dit :

Hello,

I've got the plug-in working fine, after the problem not able to stop the spindle. Solved by unabling spindle relais in settings spindle setup.

But i can't get an Reading in my RPM DRO ?, when i select rpm in your plug-in setup and enter 39 in the DRO field There is no rpm info on the mach screen?.

When i goto your plug-in setup again the combobox shows U(voltage).

Am i doing something wrong?.

Regards, Ronald haverkort



Le 3 octobre 2013 à 14 h 50 min,

sebastien

a dit :

Hello,

Do you have the latest version of Mach3?

Then you cannot setup a systemDro but only userDro(>1000)

regards



Le 4 octobre 2013 à 19 h 46 min,

Ronald haverkort

a dit :

OK, i upgraded mach3 to latest version. everything works fine now!

Regards Ronald.



Le 12 octobre 2013 à 10 h 45 min,

lamartinada

a dit :

Hi! I'm trying download de plugin but the link it's broken. Can you check all is ok?

Thanks Sebastien for your great job!



Le 14 octobre 2013 à 12 h 50 min,

sebastien

a dit :

Well, on my side, everything seems ok...
Are you still facing problem?



Le 27 novembre 2013 à 18 h 00 min,

Mateusz

a dit :

i got the same adapter but those drivers doesnt work. Device menager just shows
« USB2.0 Serial » and keep asking for drivers. Is my unit defective? please help



Le 27 novembre 2013 à 20 h 42 min,

Mateusz

a dit :

Update: looks like there is new version of adapter on ebay that requires new drivers.
Go to device menager, find your adapter /properties/details and copy your Device
instance id. example:

GOOGLE: vid_1a86&pid_7523 Driver

i found mine and it works. You're welcome.



Le 23 décembre 2013 à 16 h 05 min,

sivu

a dit :

Hi,

Would it be possible to release a version which sets RTS high when sending, so that
common RS485 adapters would also work?



Le 28 décembre 2013 à 20 h 54 min,

sebastien

a dit :

yes we will work together to achieve this goal.

Recontact me by the middle of january.
regards



Le **29 décembre 2013 à 23 h 01 min**,

Ron Thompson

a dit :

I am trying your plugging for the first time. I have version 1.7.1, running Mach r3.042.040 on vista.

The 2.2kw Chinese spindle worked fine in manual. I used the ebay usb convertor like the one you show.

The spindle will move slow if commanded to 50 rpm, much over that and I get a D1 error and no response from the VFD. M3/m5 or f5 have the same effect.

Do you know what the D1 error is?

Thanks!



Le **11 janvier 2014 à 18 h 02 min**,

Victor Trucco

a dit :

Doesn't workd for me. F5 starts the spindle for a second and a I have a E-Stop.

- Last Mach 3 version (3.043 fresh install)
- last plugin version (1.7.1)
- VFD and chinese spindle @400hz

Relays enable or disable desn't make any difference. Sindles stops about half second with an E-stop.

Thanks for your job



Le **15 janvier 2014 à 18 h 57 min**,
Jonis
a dit :

Hi!

I'm trying the latest version (1.7.1) and it's almost everything working, except that my spindle runs on reverse while should run forward. Maybe a logic bug?

In version 1.6.1 everything was fine.



Le **21 janvier 2014 à 11 h 49 min**,
sivu
a dit :

great, i'm looking forward for this!



Le **22 janvier 2014 à 16 h 46 min**,
sebastien
a dit :

No sorry, i do not know what 'D1' error means.

But, begin simply by unchecking pulley management (maybe a bad pulley ratio?)



Le **22 janvier 2014 à 16 h 46 min**,
sebastien
a dit :

Are you still facing pb?



Le **22 janvier 2014 à 16 h 47 min**,
sebastien
a dit :

don't you have unplugged you're spindle and swap two wires?



