

INSTRUCTIONS

OJ-DV-PC-Tool



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OJ Drives®

A DRIVES PROGRAMME DEDICATED TO VENTILATION SOLUTIONS


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1. General

These instructions describe the OJ-DV-PC-Tool. The OJ-DV-PC-Tool is a Windows based tool for controlling the setup and configuration of OJ DV products. This document is designed to present basic information about the tool.

As the PC Tool has several access levels, users may not have access to all functionalities.

Note: The OJ DV needs to be powered up to be configured and updated. 230V can be used to power up the H3, H4 and H5 OJ DV for configuration only.

1.1 Product programme

PRODUCT TYPE	
OJ-DV-PC-Tool Ver. 2.17 and newer	OJ-DV-PC-Tool Program for configuration of OJ DV products

1.2 Features

The OJ DV product series can be configured by means of the OJ-DV-PC-Tool via connection to the RS-485 RJ12 connector "B" or spring terminals 1(A), 2(B) and 3(GND) on the OJ DV.

The OJ-DV-PC-Tool enables you to read out and configure motor and drive parameters:

- For factory setup
- For on-site setup
- For reading out log data and saving them in a file
- For on-site diagnostics during service
- For on-site updating of software/firmware
- For configuring motor and fan parameters and entering new settings
- For controlling the motor controller and motor
- For testing the motor controller and motor

2. Installation

2.1 System requirements

The OJ-DV-PC-Tool can only be used with an IBM-compatible personal computer that meets the following minimum system requirements (Windows 7 or later):

- An Internet connection for downloading the installation files or a USB port and USB memory stick
- NET Framework 4
- 2 Mb available space on the hard drive.

The OJ-DV-PC-Tool only supports the Windows platform and cannot be used with IOS or Android.

2.2 Program installation

- The OJ-DV-PC-Tool can be downloaded from <https://ojelectronics.com>
- Download the file to your local hard drive
- Execute the msi file
- An installation wizard will guide you through the installation process
- A program icon will appear on your desktop once the installation process has been completed

2.3 USB-to-RS485 connection

OJ-DV-PC-Tool is connected by means of a USB-to-RS485 converter cable (Fig.1) and subsequently to RS-485 RJ12 connector "B" or to the spring terminals marked "A", "B" and "GND" on the OJ DV.

Follow the steps below:

- Consult the OJ DV instructions for information on opening the front cover to access the RS-485 connector.
- Comply with the OJ DV safety instructions while working on the unit.
- Connect the RS-485 cable to either the RJ12 "B" connector or to the spring terminals marked "A", "B" and "GND".

Fig. 1



The connection is a point-to-point connection (PC to drive) using the Modbus protocol

- Provides access to all connected drives in a network by changing the Modbus ID
- Prevent active Modbus communication from other devices (PC Tool has to be the only master on the Modbus)



Note

When connecting the OJ Drive to the PC via a USB cable, the PC USB port may become damaged.

- Do NOT use a PC power cable with ground plug when the PC is connected to the drive or use a galvanic isolated USB-to-RS485 connector.

3. Access levels

The OJ-DV-PC-Tool has four Access levels. Table 1 show the functions of the individual Access Levels

User Access Level

The Basic version of the PC Tool is available from the OJ-DV-PC-Tool downloads found the OJ Electronics homepage.

Service Access Level

For configuration of the OJ DV in the field a “Service access level” file is needed.

Engineering Access Level

“Engineering access level” allows the user to generate motor and fan configuration files as well as the configuration of the OJ DV.

Plus Access Level

The highest access level, allowing the user to fine tune the OJ DV.

Direct business partners can contact OJ Electronics to obtain the higher levels.

Functionality	Version			
	User Access Level	Service Access Level	Engineering Access Level	Engineering Plus Access Level
Basic control (Operate, basic control settings)	X	X	X	X
Set Device Type (Configure tab)		X	X	X
Basic User data settings (Configure tab)		X	X	X
Readout of Software version / Alarms	X	X	X	X
Communication settings	X	X	X	X
Device Communication Settings		X	X	X
Update Drive Firmware	X	X	X	X
User Config.	Download		X	X
	Upload		X	X
Motor / Fan Config.	Download		X	X
	Upload		X	X
	Delete		X	X
Update HMI Firmware		X	X	X
Log	Read from device, open/save/export file	X	X	X
	Clear total power consumption		X	X
Editing config files	Motor (MCF) / Fan (FCF) / User (UDF)			X
Config Generator			X	X

To install the higher Access level, place the Access level file on the local hard drive, close the OJ-DV-PC-Tool program, right click on the Access level file and click on “merge” and follow the instructions.

The OJ-DV-PC-Tool will be upgraded when restarted.

4. Functions

The Functions and the Function's parameters that are available, depend on which Access level is installed.

- Setup: Communication parameters for the PC and connected OJ DV.
- Operate: Operation of the connected OJ DV. Log of the connected OJ DV (Log to File).
- Configure: Setup Drive/Motor Type and Controller Configuration i.e. speed and direction.
- Log: Log data for the connected OJ DV.
- Firmware & Config: Update of firmware and configuration.
- Motor/Fan/User Config: View and change the motor, fan and user configuration files
- Info: The connected OJ DVs type, software, configuration files and alarm log
- About: OJ-DV-PC-Tool version and contact information.
- Config Generator: Create new motor and fan configuration files from motor and fan parameters

5. Setup

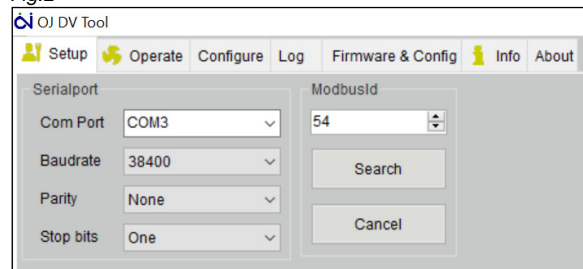
Setup is used to connect and change the communication protocols to the OJ DV

User Access Level 0 allows the user to connect to OJ DV via the default or preset Alternative Modbus address.

Default Modbus Address:

ID: 54
 Baud rate: 38400
 Parity: None
 Stop bits: One

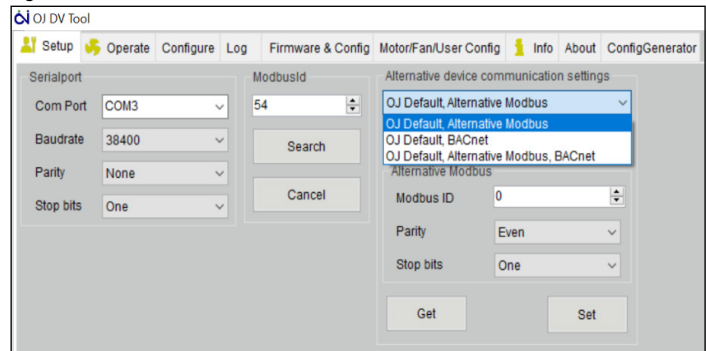
Fig.2



Service, Engineering and Engineering Plus Access levels also allow the user to change the communication settings used by the connected OJ DV.

When connected to the OJ DV via the Default Modbus address, click on “Get” under the “Alternative device communication settings”.

