

NG FAN

CONFIGURATOR

Operating Manual

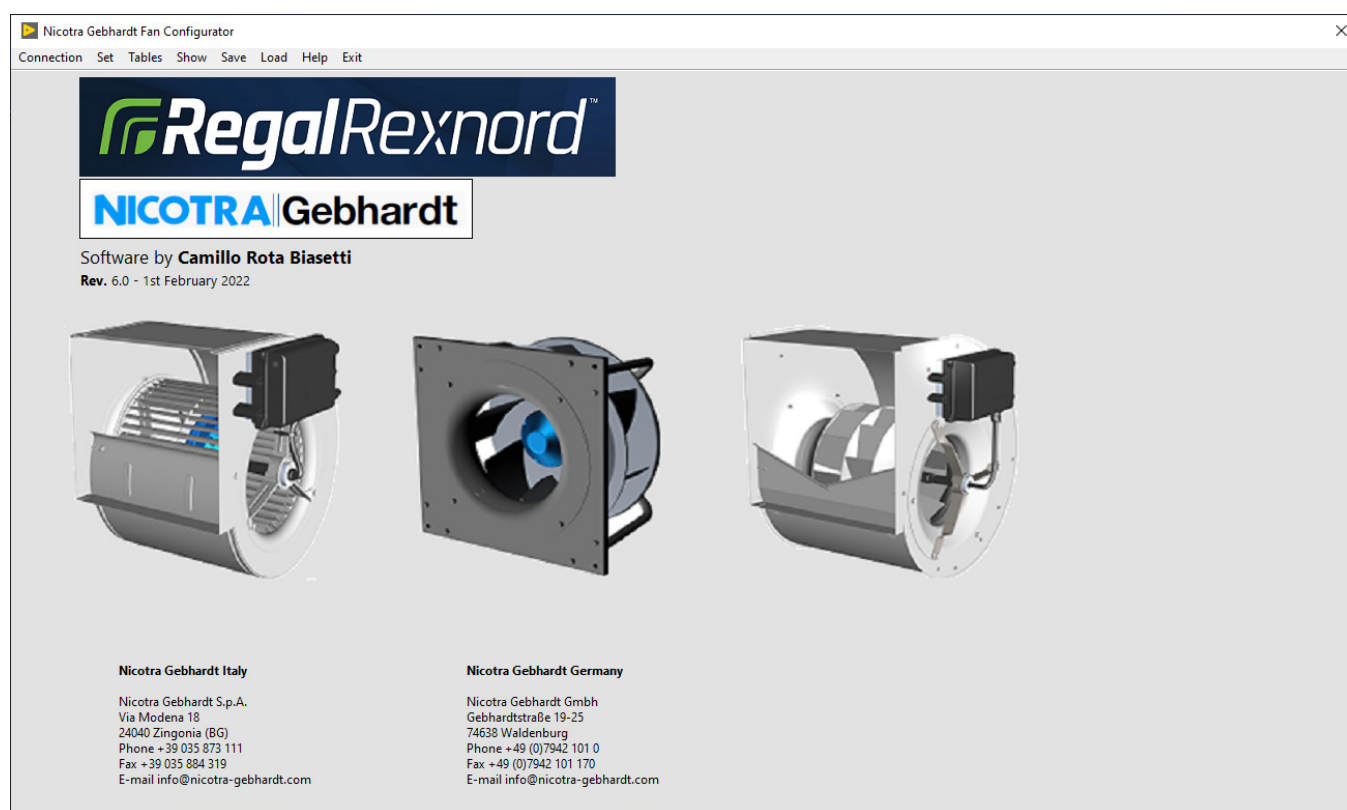


TABLE OF CONTENTS

DESCRIPTION AND REQUIREMENTS	3
END USER LICENSE AGREEMENT	3
EULA CONTENT	3
SOFTWARE MENU	4
MENU ITEMS	5
CONNECTION	5
<i>Cable Connection</i>	5
Connection through RS485 cable	6
Connection through RS232 OFFLINE cable	6
<i>Bluetooth Connection</i>	6
SET	6
<i>Fan Type</i>	6
<i>Operating Mode</i>	7
<i>Registers</i>	8
<i>Password</i>	8
TABLES	8
<i>Holding Registers</i>	8
<i>Input Registers</i>	9
<i>Log Record</i>	11
SHOW	11
<i>Performance</i>	11
<i>Variables</i>	12
CLOSED LOOP PID	12
<i>Alarms</i>	12
Driver alarms	13
General Info	13
SAVE	14
<i>Fan Configuration</i>	14
<i>Log File</i>	15
<i>Registers Comparison</i>	15
LOAD	15
<i>Fan Configuration</i>	15
<i>Printing Customized Labels</i>	16
<i>Firmware upgrade</i>	17
<i>Software Update</i>	17
HELP	17
<i>Technical Info</i>	17
CHANGING THE MENU ITEMS	17
REVISIONS:	18
NOTE:	19

Description and Requirements

The NG Fan Configurator is a freeware tool that can be used to check and configure the Nicotra | Gebhardt EC fans (DDMP, RDP, FDP and PFP) available on the website <http://www.nicotra-gebhardt.com>.

It runs only on a Windows operating system from 10 version onwards with a hard disk available space of 300MB.

For the connection between the computer and the driver of the fan it is necessary to use an USB to 485 or an USB to 232 converters (OFFLINE cable, refer to the fan manual for more detail).

After downloading and decompressing the zip file, double click on the **setup.exe** file and the program will be installed in the main root of the system **C:\NG Fan Configurator**

!!!NOTE!!!

Due to the shortage of electronic components in 2022 it was necessary to have the coexistence of different driver codes on the same fan model. For this reason, the NG Fan Configurator has been updated to the version 6.0 and lost the full compatibility with the previous version.

Therefore, before installing the new version is necessary to **UNINSTALL** the previous versions and **DELETE** the folder in **C:\NG Fan Configurator**.

All the old configuration created by the customer (not present in the standard database) **MUST BE RECREATED WITH NEW** by **SELECTING THE CORRECT FAN MODEL AND DRIVER**.

End User License Agreement

To proceed with any further operation, the user must accept the END USER LICENSE AGREEMENT by clicking here.

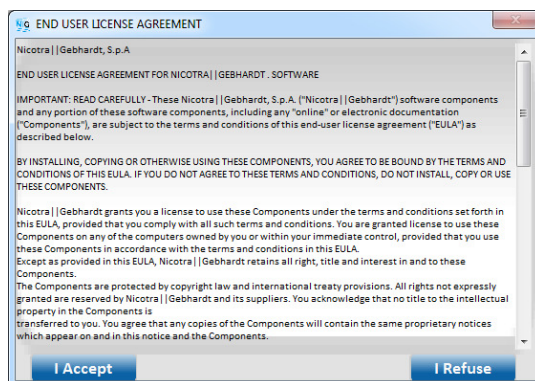


Fig. 1

EULA content

Nicotra | Gebhardt, S.p.A

END USER LICENSE AGREEMENT FOR NICOTRA | GEBHARDT SOFTWARE

IMPORTANT: READ CAREFULLY - These Nicotra | Gebhardt, S.p.A. ("Nicotra | Gebhardt") software components and any portion of these software components, including any "online" or electronic documentation ("Components"), are subject to the terms and conditions of this end-user license agreement ("EULA") as described below.