Le 29 janvier 2014 à 4 h 20 min,

Trieu

a dit :

Hello, I am using Mach3 R3.043.066. Loaded the 1.7.1 plug in. Got the error message: Plugin DLL Defective... Reload. Then, another error message: VfdPlugin.dll – Defective Plugin found... ignoring. I then removed 1.7.1 and loaded Matty Zee's. Worked fine (of course without your improvements..) What am I doing wrong? Please help. Thanks.



Le 14 février 2014 à 13 h 56 min,

vre

a dit :

I have tried to my huanyang sl series vfd and it does not work.
It says unable to read value.
The settings in huanyang sl series is different from hy series.
The SL series manual -> <http://www.hy-electrical.com/download3.htm>
Can you update the plugin to support huanyang SL series vector vfds ?
thank you.



Le 3 mars 2014 à 13 h 43 min,

Victor Trucco

a dit :

Hey, I'm still having the e-stop problem about half second after the spindle starts.
Maybe you can put a checkbox to override? I believe many people is having this same issue according the comments.

Thanks



Le 12 mars 2014 à 18 h 56 min,

Tor Arne Hustvedt

a dit :

Hi. I'm having a weird problem. The plugin (version 1.7.1) seems to work, but causes instability in Mach3 (3.043.062). Example video to demonstrate the disturbed pulse, as evident in the stepper sound: <http://youtu.be/wOzXPzTsmVE>

However, if I disable the plugin after enabling it, Mach is stable again, and it still communicates with the VFD. So my workaround now is to enable the plugin and then disable it. Then Mach3 seems to work normally, with VFD communication even.



Le **13 mars 2014 à 15 h 35 min**,
sebastien
a dit :

Hello, first of all thank you very much for your donation.
Then, concerning your problem, you must first check if it not a noise problem. To do that, simply unplug your spindle and do some tests.
In fact, the rotating spindle generate noise, which causes freezes in VFD communication.
The hack you have found is astonishing, will have a look.



Le **13 mars 2014 à 15 h 36 min**,
sebastien
a dit :

Are you sure you are using the correct VC++ runtime? (check the web page)



Le **13 mars 2014 à 15 h 40 min**,
sebastien
a dit :

Hello, I do not plan to support sl series.
On my side, I do not own a SL serie and it's mandatory to realize some test.
we could with blind developpement, but it would be time consuming..and i'm lacking time...



Le **13 mars 2014 à 16 h 30 min**,
Tor Arne Hustvedt
a dit :

Thanks for taking the time to help me. I would not have been able to control the spindle through RS485 without the help of your plugin.

I downloaded the VC++ runtime from the link you provided here, except I changed the language before I downloaded. The computer is very optimized, and is not running any other software than Mach3. Ethernet, sound and other unnecessary functions are also disabled in the BIOS. I am controlling the G540 stepper controller via the PC LPT port, and my pulse is 100% stable at all times.

I tried disconnecting the spindle now, and the stepper sound is still abnormal when the plugin is enabled. I am pretty sure there is no problem with noise. I use shielded cables with good grounds, and I have been running it with manual control and analog control without problems. Everything is perfectly stable when the plugin is disabled.

It works great if I use the workaround (enabling, then disabling the plugin), so it's not a big problem for me, it's just a little annoying to know my machine is not perfectly streamlined. 😊



Le 17 mars 2014 à 17 h 54 min,
Victor Trucco
a dit :

Any chance to get older versions? Version 1.2.0 is working for me, but crashes Mach 3 sometimes... Still facing the E-stop problem in 1.7.1



Le 17 mars 2014 à 18 h 11 min,
Vedran
a dit :

PROBLEM please help

i have 1.5kw water cooled spindle, install all OK. Mach 3 start and stop spindle but problem is because my spindle not start slow speed up.

If I make tool in g code and put speed 15000 rpm. My spindle just start 15000 rpm Immediately, no slow speed up. This is unusable because may damage my spindle or inverter.