Fig.3



The following three choices will be available in the drop-down menu:

- OJ Default, Alternative Modbus
- OJ Default, BACnet
- OJ Default, Alternative Modbus, BACnet

These settings allow for the use of alternative communication parameters with the possibility of using the default Modbus communication if necessary.

5.1 **OJ Default, Alternative Modbus**

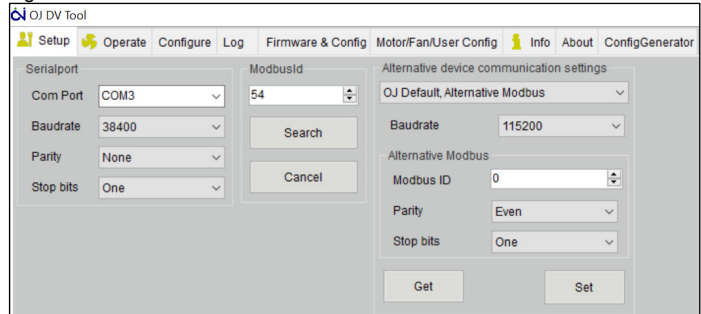
The default Alternative Modbus settings are:

- Modbus ID: 0
- Baud rate: 115200
- Parity: Even
- Stop bits: One

Alternative Modbus Communication Parameters

	Range
Address	0 – 247
Baud rate	9.600, 19.200, 38.400, 57.600, 115.200
Parity	None, Even, Odd
Stop Bits	One, Two

Fig.4



5.2 **OJ Default, BACnet**

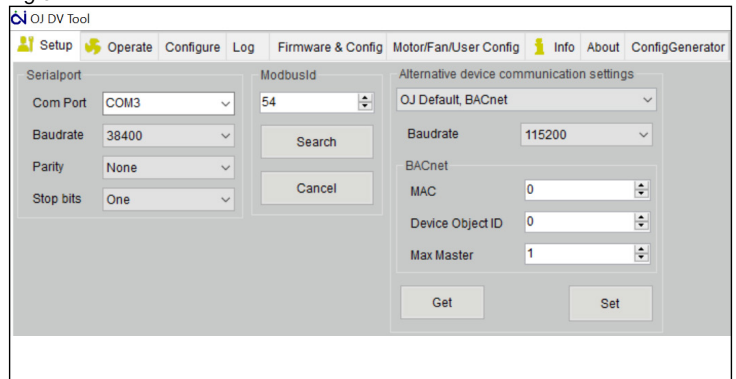
The default BACnet MS/TP settings are:

- Baud rate: 115200
- MAC: 0
- Device Object ID: 0
- Max Master: 1

BACnet MS/TP Communication Parameters

	Range
Baud rate	9.600, 19.200, 38.400, 57.600, 115.200
MAC	0 - 127
Device Object ID	0
Max Master	1

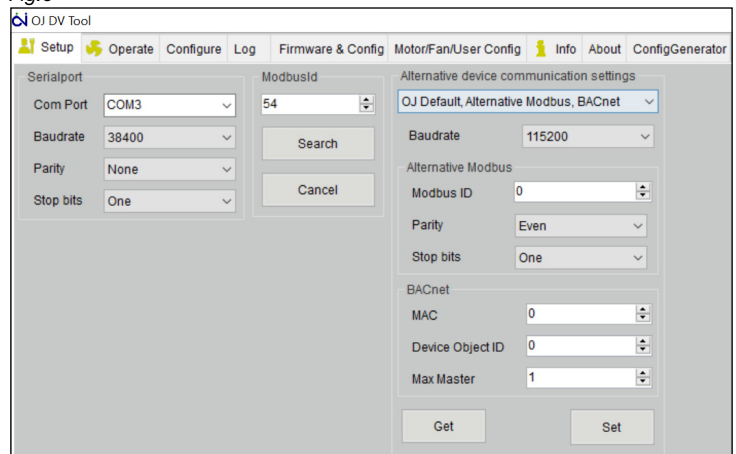
Fig.5



5.3 **OJ Default, Alternative Modbus, BACnet**

It is also possible to set an Alternative Modbus and BACnet Address at the same time.

Fig.6



6. Operate

This is available for all Access levels.

Operate can be used to control and monitor the attached OJ DV and motor.

When using Protocol control, only the OJ-DV-PC-tool can be connected to the OJ DV. Other devices using the interface to control the OJ DV have to be disconnected.

The Operate tab, can be used to monitor the normal running of the DV when Analog control is being used. To override and take control of the DV the speed control needs to be changed to Autodetect or Modbus.

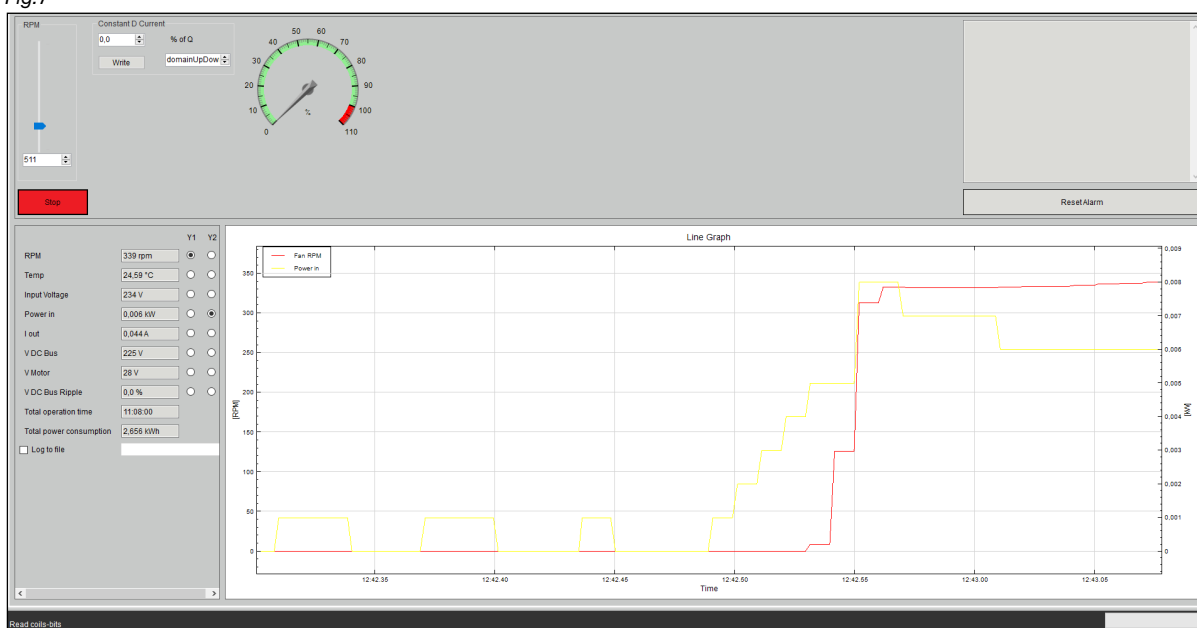
The top left of the screen is used to control the connected OJ DV.

When Speed control is set to Modbus or Auto detect protocol, it is possible to operate the connected DV via the OJ-DV-PC-Tool.

The connected OJ DV can be started and stopped by clicking on the green start icon which then becomes a red stop icon.