BY INSTALLING, COPYING OR OTHERWISE USING THESE COMPONENTS, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THIS EULA. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, DO NOT INSTALL, COPY OR USE THESE COMPONENTS.

Nicotra | Gebhardt grants you a license to use these Components under the terms and conditions set forth in this EULA, provided that you comply with all such terms and conditions. You are granted license to use these Components on any of the computers owned by you or within your immediate control, provided that you use these Components in accordance with the terms and conditions in this EULA.

Except as provided in this EULA, Nicotra | Gebhardt retains all rights, titles and interests in and to these Components.

The Components are protected by copyright law and international treaty provisions. All rights not expressly granted are reserved by Nicotra||Gebhardt and its suppliers. You acknowledge that no title to the intellectual property in the Components is transferred to you. You agree that any copies of the Components will contain the same proprietary notices which appear on and in this notice and the Components.

Without obtaining prior written permission from Nicotra||Gebhardt you may not (1) use, copy, modify, alter or transfer the Components, (2) translate, disassemble, decompile, reverse program or otherwise reverse engineer the Components, (3) sublicense or lease the Components, or (4) use the Components in a rental, time sharing or computer service business. Without prejudice to any other rights, Nicotra||Gebhardt may terminate this EULA if you fail to comply with any provision herein. In such event, you must destroy all copies of the Components.

DISCLAIMER OF WARRANTIES. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, NICOTRA||GEBHARDT AND ITS SUPPLIERS PROVIDE TO YOU THE COMPONENTS, AND ALL (IF ANY) SUPPORT SERVICES RELATED TO THE COMPONENTS ("SUPPORT SERVICES") AS THEY ARE AND WITH ALL FAULTS; AND Nicotra||Gebhardt AND ITS SUPPLIERS HEREBY DISCLAIM WITH RESPECT TO THE COMPONENTS AND SUPPORT SERVICES ALL WARRANTIES AND CONDITIONS, WHETHER EXPRESSED, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ALL (IF ANY) WARRANTIES OR CONDITIONS OF OR RELATED TO: TITLE, NON-INFRINGEMENT, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, LACK OF VIRUSES, ACCURACY OR COMPLETENESS OF RESPONSES, RESULTS, LACK OF NEGLIGENCE OR LACK OF WORKMANLIKE EFFORT, QUIET ENJOYMENT, QUIET POSSESSION, AND CORRESPONDENCE TO DESCRIPTION. THE ENTIRE RISK ARISING OUT OF USE OR PERFORMANCE OF THE COMPONENTS AND ANY SUPPORT SERVICE REMAINS WITH YOU.

EXCLUSION OF INCIDENTAL, CONSEQUENTIAL AND CERTAIN OTHER DAMAGE. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL NICOTRA||GEBHARDT OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR: LOSS OF PROFITS, LOSS OF CONFIDENTIAL OR OTHER INFORMATION, BUSINESS INTERRUPTION, PERSONAL INJURY, LOSS OF PRIVACY, FAILURE TO MEET ANY DUTY (INCLUDING OF GOOD FAITH OR OF REASONABLE CARE), NEGLIGENCE, AND ANY OTHER PECUNIARY OR OTHER LOSS WHATSOEVER) ARISING OUT OF OR IN ANY WAY RELATED TO THE USE OF OR INABILITY TO USE THE COMPONENTS OR THE SUPPORT SERVICES, OR THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES, OR OTHERWISE UNDER OR IN CONNECTION WITH ANY PROVISION OF THIS EULA, EVEN IF NICOTRA||GEBHARDT OR ANY SUPPLIER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

LIMITATION OF LIABILITY AND REMEDIES. NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED ABOVE AND ALL DIRECT OR GENERAL DAMAGES), THE ENTIRE LIABILITY OF NICOTRA||GEBHARDT AND ANY OF ITS SUPPLIERS UNDER ANY PROVISION OF THIS EULA AND YOUR EXCLUSIVE REMEDY FOR ALL OF THE FOREGOING SHALL BE LIMITED TO THE GREATER OF THE AMOUNT ACTUALLY PAID BY YOU FOR THE COMPONENTS. THE FOREGOING LIMITATIONS, EXCLUSIONS AND DISCLAIMERS SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

Software Menu

Accepting the EULA, the fan starts in the info page and the available menu is shown in figure 2.

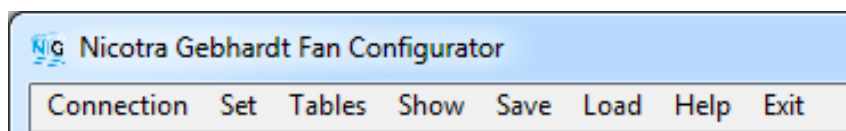


Fig. 2

The single items are shown in figure 3.

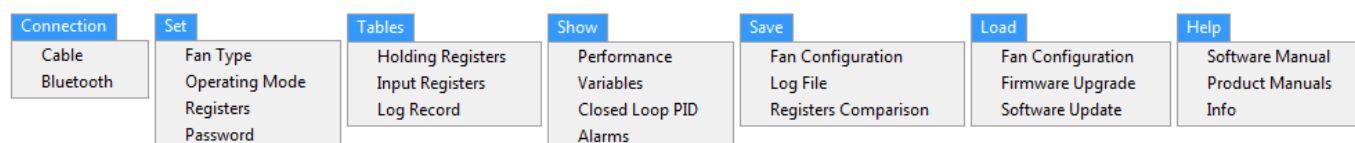


Fig. 3

Menu items

Connection

This item contains two sub-items for the connection of the fan to a PC through a Modbus protocol.

Cable Connection

(Refer to the EC Fan Manual for details).

Before connecting the user must select:

- 1) The Fan Address
- 2) The COM port (no preselection)
- 3) The Cable Type
- 4) The Baud Rate
- 5) The Parity

Fig. 4

An automatic procedure for finding the correct parameters is available.

Once the “FIND” button is pressed the first step is to disconnect the cable on the computer side and then reconnect it in order to find the associated COM port associated.

Fig. 5

It is possible to deselect the known items in order to reduce the search time.

Fig. 6

During the search it is not possible to exit and if the fan is found the parameters are directly saved on the main screen

Fig. 7

Connection through RS485 cable

The fan must be powered on and the connection is made through the opto-insulated contacts. For example, a FTDI cable can be used: USB-RS485-WE-1800-BT.

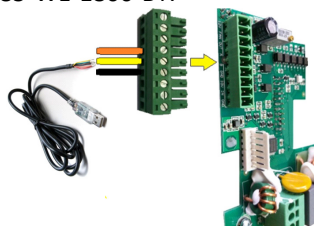


Fig.8

Connection through RS232 OFFLINE cable

The fan must be POWERED OFF and the connection is made through the white connector of figure 9. For example, a FTDI cable can be used: TTL-232R-5V-WE.

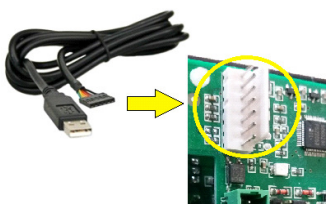


Fig. 9

Bluetooth Connection

It is also possible to communicate through a Bluetooth device using the module in figure 10.