Le 17 mars 2014 à 19 h 49 min,
Vedran
a dit :

Problem resolved, I setup starting mode PD025=1 but I use mach3 V2.63 and it not

have frequency track. I now set PD025=0 and it working great



Le **18 mars 2014 à 16 h 14 min**,

sebastien

a dit :

well, i do not think coming back to an older version is a good solution.

When a problem occurs, we should tackle it.

So you say you're facing an Estop after the startup....

well do you have configure one of other monitored variable (current,voltage) and

check for each one if there is not a limit...

could explain your case



Le **21 avril 2014 à 22 h 55 min**,

Victor Trucco

a dit :

Version 1.7.1 starts the spindle and I receive an E-Stop about half second later. I disconnected the spindle and the E-Stop is gone... Maybe a noise problem right? Changed cables to shielded ones, added a EMI filter and still 1.7.1 give me an E-stop about half second later.

About three weeks ago I started to use 1.5.1 and it's working like a charm. Not a single problem after 10+ hours, so I don't mind to use the old version.

Thanksfor your work. The plugin is great!

Regards



Le **24 avril 2014 à 15 h 48 min**,

Gordon Newell

a dit :

Spindle starts, then ESTOPS. I have spindle with high quality shield cable.

I tried a standalone application (Spindle Talker 2) <https://github.com/GilchristT/SpindleTalker2/releases>

Spindle responded perfectly with is STAND ALONE application. So spindle and

serial port all working as designed. Issue is either with my MACH3 config (and this is very likely) or your program.

I'm at a loss of where to next, never-the-less, I appreciate the time and effort you have put into the program.



Le 25 avril 2014 à 6 h 56 min,

Gordon Newell

a dit :

I was also having these EStop errors. I came across this post; « The EM stop is being activated because of the EStop Threshold limit is being reached in the VFD plugin configuration. You can try to raise the number or just leave it blank and that should stop the EStop from being activated. »

I had the threshold at ZERO, what I didn't realize is that there are threshold settings for ALL the monitoring choices (AC Voltage, Current, DC Voltage etc). I zeroed them all and lift off! The VFD Modbus driver works!



Le 9 mai 2014 à 17 h 26 min,

klawndyke

a dit :

I am redoing a laguna HHC , getting rid of the hhc and going to mach3

got all the goodies together that you show here

I can run the spindle manually but really nothing with mach3 i can hear the relay trip on the vfd and if i mess around i can get it to spin for a couple seconds then trips the estop

lol i hate to say it but i am stumped

i have mach3 Version R3.043.066

vfd 181 u-1.0 182 31014 183 65535

the spindle is only a 220v, 1.5Kw 400Hz 6k to 24k rpm

the bad part is laguna shows there spindles being a 3hp so i bought a vfd according to there specs.. next time i am going to check the spindle..

HeIIIIIIp please

Thanks

Klawndyke



Le 9 mai 2014 à 19 h 39 min,

klawndyke

a dit :

got it to work by unchecking pulley management..

go figure

reads fine shows the right speed and when you turn off the vfd it will estop mach3



Le 28 mai 2014 à 3 h 54 min,

dominic Foisy

a dit :

does plug in can work with a frenic 5000g9s?



Le 28 mai 2014 à 15 h 27 min,

sebastien

a dit :

No sorry, this plugins aims only at controlling a huanyang vfd



Le 29 juin 2014 à 17 h 34 min,

Fran Nolan

a dit :

Sebastien:

Thank you for your work on the vfd plugin. I am trying to use it with Mach3, the Huanyang vfd and the spindle that you picture above. Also, I am using a rs485 just like the one you picture. I bought it chep out of Hong Kong and it may be the problem. I cannot get the plugin to run the spindle but if I change both PD001 and pd002 from 2 to zero, I can then run the spindle directly off the vfd. When I configure your plugin on Mach3, it asks me if the frequency and rotation values (which it takes

off the vfd) are correct. They appear to be so. Do you have any insights or suggestions?