The speed is set between the minimum and maximum RPM or Hz (depending on the attached motor type) by entering a value in the box just above the Start/Stop icon or using the slide control. The speed can be seen as a percentage on the dial 0% = minimum set speed.

Fig.7



The box in the right hand upper corner shows when an alarm has been given. To reset the alarm click on the Reset Alarm box.

The lower part of the screen shows the actual operating parameters for the connected OJ DV.

- Actual Speed (RPM or Hz)
- Internal drive temperature
- Supply Voltage
- Motor Current
- Input power
- DC-Link voltage
- DC-Link Voltage ripple
- Total operation time
- Total power consumption

The Line Graphs two Y axis (Y1 and Y2) can be chosen by clicking on the circles next to the operating parameters.

6.1 Log to file

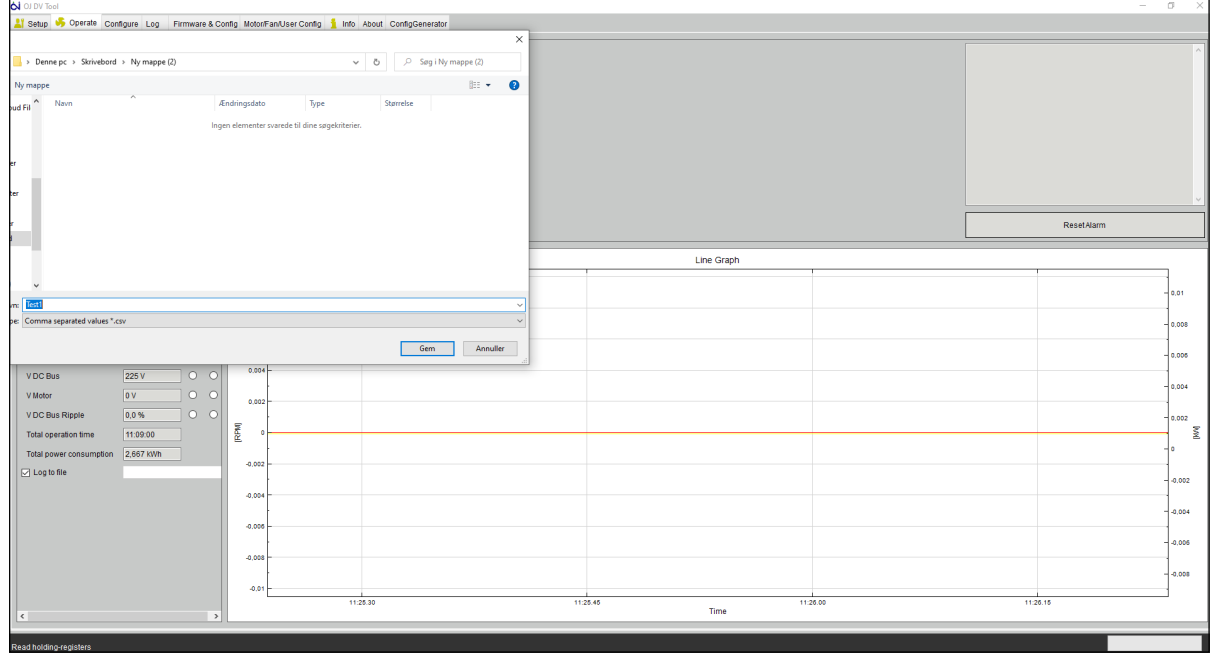
This is not the same as the "Log" tab.

Underneath the operating parameters, the "Log to file" function can be enabled. This is used to record the operation of the connected OJ DV. The computer needs to be connected to the drive whilst logging the data.

The OJ DV can be controlled via the OJ-DV-PC-Tool or 0-10V whilst the log is being taken.

Click on the box next to "Log to file", this will open a box where a .csv file can be saved on the computer.

Fig.8



The Log file registers 65 different parameters such as; time, speed, errors, activation of digital inputs/outputs and the software installed of the connected OJ DV, Fig 8a.

The log file can be used or analysing the performance of the OJ DV with the motor and fan and can also be used for fault finding.

If possible, make a log of the OJ DV connected to the motor and fan until the error occurs or, at least, 20 minutes operation time.

The log file can then be used for documenting potential issues and validating possible solutions.

To stop the log, click on the tick in the box.

Fig.8a

#	A	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BU	BU	E
#4	2018-05-04	0	210	114	0	0	2678	230	0	2	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#5	2018-05-04	0	210	114	0	0	2677	332	0	1	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#6	2018-05-04	0	210	114	0	0	2679	231	175	1	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#7	2018-05-04	0	210	114	0	0	2697	231	710	4	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#8	2018-05-04	0	210	114	1	0	2726	231	709	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#9	2018-05-04	0	210	114	1	0	2735	231	707	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#10	2018-05-04	0	210	114	1	5	2769	231	707	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#11	2018-05-04	0	210	114	1	19	2782	231	707	7	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#12	2018-05-04	0	210	114	1	30	2788	231	707	7	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#13	2018-05-04	0	210	114	1	155	2759	231	86	8	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#14	2018-05-04	0	210	114	1060	196	2742	231	83	8	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#15	2018-05-04	0	210	114	2035	311	231	60	8	0	62	0	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#16	2018-05-04	0	210	114	1543	253	2730	231	55	8	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#17	2018-05-04	0	210	114	1772	280	2728	231	74	9	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#18	2018-05-04	0	210	114	2035	311	2726	231	76	10	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#19	2018-05-04	0	210	114	2366	350	2724	230	101	11	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#20	2018-05-04	0	210	114	2629	381	2724	230	101	12	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#1	2018-05-04	0	210	114	2994	424	2723	230	88	13	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#2	2018-05-04	0	210	114	3265	456	2723	230	90	14	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#3	2018-05-04	0	210	114	3484	483	2723	230	77	14	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#4	2018-05-04	0	210	114	3859	526	2723	231	97	16	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#5	2018-05-04	0	210	114	4130	558	2723	230	97	17	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#6	2018-05-04	0	210	114	4495	601	2724	230	114	19	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#7	2018-05-04	0	210	114	4724	628	2723	230	101	20	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#8	2018-05-04	0	210	114	5089	671	2723	230	87	21	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#9	2018-05-04	0	210	114	5326	699	2722	230	104	24	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#0	2018-05-04	0	210	114	5725	746	2723	230	101	26	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#1	2018-05-04	0	210	114	5988	777	2724	230	106	27	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#2	2018-05-04	0	210	114	5889	730	2724	230	711	27	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#3	2018-05-04	0	210	114	4122	557	2766	230	709	20	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#4	2018-05-04	0	210	114	3121	439	2778	230	708	11	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#5	2018-05-04	0	210	114	1518	250	2791	230	709	8	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#6	2018-05-04	0	210	114	152	89	2891	230	366	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#7	2018-05-04	0	210	114	0	24	2773	230	191	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#8	2018-05-04	0	210	114	0	2	2773	230	704	6	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#9	2018-05-04	0	210	114	0	0	2776	230	706	7	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#0	2018-05-04	0	210	114	0	0	2774	230	0	7	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#1	2018-05-04	0	210	114	0	0	2754	230	0	7	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#2	2018-05-04	0	210	114	0	0	2736	230	0	4	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#3	2018-05-04	0	210	114	0	0	2730	230	0	4	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#4	2018-05-04	0	210	114	0	0	2725	230	0	3	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#5	2018-05-04	0	210	114	0	0	2721	230	0	2	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#6	2018-05-04	0	210	114	0	0	2718	230	0	2	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		
#7	2018-05-04	0	210	114	0	0	2715	230	0	2	0	62	0	0	17219	103	10000	230	0	66	200	101	1	1	1	3	13		

7. Configure

The Configure screen is used to set the control parameters, the input/output signals for the connected OJ DV and, if installed, the I/O module.