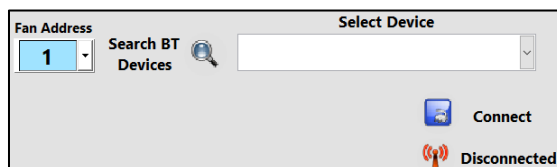


Fig. 10

NOTE:

Each cable requires its own drivers being installed on the PC.
Once the drivers are installed and the cable connected a virtual COM port is assigned.

Set

This item contains sub-items to select the fan model, to change the Operating Mode, to set the fan Holding Registers and the password to access to higher privileges.

Fan Type

After the connection the most important operation is to select the fan type.

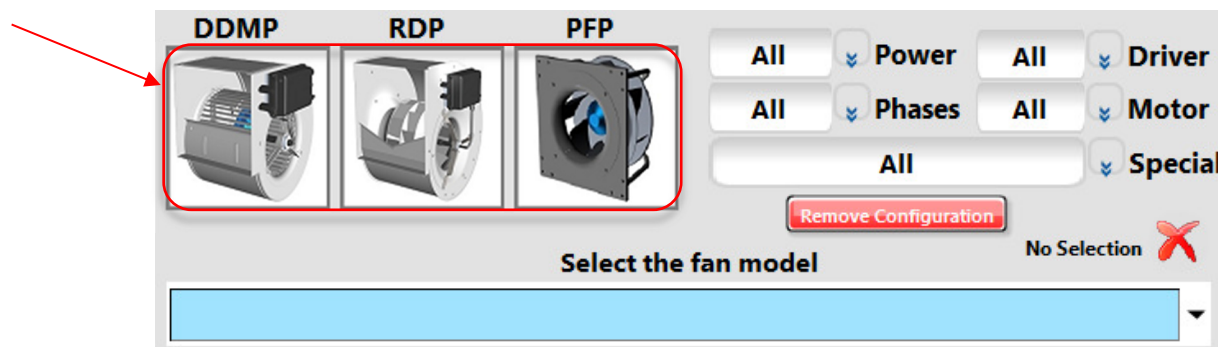


Fig. 11

It is possible to sort the selection by family, Power OUT, Phases, Special Configuration, Driver Model and Motor Models.

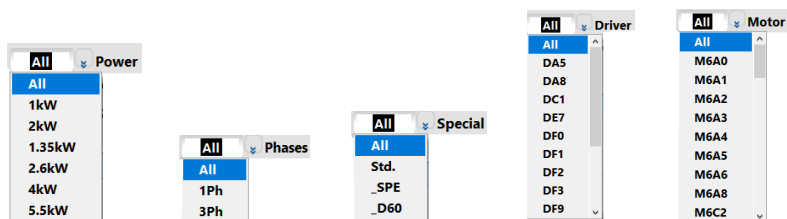


Fig. 12

NOTE:

The driver and motor codes are indicated on the fan label.

Both the motor and driver code are abbreviated and M = 141 while D = 1431.



Fig. 13

NOTE:

The special list can have SPECIAL customized configuration, configurations for higher temperature and so on.

Then the fan must be selected from the list in the combo box of figure 14.

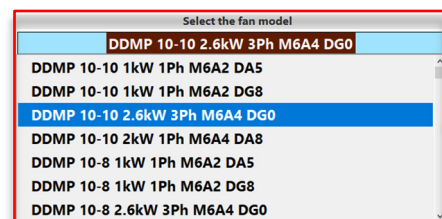


Fig. 14

Operating Mode

The Operating Mode can be changed only after the fan has been selected and connected and the available choices are depending on the fan type (refer to the EC Fan Manual for details).

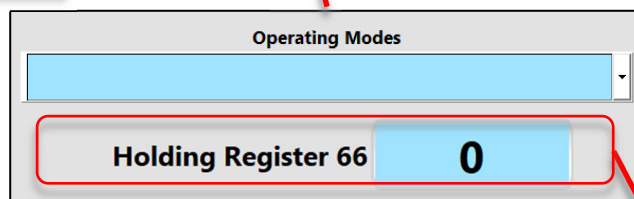
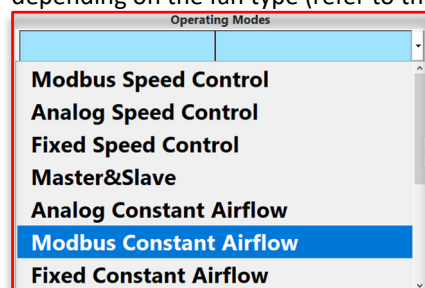


Fig. 15

The Temporary Modbus Control can be set through the control field.

Registers

The fan Holding Registers can be accessed and set depending on the fan selected (refer to the EC Fan manual for details).

Fig. 16

In figure 16 is shown the modifiable Holding Registers for the RDP 315 2.6kW 3Ph M6A5 DF0. The registers that can't be modified are disabled and greyed out.

Password

This sub-item is reserved to the Nicotra | Gebhardt technical dept.

Tables

This item contains three sub-items to monitor the Input and Holding Registers and to LOG the fan functioning variables.

Holding Registers

This sub-item shows the status of the Holding Registers read from the connected driver compared with the Holding Registers loaded when the Fan Type is selected. Where the registers are at the same value the cell background color is white while (fig. 17) it is blue in the other cases (fig. 18).

Reg.	Description	Default	Stored	Reg.	Description	Default	Stored
0	Reset	0	0	32	Avoid range start	20000	20000
1	Min Speed	500	500	33	Avoid range end	20000	20000
2	Max Speed	2080	2080	34	Input type	1	1
3	Acceleration	120	120	35	Stop speed	20000	20000
4	Deceleration	80	80	36	Maximum Power	2100	2100
5	Pole Couples	4	4	37	Power Kp	1000	1000
6	Startup Current	5200	5200	38	Power Ki	14000	14000
7	Max Current	6500	6500	39	Constant Airflow	0	0
8	Stator Resistance	153	153	40	Kp Flow/Kp IN Curr	0	0
9	Synch. Inductance	94	94	41	Ki Flow/Ki IN Curr	0	0
10	P.M. Flux	2562	2562	42	Min Airflow	0	0
11	Current Kp	573	573	43	Max Airflow	0	0
12	Current Ki	405	405	44	Fan Model	3	3
13	Speed Kp	4000	4000	45	Modbus Addr	1	1
14	Speed Ki	25	25	46	Tach OUT	0	0
15	F.Rb.Gain/Freq. Red.	10	10	47	Modbus Speed	96	96
16	Ph.Offset/Fred Turn ON	0	0	48	Modbus Stop Bits	0	0
17	Startup Time	800	800	49	Max Input Current	0	0
18	Filter tau/Obs. Gain	10	10	50	External Set	0	0
19	Sampling Freq.	13600	13600	51	Kp ext	0	0
20	Freq. Ratio	1	1	52	Ki ext	0	0
21	Fixed speed setting	0	0	53	Kd ext	0	0
22	Max. blocking current	1000	1000	54	PID Time	0	0
23	Min. blocking current	250	250	55	Speed Threshhold	0	0
24	Blocking time	200	200	56	Communication Timeout	0	0
25	Alignment current	5200	5200	57	Limit RPM min	500	500
26	Alignment time	800	800	58	Limit RPM max	2080	2080
27	Id Fall time	50	50	59	Limit I OUT	6500	6500
28	Id ref	0	0	60	Limit P MAX	2100	2100
29	Max temp	750	750	61	Limit I INPUT	0	0
30	Asynchronous Slip	0	0	62	Date	0	4507
31	PID Pos/Neg	0	0	63	Serial	0	147