Thank you,

Fran



Le 11 juillet 2014 à 11 h 03 min,

Christoph

a dit :

Your plugin is awesome, thank you so much! Took me a couple of hours to find a driver for my adapter (adapter from ebay seller mvrwin and CH341SER driver) but then everything worked flawlessly!

Cheers, Christoph



Le 15 juillet 2014 à 5 h 08 min,

Steve

a dit :

Everyone is using a USB to 485 convertor. Any reason I cannot use this...?

<http://www.commfront.com/datasheets/cvt-485-3.pdf>



Le 15 juillet 2014 à 9 h 01 min,

GRAHAM ORD

a dit :

Have had no reply to this on the Mach 3 website

<http://www.machsupport.com/forum/index.php/topic,22806.msg194349.html#msg194349>

Graham



Le 24 août 2014 à 8 h 13 min,

elpit

a dit :

there exists the possibility of working with another type of variador, I in my case have a micromaster 440 that also has port rs485. do I imagine that it will be only a question of replacing the allocation of parameters so that it works in other marks of variadores? this is possible?



Le **24 août 2014 à 9 h 54 min**,

John

a dit :

Thank you for this amazing plug in! I am using it with Version R3.042.020. I can stop and start the spindle, and control the speed. I expect the problem lies with Mach3 where I can not see the spindle speed in the DRO. Any ideas how to get this working perhaps? My goal is to display the spindle temperature as, I am not sure how the users DRO's work and where to get them.

Thanks again for the great plug in !



Le **3 septembre 2014 à 12 h 30 min**,

sebastien

a dit :

No sorry.

This plugin only aims at driving a huanyang. Mach3 has a modBus driver, but huanyang is not fully compliant with this norm. Ths'ts why i had to build a specific driver.



Le **3 septembre 2014 à 12 h 33 min**,

sebastien

a dit :

I suspect the Mach3 version to be the problem. Some people had problems not using the last version. This was due to a bug in Mach3.

Could you try with a newer version (even in demo mode for exemple)



Le **3 septembre 2014 à 12 h 34 min**,

sebastien

a dit :

No sorry, this driver has been specially designed for Huyanyang vfd



Le **3 septembre 2014 à 12 h 37 min**,

sebastien

a dit :

There is no reason why it shouldn't work.

Those usb485 adaptor are in reality a simple USB to RS232 coupled with a RS232 to RS485 adaptor



Le **3 septembre 2014 à 12 h 42 min**,

sebastien

a dit :

Hello, Graham,

well it's almost working

in fact, driver and VFD succesfully communicate which is the most difficult part.

Could you give me the value for pd144 field, when you check it on vfd screen?



Le **3 septembre 2014 à 12 h 48 min**,

sebastien

a dit :

well stange problem...

it seems that the driver is able to communicate with the vfd...but partially...

Are you sure having the right drivers for your usb adaptor....the best way to ensure is to open the adapter and read the value on the chip..Then check on google or so to find appropriate driver....this is something to check, i do not say this is the problem



Le **4 septembre 2014 à 10 h 32 min**,

GRAHAM

a dit :

Hello Sebastien.

Everything on my old computer is strange, it will not run Mach 4 for example.
But back to the problem, PD144 is set to 1420.
As regards the USB I will have to take it off the computer/vfd to check its software is updated to the latest as it is not connected to the internet.
Thank you for your reply.
Graham



Le **7 septembre 2014 à 21 h 16 min**,
GRAHAM
a dit :

Sebastien

Your second suggestion was the likely suspect. The usb/485 I had used worked fine on my NEW computer in devices.

I had to connect my OLD computer to the internet and download a driver for it that worked. I now have m3,m4,m30 and can program in the speed on mach3. Just a little bit more tweaking and it will be perfect.

Thank you Graham