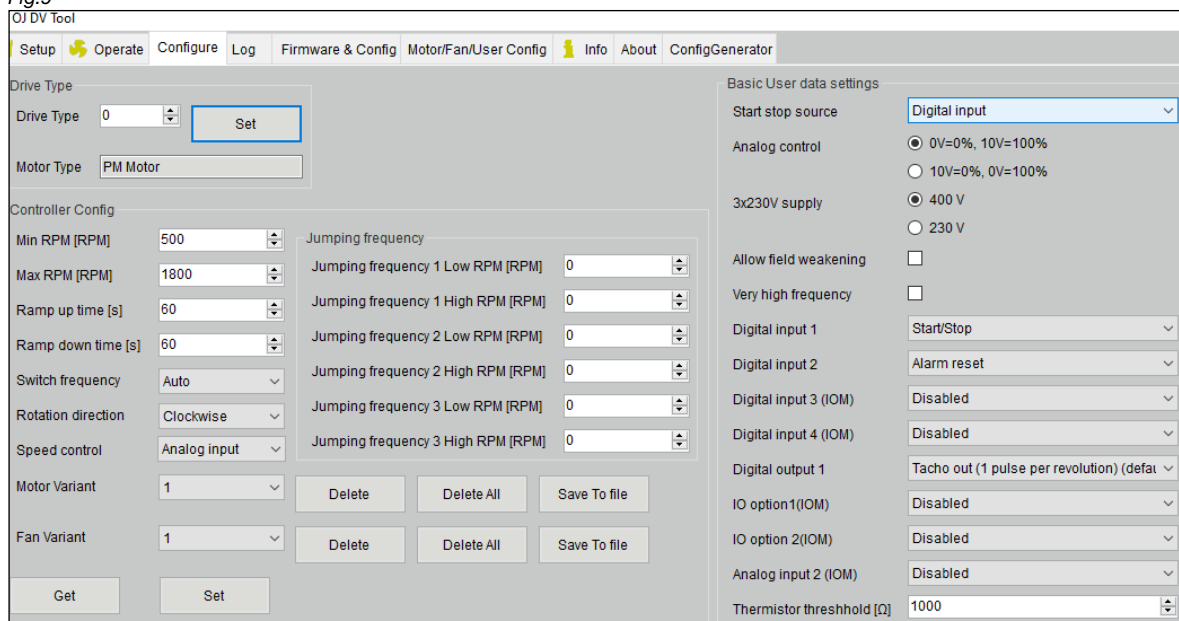
Configure is made up of:

- Drive type
- Controller configuration
- Basic User data settings

The Access level installed will dictate how much of the configuration can be changed Both PM and AC motors can be configured from this side.

7.1 Drive type.

Fig.9



User Access level can only view the preset Drive type. The higher access levels can change this between PM and AC motor types.

All PM motors use Drive Type 0 and above 100, AC motors use Drive Types 1 to 99.

The following Drive Type values will set some AC-motor parameters to default values depending on the physical size of the OJ DV:

Drive size	Drive type
H1/H1x	15
H3	35
H4	45
H5	55

Press Set after choosing the Drive type, wait for ten seconds before continuing with the configuration of the OJ DV.

7.2 Controller Config.

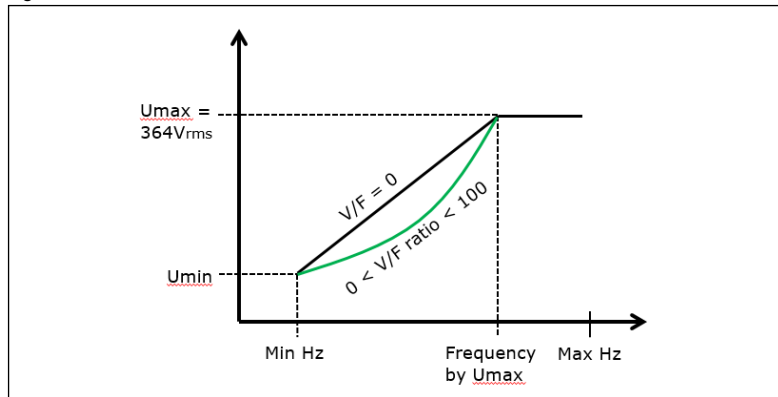
Controller Config AC motor:

- Min Hz (Hz)
- Max Hz (Hz)
- Ramp up time (s)
- Ramp down time (s)
- Switch frequency
 - Auto
 - Low (4 kHz)
 - High (8 kHz)
- Rotation direction
 - Counter Clockwise
 - Clockwise
- Speed control
 - Modbus
 - Analog input
 - Autodetect¹
- Max I out (A)
 - Adjust to match motor
- Boost I out (A)
- UminHz (V)
- Freq Umax (Hz)
- ExpSet
- Jumping frequency (Hz)³

Fig.10

Controller Config		Jumping frequency	
Min Hz [Hz]	5,00	Jumping frequency 1 Low Hz [Hz]	0,00
Max Hz [Hz]	68,00	Jumping frequency 1 High Hz [Hz]	0,00
Ramp up time [s]	60	Jumping frequency 2 Low Hz [Hz]	0,00
Ramp down time [s]	60	Jumping frequency 2 High Hz [Hz]	0,00
Switch frequency	Auto	Jumping frequency 3 Low Hz [Hz]	0,00
Rotation direction	Clockwise	Jumping frequency 3 High Hz [Hz]	0,00
Speed control	Autodetect		
Max I out [A]	7,212		
Boost I out [A]	7,212		
UminHz [V]	20		
Freq Umax [Hz]	50,00		
ExpSet	75		
<input type="button" value="Get"/> <input type="button" value="Set"/>			

Fig.11



Controller Config PM Motor:

- Min RPM (RPM)
- Max RPM (RPM)
- Ramp up time (s)
- Ramp up time (s)
- Switch frequency
 - Auto
 - Low (4 kHz)
 - High (8 kHz)
- Rotation direction
 - Counter Clockwise
 - Clockwise
- Speed control
 - Modbus
 - Analog input
 - Autodetect¹
- Motor Variant²
- Fan Variant²
- Jumping frequency (RPM)³

Fig.12

Controller Config		Jumping frequency	
Min RPM [RPM]	500	Jumping frequency 1 Low RPM [RPM]	0
Max RPM [RPM]	1800	Jumping frequency 1 High RPM [RPM]	0
Ramp up time [s]	60	Jumping frequency 2 Low RPM [RPM]	0
Ramp down time [s]	60	Jumping frequency 2 High RPM [RPM]	0
Switch frequency	Auto	Jumping frequency 3 Low RPM [RPM]	0
Rotation direction	Clockwise	Jumping frequency 3 High RPM [RPM]	0
Speed control	Analog input		
Motor Variant	1		
Fan Variant	1		
<input type="button" value="Get"/> <input type="button" value="Set"/>			

¹ Autodetect: When powered up the OJ DV will be default analog control. If the OJ DV detects write request to the start or speed setpoint via the selected protocol, it will automatically shift to Modbus or BACnet MS/TP control. This function is automatically reset when the OJ DV is restarted.