Fig. 17

Reg.	Description	Default	Stored	Reg.	Description	Default	Stored
0	Reset	0	0	32	Avoid range start	20000	20000
1	Min Speed	300	500	33	Avoid range end	20000	20000
2	Max Speed	2000	2080	34	Input type	1	1
3	Acceleration	200	120	35	Stop speed	20000	20000
4	Deceleration	80	80	36	Maximum Power	2100	2100
5	Pole Couples	4	4	37	Power Kp	1000	1000
6	Startup Current	5500	5200	38	Power Ki	14000	14000
7	Max Current	8300	6500	39	Constant Airflow	0	0
8	Stator Resistance	108	153	40	Kp Flow/Kp IN Curr	200	0
9	Synch. Inductance	63	94	41	Ki Flow/Ki IN Curr	4000	0
10	P.M. Flux	2500	2562	42	Min Airflow	1000	0
11	Current Kp	650	573	43	Max Airflow	5000	0
12	Current Ki	497	405	44	Fan Model	1	3
13	Speed Kp	4000	4000	45	Modbus Addr	1	1
14	Speed Ki	25	25	46	Tach OUT	0	0
15	F.Rb.Gain/Freq. Red.	10	10	47	Modbus Speed	96	96
16	Ph.Offset/Fred Turn ON	0	0	48	Modbus Stop Bits	0	0
17	Startup Time	800	800	49	Max Input Current	0	0
18	Filter tau/Obs. Gain	10	10	50	External Set	0	0
19	Sampling Freq.	13600	13600	51	Kp ext	0	0
20	Freq. Ratio	1	1	52	Ki ext	0	0
21	Fixed speed setting	0	0	53	Kd ext	0	0
22	Max. blocking current	1000	1000	54	PID Time	0	0
23	Min. blocking current	250	250	55	Speed Threshhold	0	0
24	Blocking time	200	200	56	Communication Timeout	0	0
25	Alignment current	5500	5200	57	Limit RPM min	300	500
26	Alignment time	100	800	58	Limit RPM max	2000	2080
27	Id Fall time	50	50	59	Limit I OUT	8300	6500
28	Id ref	0	0	60	Limit P MAX	2100	2100
29	Max temp	750	750	61	Limit I INPUT	0	0
30	Asynchronous Slip	0	0	62	Date	0	4507
31	PID Pos/Neg	0	0	63	Serial	0	147

Fig. 18

NOTE:

When the Holding Register default values are different from the stored values:

- 1- The user changed the value of the accessible Holding Registers
- 2- Verify that the fan you own corresponds to the selected one.
- 3- Update the software. Some fan values could have been reviewed by Nicotra | Gebhardt technical dept.
- 4- The values of the default and stored registers Date and Serial are always different.

The Holding Registers table is empty until a fan is selected and/or connected.

Reg.	Description	Sel.	Read	Reg.	Description	Sel.	Stored
0				32			
1	MIN SPEED			33			
2	MAX SPEED			34	INPUT TYPE		
3				35			
4				36	MAX POWER		
5				37			
6				38			
7	MAX CURRENT			39	CONSTANT AIRFLOW		
8				40			
9				41			
10				42	MIN AIRFLOW		
11				43	MAX AIRFLOW		
12				44	FAN MODEL		
13				45	MODBUS ADDRESS		
14				46	TACHO OUT		
15				47	MODBUS SPEED		
16	LOW THRESHOLD SPEED			48	MODBUS STOP BITS		
17				49			
18				50	EXTERNAL PID SET		
19				51	KP EXT PID		
20				52	KI EXT PID		
21	FIXED SPEED SETTING			53	KD EXT PID		
22				54	PID TIME		
23				55	HIGH THRESHOLD SPEED		
24				56	COMM TIMEOUT		
25				57			
26				58			
27				59			
28				60			
29	MAX TEMPERATURE			61			
30	ASYNCHRONOUS SLIP			62	Date		
31	PID POS/NEG			63	Serial		

Fig. 19

The parameter description changes depending on the firmware version and its relative algorithm.