² Motor and Fan variants are generated via the ConfigGenerator. The OJ DV can store up to 40 motor and fan variants

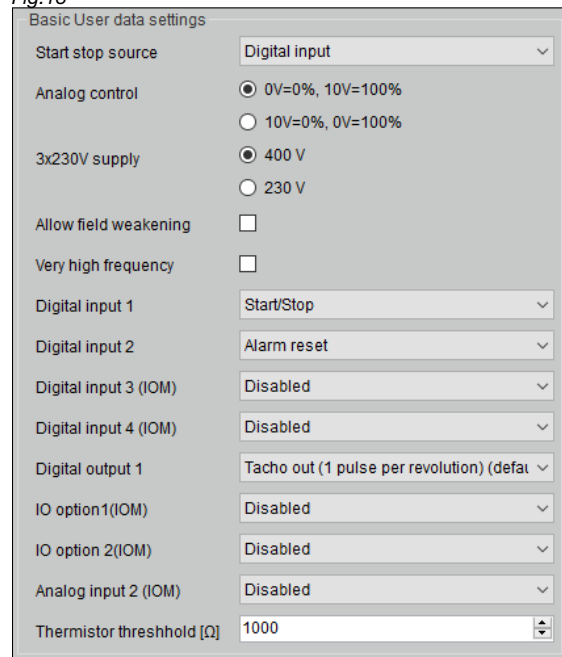
³ Not available in User access level 0

7.3 Basic User data settings¹.

- Start stop source
 - Digital input
 - Analog input
- Analog control
- 3x230V supply
- Allow field weakening
- Very high frequency (AC motors only)
- Digital input 1
- Digital input 2
- Digital input 3 (IOM)
- Digital input 4 (IOM)
- Digital output 1
- IO option 1(IOM)
- IO option 2(IOM)
- Analog input 2 (IOM)
- Thermistor threshold

¹ Not available in User access level 0

Fig. 13



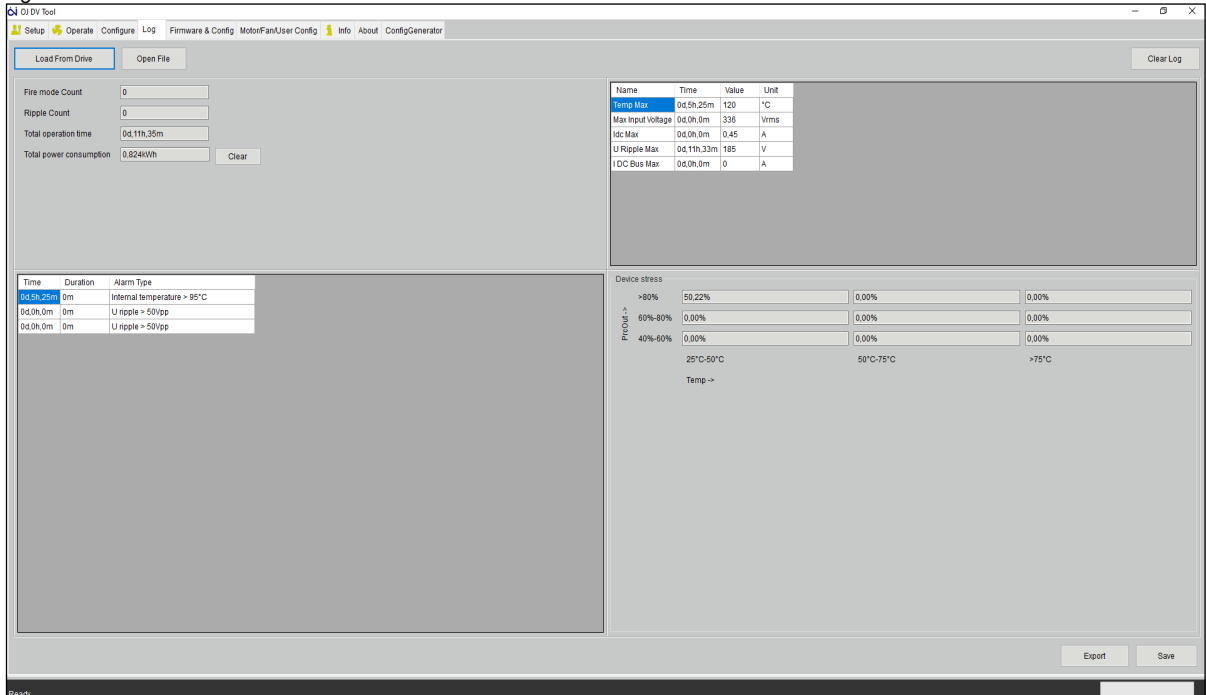
Digital Input options		
Option	Position	Description
Disabled		Not used
Start/Stop	NO	Used when Start stop source is set to Digital input
Alarm reset	NO	Used to reset the OJ DV after an Alarm
Use Modbus ID 2 when high	NO	N/A
Invert 10-0V	NO	0 = 0%, 10V = 100%
Rotation	NO	Change rotation direction from the direction set in Controller Configuration
Firemode	NC	When Firemode is activated all warnings and alarms will be ignored and motor will remain at the set RPM until Firemode has been deactivated or the OJ DV is turned off
Motor overheat	NO	Motor overheat protection
Invert 0-10V	NO	0 = 100%, 10V = 0%
All stop	NO	Stops the connected motor immediately
Modbus Disabled	NO	Modbus communication will be disabled when Digital input is activated
Firemode max	NC	When Firemode max is activated all warnings and alarms will be ignored and motor will accelerate to Max RPM until the OJ DV has been turned off
Digital Dual Speed	NO	When this option is chosen a box appears where the two speeds can be entered. The OJ DV will then only run at one of these two set speeds, depending on if the input is true or false.
Modbus Enable	NO	Modbus communication will be enabled when Digital input is activated
Modbus ID Offset 1	NO	N/A
Modbus ID Offset 2	NO	N/A
Modbus ID Offset 3	NO	N/A

Digital Output options	
Option	Description
Disabled	Not used
Tacho out (1 pulse per revolution)	Output send signal 1 pulse per revolution
Running on Start indicator (Start = Hi)	Activated on reception of Start signal
Alarm indicator (Alarm = Hi)	Activated on "internal stop" Alarm
Running on Spin indicator (Running = Hi)	Activated when motor reaches minimum set speed, deactivates when speed is half way between Minimum set speed and stop.
Set output status via coil stat 24	Output is controlled externally via Modbus Coil Stat 24
Alarm indication on first occurrence	Activated on the first occurrence and not after the number of retries
Alarm indicator (Alarm = Low)	Activated on "internal stop" Alarm

8. Log

The Log can either be loaded from a connected OJ DV (Load from Drive) or imported from a Log file stored on a computer (Open file), which has been saved using the Save icon in the bottom right of the screen. The Log can also be exported as a readable csv or txt file by clicking on the Export icon.

Fig.14



The top left of the Log shows:

- Fire mode Count: Total number of minutes in Fire mode
- Ripple Count: Number of minutes with too high current ripple
- Total operation time: Total time motor is loaded, not commission date
- Total power consumption: In kWh

The top right of the screen shows the highest maximum values and how long the motor has been running when the value was recorded.

Max Values for:

- Temperature
- Input Voltage
- Current over the dc bus
- Voltage ripple
- Current ripple

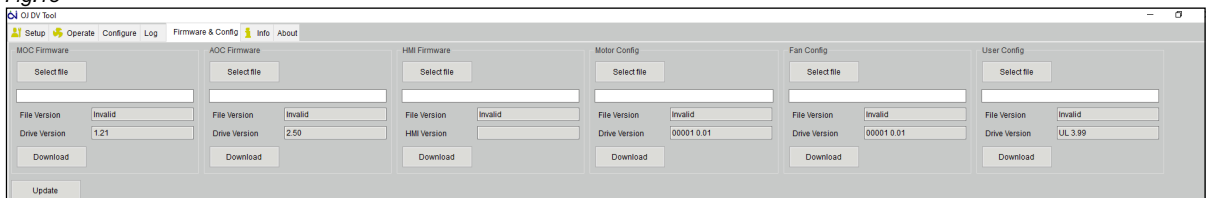
Bottom left is the Alarm register, showing how much running time has passed, the duration and type of alarm.

The Device stress in the bottom left of the screen, shows which motor speed has been demanded most, as a percentage of the maximum speed, against the internal running temperature of the OJ DV.

9. Firmware & Config

The Firmware & Config is used for updating the MOC, AOC, HMI firmware and Motor, Fan, User Configuration. User level 0 can only install MOC and AOC firmware.

Fig.15



When connected to the OJ DV, the version which is in the connected OJ DV will be shown in the Drive version. If this information does not appear automatically, click on the Update icon. Firmware for the OJ DV can be downloaded from the OJ Electronics Customer Login website.

9.1 **AOC and MOC Firmware update.**

To update or reinstall the Application Oriented Controller (AOC) and Motor Oriented Controller (MOC), the firmware has to be loaded on the connected computer.

Select the MOC and the AOC firmware.

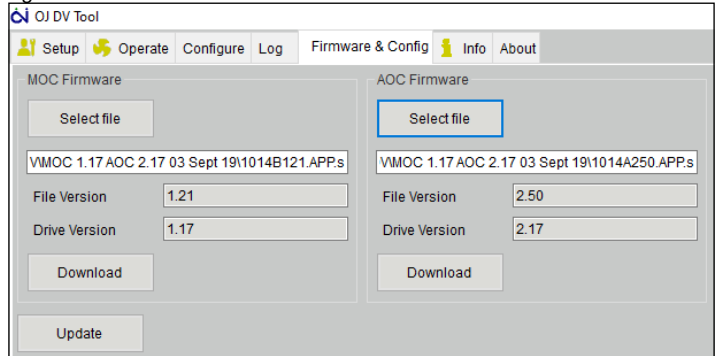
The MOC firmware for the OJ DV always has the letter B in the middle:

- 1014B121.APP.s

The AOC firmware has the letter A:

- 1014A250.APP.s

Fig.16

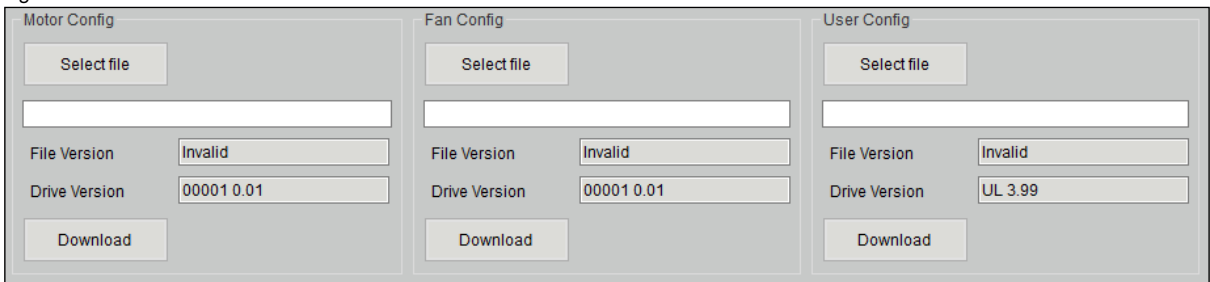


When the firmware has been selected the File Version will appear. Click on the “Download” Icon. In the bottom right of the screen there is a process bar and a Line counter in the bottom left, when the download process is finished Ready will be shown.

9.2 **Motor, Fan and User Configuration Updates.**

Installing a new or updated version of a Motor Configuration File (MCF), Fan Configuration File (FCF) and User Defined File (UDF) is as with the MOC and AOC firmware.

Fig.17



Save the files to the connected computer. Select the file and click on the Download. Wait until “Ready” is shown in the bottom left hand corner of the program.

9.3 **Updating the OJ-DV-HMI-35T and the OJ-VCH-HMI3.**

The OJ-DV-PC-Tool needs to be connected to the OJ DV via the RJ12 “B” connector or via the spring terminals marked “A”, “B” and “GND”.

Select the Firmware to be installed to the hand terminals from the computer.

The OJ-DV-HMI-35T will have a “P” in the middle of the firmware name and the OJ-VCH-HMI3 will have a “Q”

Click “Download” a new box will appear with instructions.

- Disconnect the HMI, if connected.
- Press “OK” in the new box.
- Connect the HMI to the RJ12 RS-485 terminal A

The HMIs screen will then flash on and off until the download is finished and the bottom left of the PC Tool will read “Ready”

Fig.18

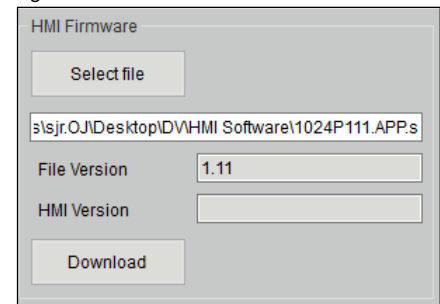
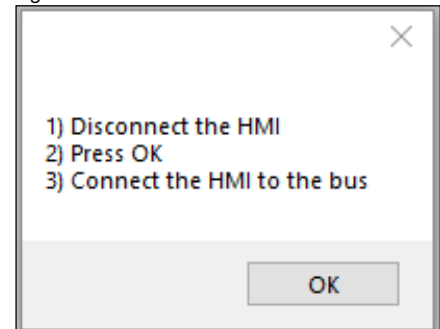


Fig.19



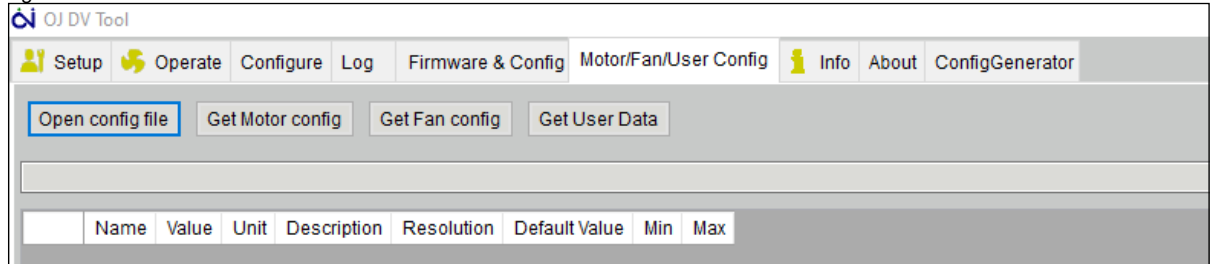
10. Motor/Fan/User Config

The Motor/Fan/User Config side can only be used by the Engineering access plus level.