Reg.	Description	Default	Stored	Reg.	Description	Default	Stored	Reg.	Description	Default	Stored	Reg.	Description	Default	Stored	Reg.	Description	Default	Stored
0	Reset	0	0	32	Avoid range start	20000	0	0	Reset	0	0	32	Avoid range start	20000	0	0	Reset	0	0
1	MIN SPEED	400	33	Avoid range end	20000	0	0	1	MIN SPEED	300	33	Avoid range end	20000	0	0	1	MIN SPEED	300	33
2	MAX SPEED	2000	34	INPUT TYPE	1	0	0	2	MAX SPEED	1500	34	INPUT TYPE	1	0	0	2	MAX SPEED	1500	34
3	Acceleration	300	35	Stop speed	20000	0	0	3	Acceleration	40	35	Stop speed	20000	0	0	3	Acceleration	120	35
4	Deceleration	150	36	MAX POWER	1000	0	0	4	Deceleration	20	36	MAX POWER	4000	0	0	4	Deceleration	100	36
5	Pulse Coupling	4	37	Power Kp	1000	0	0	5	Pulse Coupling	5	37	Power Kp	200	0	0	5	Pulse Coupling	4	37
6	Startup Current	2000	38	Power Ki	1000	0	0	6	Startup Current	50	38	Power Ki	50	0	0	6	Startup Current	50	38
7	MAX CURRENT	4000	39	CONSTANT AIRFLOW	0	0	0	7	MAX CURRENT	1000	39	CONSTANT AIRFLOW	0	0	0	7	MAX CURRENT	4000	39
8	Stator Resistance	450	40	Kp Flow	200	0	0	8	Stator Resistance	135	40	—	0	0	0	8	Stator Resistance	118	40
9	Synch. Inductance	133	41	Ki Flow	4000	0	0	9	Synch. Inductance	180	41	—	0	0	0	9	Synch. Inductance	82	41
10	F.M. Flux	2515	42	MIN ABF LOW	500	0	0	10	F.M. Flux	4155	42	—	0	0	0	10	F.M. Flux	1253	42
11	Current Kp	1000	43	MAX ABF LOW	3000	0	0	11	Current Kp	232	43	—	0	0	0	11	Current Kp	294	43
12	Current Ki	1520	44	FAN MODEL	2	0	0	12	Current Ki	96	44	FAN MODEL	5	0	0	12	Current Ki	960	44
13	Speed Kp	4000	45	MODBUS ADDRESS	1	0	0	13	Speed Kp	2000	45	MODBUS ADDRESS	1	0	0	13	Speed Kp	30000	45
14	Speed Ki	50	46	TACHO OUT	0	0	0	14	Speed Ki	50	46	TACHO OUT	0	0	0	14	Speed Ki	250	46
15	Flux Fd Gain	10	47	MODBUS SPEED	96	0	0	15	Flux Fd Gain	10	47	MODBUS SPEED	96	0	0	15	Flux Fd Gain	10	47
16	LOW THRESHOLD SPEED	0	48	MODBUS STOP BITS	0	0	0	16	LOW THRESHOLD SPEED	0	48	MODBUS STOP BITS	0	0	0	16	LOW THRESHOLD SPEED	0	48
17	Startup Time	800	49	—	0	0	0	17	Startup Time	400	49	—	0	0	0	17	Startup Time	400	49
18	Flux est. filter tau	10	50	EXTERNAL PID SET	0	0	0	18	Flux est. filter tau	10	50	EXTERNAL PID SET	0	0	0	18	Flux est. filter tau	10	50
19	Sampling Frequency	15000	51	KP EXT PID	0	0	0	19	Sampling Frequency	14000	51	KP EXT PID	0	0	0	19	Sampling Frequency	8000	51
20	Freq. Ratio	1	52	KI EXT PID	0	0	0	20	Freq. Ratio	1	52	KI EXT PID	0	0	0	20	Freq. Ratio	2	52
21	FIXED SPEED SETTING	0	53	KD EXT PID	0	0	0	21	FIXED SPEED SETTING	0	53	KD EXT PID	0	0	0	21	FIXED SPEED SETTING	0	53
22	Max. blocking current	1000	54	PID TIME	0	0	0	22	Max. blocking current	25	54	PID TIME	0	0	0	22	Max. blocking current	1000	54
23	Min. blocking current	150	55	HIGH THRESHOLD SPEED	0	0	0	23	Min. blocking current	20	55	HIGH THRESHOLD SPEED	0	0	0	23	Min. blocking current	250	55
24	Blocking time	200	56	COMM. TIMEOUT	0	0	0	24	Blocking time	15	56	COMM. TIMEOUT	0	0	0	24	Blocking time	200	56
25	Alignment current	3000	57	Limit RPM min	400	0	0	25	Alignment current	100	57	Limit RPM min	10	0	0	25	Alignment current	200	57
26	Alignment time	100	58	Limit RPM max	2000	0	0	26	Alignment time	800	58	Limit RPM max	1000	0	0	26	Alignment time	800	58
27	Id Fall time	500	59	Limit I OUT	1000	0	0	27	Id Fall time	50	59	Limit I OUT	1000	0	0	27	Id Fall time	50	59
28	Id ref	0	60	Limit P MAX	1050	0	0	28	Id ref	0	60	Limit P MAX	4200	0	0	28	Id ref	0	60
29	MAX TEMPERATURE	150	61	—	0	0	0	29	MAX TEMPERATURE	150	61	—	0	0	0	29	MAX TEMPERATURE	150	61
30	ASYNCHRONOUS SLIP	0	62	Date	0	0	0	30	ASYNCHRONOUS SLIP	0	62	Date	0	0	0	30	ASYNCHRONOUS SLIP	0	62
31	PID POS/NEG	0	63	Serial	0	0	0	31	PID POS/NEG	0	63	Serial	0	0	0	31	PID POS/NEG	0	63

Fig. 20

Input Registers

This sub-item shows the status of the Input Registers (refer to the EC Fan Manual for further details).

Input Registers	Value
Firmware Version	5
Driver Model	45600
Speed Reference [rpm]	0
Measured Speed [rpm]	0
Bus Voltage [V]	2.1
Alarm 1	4
Motor Current [mA]	0
Motor Voltage [V]	0.0
Analog Input [V]	0.0
Module Temp. [°C]	21.3
Alarm 2	1
Enable [V]	0.0
Reference Value [V]	0.0
Transducer Value [V]	0.0
Measured Power [W]	0
Input Current [mA]	0

Fig. 21

NOTE:

The Input Register may be not properly displayed when the numbers have the comma as decimal separator.

Here below the procedure to change the settings is shown:

1) Open the "Control Panel"

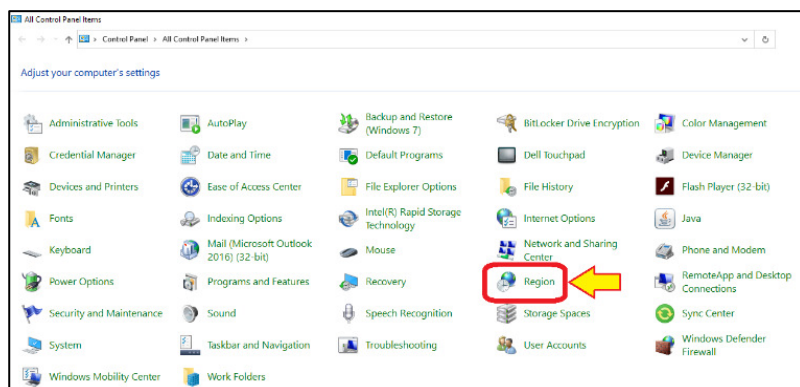


Fig. 22

2) Select the "Region"

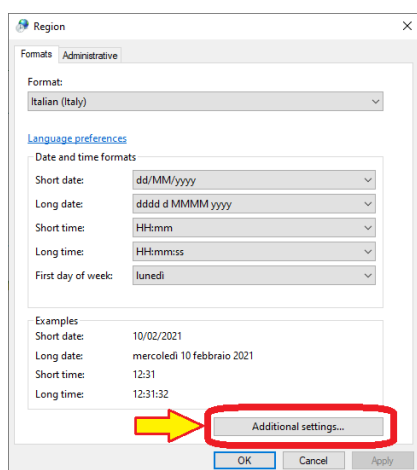


Fig. 23

3) Select "Additional settings..."

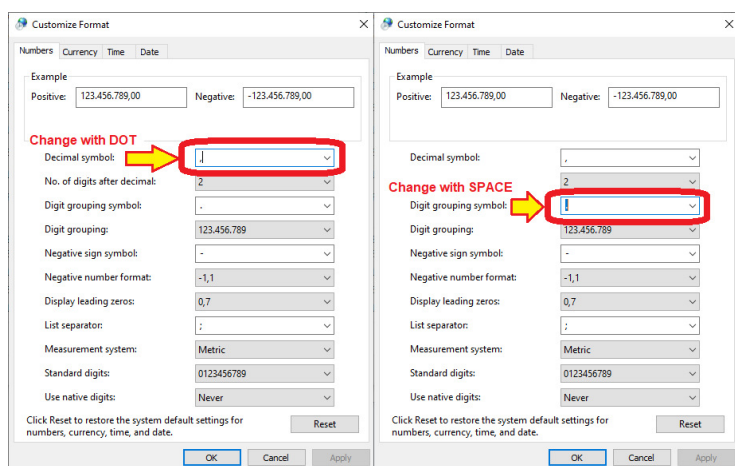


Fig. 24

4) Substitute the COMMA with DOT and as digit grouping symbol substitute the DOT with SPACE

Log Record

This sub item allows the record of the Input Registers values followed by a description.

[illegible]

Fig. 25

There are two possibilities to acquire the values: either manually any single point or automatically point by point after a defined time.