This allows the user to see the generated motor (mcf), fan (fcf) and user defined (udf) files and fine tune the parameters within these files

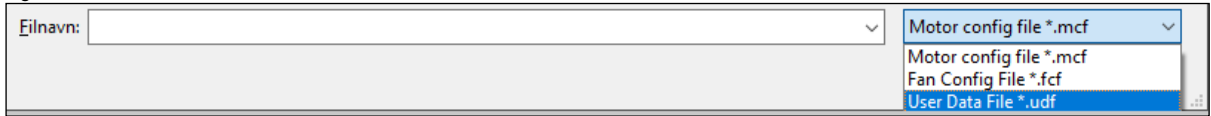
Files stored on the computer can be opened by clicking on “Open config file”.

Fig.20



If looking for a fan config or user data file and it does not show in the place that it has been saved click on the dropdown menu in the bottom right of the box. The different types of file will only appear when chosen.

Fig.21



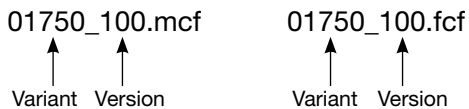
To retrieve the mcf, fcf and udf from a connected OJ DV, click on the respective “Get Motor config”, “Get Fan config” and “Get user Data”.

The file can be downloaded directly to a connected OJ DV, “Send config to drive”. It is a good idea to save any changes to files back to the computer, “Save config to file”.

10.1 Naming motor and fan config files

Motor (mcf) and fan (fcf) configuration file names are made up from the “Variant” and “Version” of the files (See 13. ConfigGenerator). Letters should not be used.

For example:



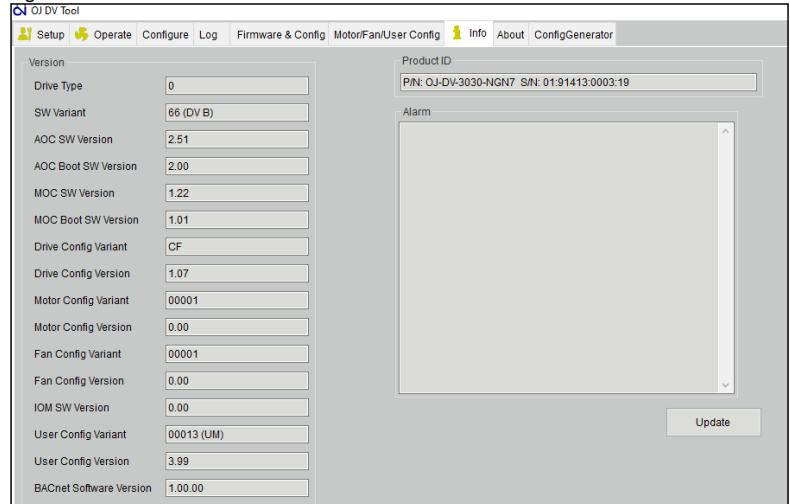
11. Info

This page shows the information about the Firmware, Configuration files installed, type and serial number of the attached OJ DV.

The left hand side of the page shows:

- Drive Type
- SW Variant
- AOC SW Version
- AOC Boot SW Version
- MOC SW Version
- MOC Boot SW Version
- Drive Config Variant
- Drive Config Version
- Motor Config Variant
- Motor Config Version
- Fan Config Variant
- Fan Config Version
- IOM SW Version
- User Config Variant
- User Config Version
- BACnet Software Version

Fig.22

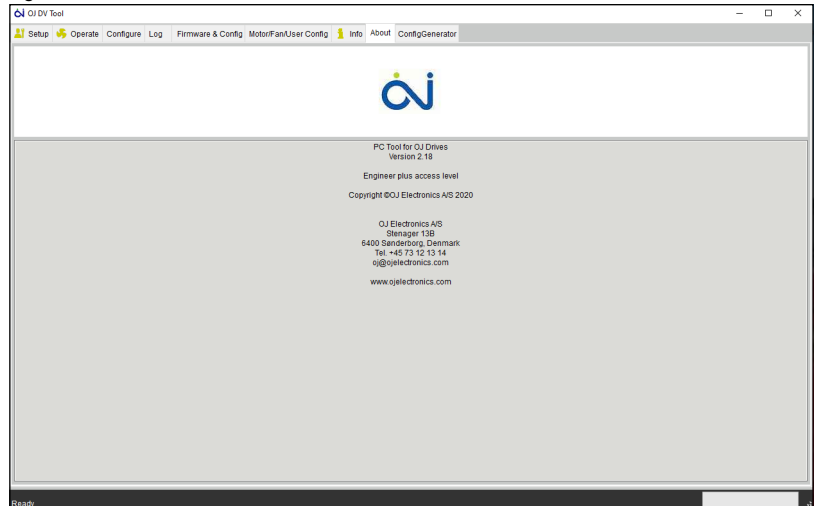


The Product type and serial number and any active alarms are shown on the right of the screen.

12. About

The version and access level and contact information for the OJ-DV-PC-Tool are shown on this page.