Show

This item contains four sub-items to monitor the fan performance, the variables behavior and the alarms. In addition, there is the possibility to tune the PID coefficients when a transducer is connected to the fan.

Performance

This sub-item works on some types of fans (refer to the EC Fan Manual) and the fan working point is shown in real time.

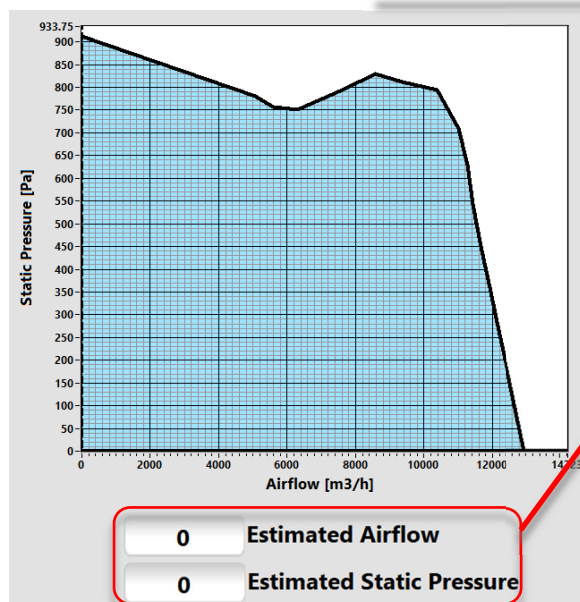


Fig. 26

Variables

This sub-item allows the user to monitor the behavior of two variables at the same time. The variables can be chosen from two combo boxes

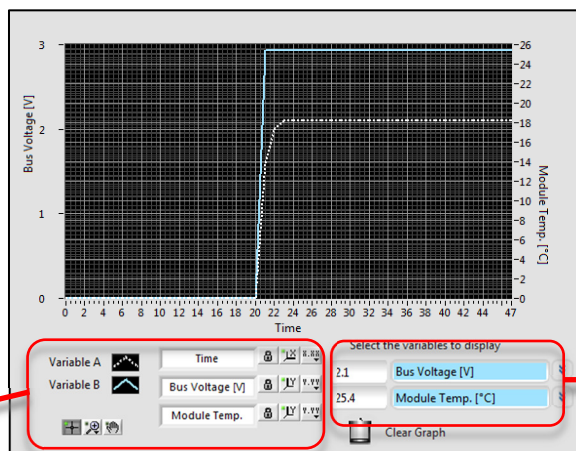


Fig. 27

An automatic scaling zoom function and a clear button are available as shown in figure 27.

Closed Loop PID

This sub-item allows the user to test and set the PID parameters by monitoring the reference and the transducer variables. (Refer to the EC fan manual for further details)

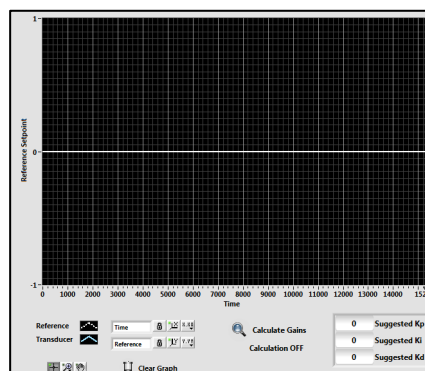


Fig. 28

Alarms

This sub item has two clusters representing the driver errors and wrong selections.

Alarms		General Information	
Memory Error		Read Parameters	User Selection
Short Circuit		Fan Model	???
Lost Synchronism		Fan Size	???
Input Voltage Error		Power OUT	???
High Bus Voltage		Driver Phases	???
Low Bus Voltage		Motor Code	???
Input Relay Error		Firm. Ver.	???
Missing Phase - U		Driver Model	???
Missing Phase - V		Driver Code	???
Missing Phase - W			
Overtemperature		NO FAN CONNECTED!!! NO FAN SELECTED!!!	
Communication Error			
0-Speed/High Current			
Reverse Starting Error			

Fig. 29

Driver alarms

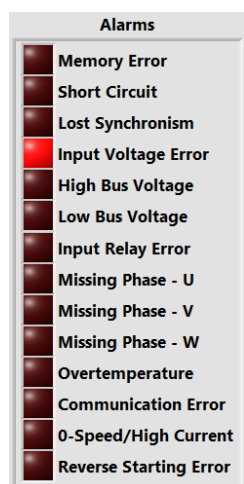


Fig. 30

This cluster shows the possible alarms occurring during the driver functioning.
(Refer to the EC Fan Manual for details)

General Info

This cluster applies several cross verifications between generic data of the fan loaded with the data read from the driver. The figure 31 shows the starting appearance of the General Information Cluster when

- 1) The fan is NOT connected and NOT selected
- 2) The fan is connected but NOT selected
- 3) The fan is NOT connected, but it is connected.

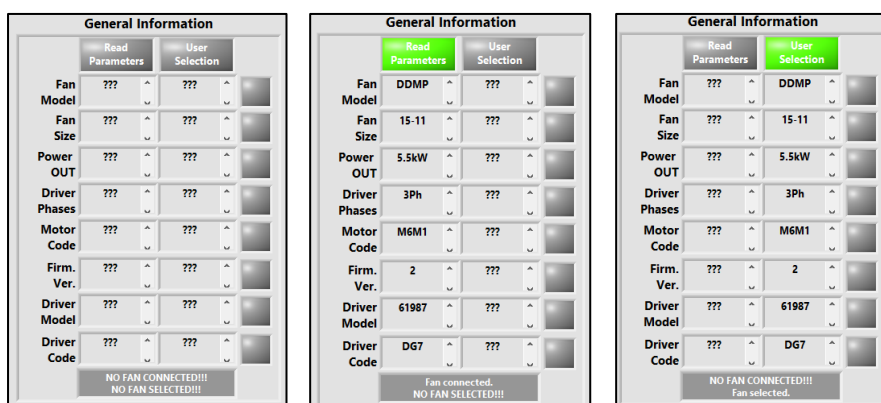


Fig. 31

Once the fan is connected and connected all the led should be green and red color below the column indicates incoherence between the data read or selected, while the red color on the right of the rows represents the incoherence between the data read and selected.