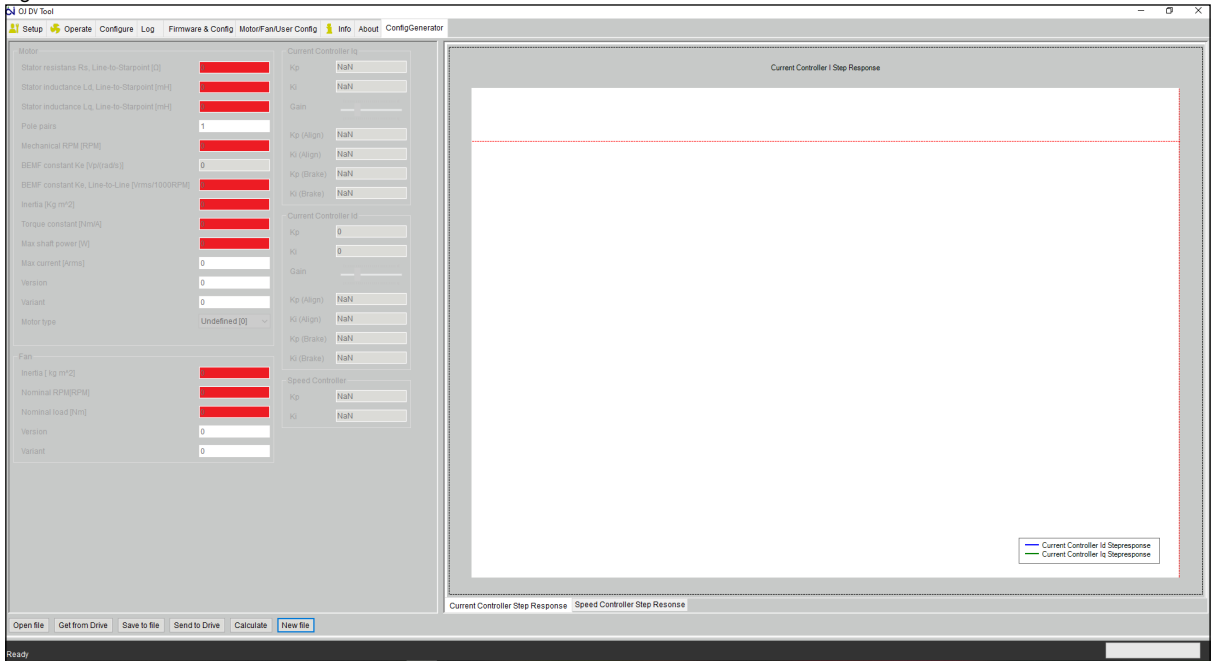
Fig.23



13. ConfigGenerator

Accessible for Engineering and Engineering Plus Access levels only.

Fig.24

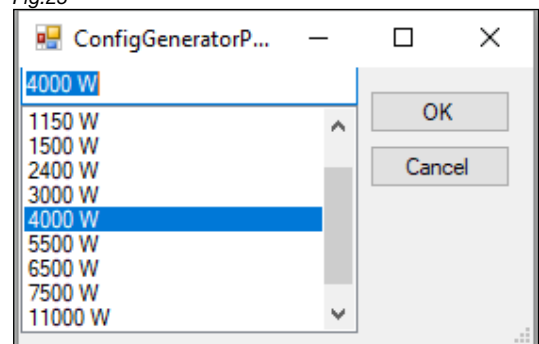


The ConfigGenerator is used to generate configuration files for PM motors and fans (mcf and fcf). These configurations files can be made and saved to a computer without being connected to an OJ DV.

Start a new motor and fan config file (mcf and fcf), by clicking on “New file” a box will appear. Choose the power rating of the OJ DV that the config files will be installed in. Click on “OK”. This will preinstall some of the values used by the chosen OJ DV

Fill in the values for the motor and fans from the data sheets provided by the manufactures.

Fig.25





Note

Stator resistance R_s , Stator inductance L_d and L_q values are Line-to-Starpoint some motor manufactures data sheets show these values as Line-to-Line.

Divide the Line-to-Line by two for Line-to-starpoint value.

The ConfigGenerator uses the number of Pole pairs of the motor for speed calculation and scaling.

Change the

- Max shaft power (W)
- Max current (Arms)

to that of the motor.

Motor and Fan Version: 100 and above are released versions. Use 1 for the first version and change to 100 when tested and accepted.

The Motor and Fan Variant are used to name the motor and fan configuration files. It is a good idea to record the variant number of the mcf and fcf and the corresponding motor and fan for future use and reference.

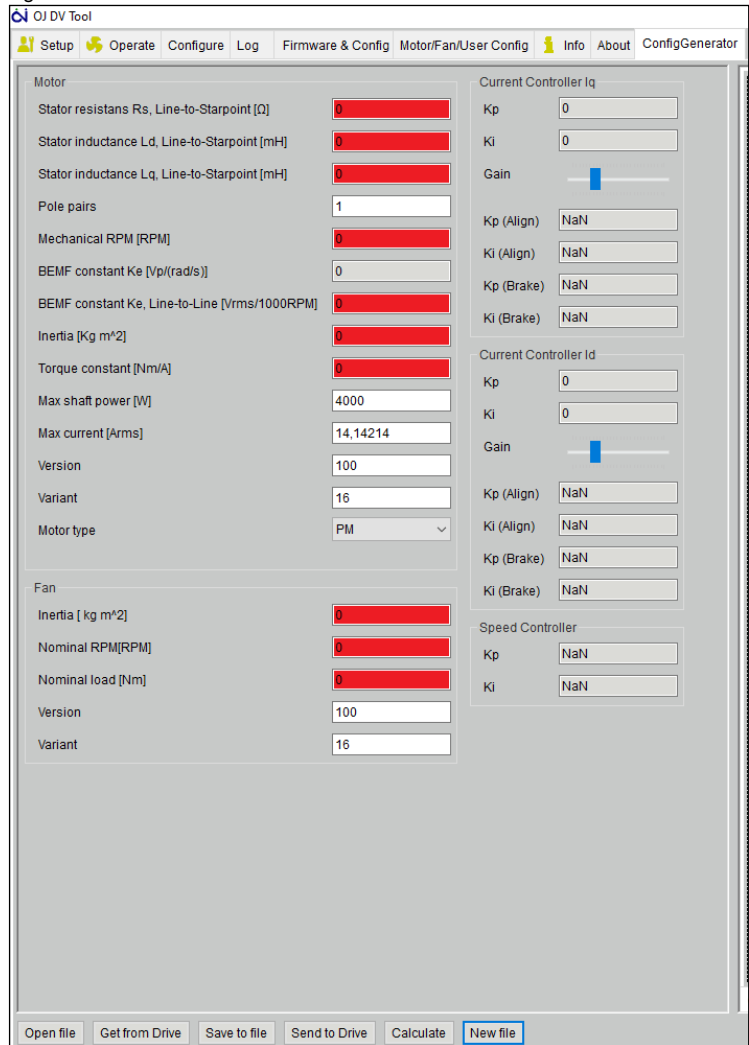
When all the values have been entered click on "Calculate". The Motor and Fan configuration have now been generated.

These files can now be sent to a connected OJ DV (Send to Drive) or saved to the computer (Save to file), to be downloaded later to the OJ DV using the Firmware & Config page (See chapter 10.1 for naming the motor and fan configuration files).

"Open file" allows the user to see Motor Config File (mcf) and Fan Config File (fcf), saved on the computer, as the original values on the ConfigGenerator.

"Get from Drive" allows the user to see the chosen mcf and fcf files currently operating on the connected OJ DV.

Fig.26



14. Troubleshooting

Troubleshooting		
Symptom	Cause	Action
No communication with the OJ DV	Lacking supply power	Check for voltage on OJ DV terminals "L" and "N" for the 230V version or "L1", "L2" and "L3" for the 3x400V version.
	No connection/communication between PC and RS485 USB converter	Check the USB connection
		Check that the correct Com port has been selected in the Setup in the OJ-DV-PC-Tool
		Check that another RS-485 connection is not active
	No connection/communication between the USB-to -RS485 converter and the OJ DV	Check that the RJ12 plug connector is correctly attached to the RJ12 terminal connector "B" of the OJ DV.
		Check the wires in the spring terminals A, B and Gnd are secure.
	Drive cannot be found on Modbus network	If the alternative protocol address cannot connect to the OJ DV, unless the Modbus parameter "AutoDetectComm" has not been deactivated, the OJ DV constantly listens at 38.4 kbaud, no parity, one stop bit and Modbus ID 54.
		Use the "Search" function under "Modbus ID" on the Setup page of the PC-Tool
		Check that the PC-Tool is not already open