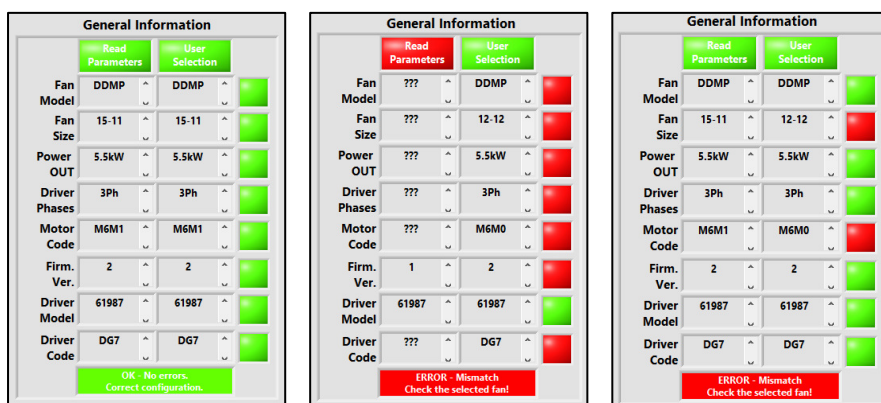


Fig. 32

There are two other possible condition (fig.33):

- A) The firmware version of a product is updated
- B) The software database is NOT updated

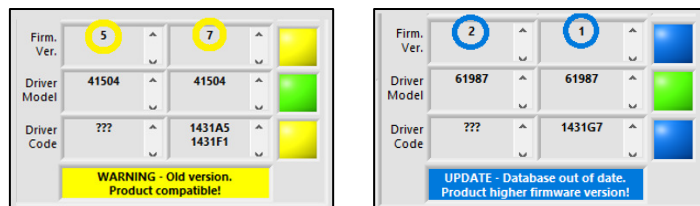


Fig. 33

Save

This item allows the user to save a personalized fan configuration, the LOG file of the data previously recorded and the Holding Registers comparison file.

Fan Configuration

A pop-up window opens and the user must insert the name of the personalized configuration.

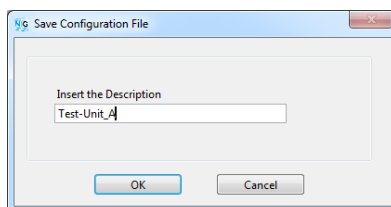


Fig. 34

For example, a DDMP 9/9 2kW 1Ph has been set in Fixed Modbus Constant Airflow (see figure 35)

Reg.	Description	Default	Stored	Reg.	Description	Default	Stored
0	Reset	0	0	32	Avoid range start	20000	20000
1	Min Speed	300	300	33	Avoid range end	20000	20000
2	Max Speed	2000	2000	34	Input type	1	6
3	Acceleration	200	200	35	Stop speed	20000	20000
4	Deceleration	80	80	36	Maximum Power	2100	2100
5	Pole Couples	4	4	37	Power Kp	1000	1000
6	Startup Current	5500	5500	38	Power Ki	14000	14000
7	Max Current	8300	8300	39	Constant Airflow	0	0
8	Stator Resistance	108	108	40	Kp Flow/Kp IN Curr	200	200
9	Synch. Inductance	63	63	41	Ki Flow/Ki IN Curr	4000	4000
10	P.M. Flux	2500	2500	42	Min Airflow	1000	1000
11	Current Kp	650	650	43	Max Airflow	5000	5000
12	Current Ki	497	497	44	Fan Model	1	1
13	Speed Kp	4000	4000	45	Modbus Addr	1	1
14	Speed Ki	25	25	46	Tach OUT	0	0
15	F.fb.Gain/Freq. Red.	10	10	47	Modbus Speed	96	96
16	Ph.Offset/Fred Turn ON	0	0	48	Modbus Stop Bits	0	0
17	Startup Time	800	800	49	Max Input Current	0	0
18	Filter tau/Obs. Gain	10	10	50	External Set	0	0
19	Sampling Freq.	13600	13600	51	Kp ext	0	0
20	Freq. Ratio	1	1	52	Ki ext	0	0
21	Fixed speed setting	0	0	53	Kd ext	0	0
22	Max. blocking current	1000	1000	54	PID Time	0	0
23	Min. blocking current	250	250	55	Speed Threshold	0	0
24	Blocking time	200	200	56	Communication Timeout	0	0
25	Alignment current	5500	5500	57	Limit RPM min	300	300
26	Alignment time	100	100	58	Limit RPM max	2000	2000
27	Id Fall time	50	50	59	Limit I OUT	8300	8300
28	Id ref	0	0	60	Limit P MAX	2100	2100
29	Max temp	750	750	61	Limit I INPUT	0	0
30	Asynchronous Slip	0	0	62	Date	0	4507
31	PID Pos/Neg	0	0	63	Serial	0	147

Fig. 35

Once the configuration is saved, the Fan Type combo box is automatically updated with the new configuration

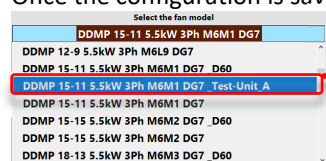


Fig. 36

The selected configuration can be removed pressing the red button

Remove Configuration

Log File

This sub-item saves in a file the data recorded in the Log Table.

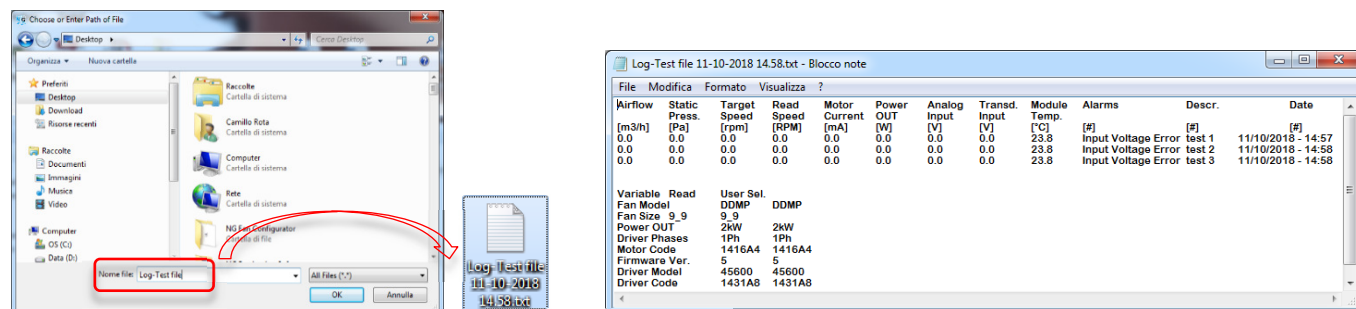


Fig. 37

Registers Comparison

This sub-item saves in a file the comparison between the Holding registers loaded and read.

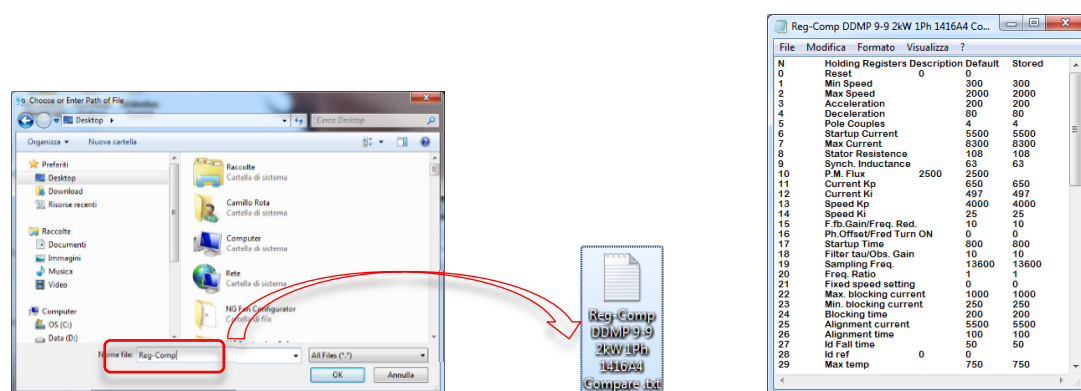


Fig. 38

Load

This item allows the user to upload his own configurations and upgrade the NG Fan configurator software.

Moreover, it allows a firmware upgrade of the driver if necessary through a remote assistance of the Nicotra||Gebhardt technical dept. staff.

Fan Configuration

This sub-item allows the user to upload his own configuration selected from the Fan Type combo box.

A progress bar indicates the uploading status

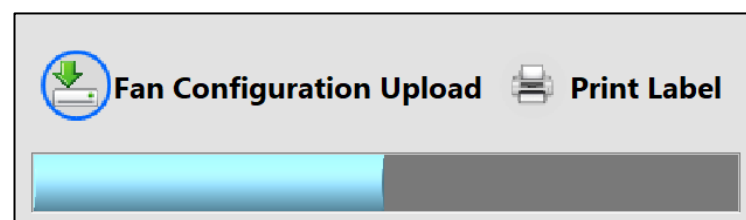


Fig. 39

Printing Customized Labels

The “Print Label” button is disabled and greyed out when the Holding Registers read from the driver are different values from those selected.

Description	Default	Stored	Description	Default	Stored
Avoid range start	20000	20000	Avoid range start	20000	20000
Avoid range end	20000	20000	Avoid range end	20000	20000
Input type	1	6	Input type	1	1
Stop speed	20000	20000	Stop speed	20000	20000
Maximum Power	2100	2100	Maximum Power	2100	2100
Power Kp	1000	1000	Power Kp	1000	1000

Fig. 40

When the “Print Label” button is pressed the standard fields to print are showed in figure 41.

Fig. 41

It is possible to customize the label by pressing the button **Go to “Label Customization”**. In this form it is possible to select which data must be printed and in which order.

Fig. 42

And it is also possible to create customized fields with fixed (once saved there is no more possibilities to change by the operator) or changeable values (the operator must fill the fields at each print process).

Fig. 43

Firmware upgrade

This sub-item can be activated only by a Nicotra | Gebhardt technician through a remote assistance.

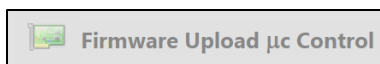


Fig. 44

Software Update

The NG Fan Configurator software must be updated when a new fan is released or some fan configurations or a new driver's firmware versions are created.

The file ZIP can be downloaded from the web site and it must be copied in the corresponding software folder:

C:\NG Fan Configurator\Updates.

Then the "Update the Software Configuration" button must be pressed.

A blue LED indicates when the update process ended with success.

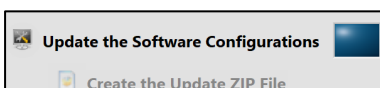


Fig. 45

The "create the Update ZIP file" button can be used only by the Nicotra | Gebhardt technicians.

Help

In this item the user can find the Software Manual and Product Manuals link.

Technical Info

It is possible to have a fast view about the products, motor and driver.

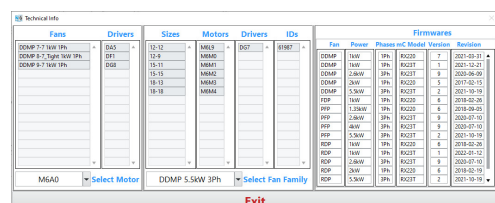


Fig. 46

Changing the Menu items

When the user selects a menu item, automatically other menu items change depending on the information correlated to the selected item.

In Table 1 all the combinations:

Selected item		Item combinations		
Connection	Cable Connection	Cable connection	Holding Registers	Alarms
	Bluetooth Connection	Bluetooth Connection	Holding Registers	Alarms
Set	Fan Type	Fan Type	Holding Registers	Alarms
	Operating Mode	Operating Mode	Holding Registers	Alarms
	Registers	Operating Mode	----	Registers
	Password	Password	----	----
Tables	Holding Registers	----	Holding Registers	----
	Input Registers	----	Input Registers	----
	LOG Record	----	LOG Record	----
Show	Performance	----	Performance	----
	Variables	Variables	----	----
	Closed Loop PID	Operating Mode	Closed Loop PID	Registers
	Alarms	----	----	Alarms
Save	Fan Configuration	----	----	----
	LOG File	----	----	----
	Register Comparison	----	----	----
Load	Fan Configuration	Fan Configuration	Holding Registers	Alarms
	Firmware Upgrade	Firmware Upgrade	----	----
	Software Update	Software Update	----	----
Info	Software Manual	----	----	----
	Product Manual	----	----	----
	Info	Info	Info	Info

Table 1

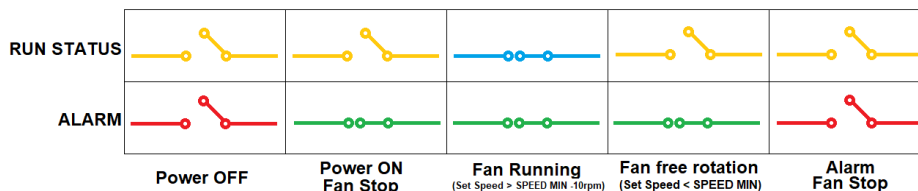
Revisions:

Revision 2.0

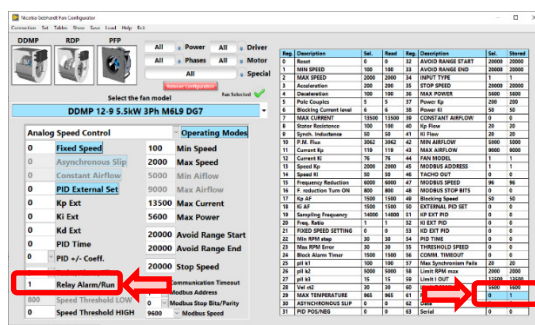
Integration of all the old revision and added a new file organization due to the introduction of variants on the microcontroller model of the drivers.

Revision 2.1

Added the new relay feature. The Holding Register 61 can be set to 0 (default) or to 1.

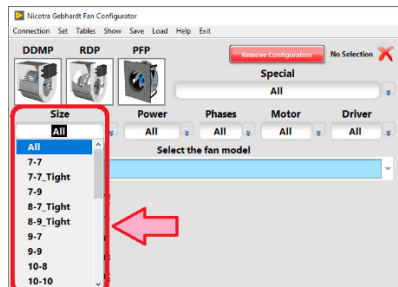


In the standard configuration the relay indicates an alarm, while in the new configuration it indicates a RUN status.



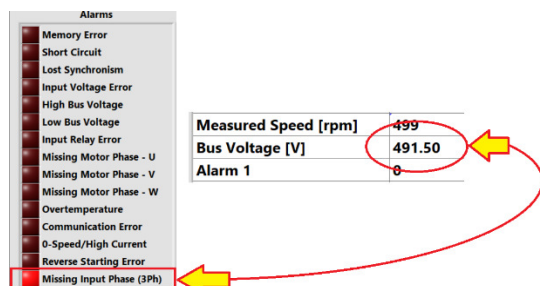
Revision 2.2

Added a new combo box for sorting by fan size.



Revision 2.3

Added a new alarm: Missing Input Phase for the three phases model only. This could occur when one of the three power supplies wires is not properly connected to the terminals.



NOTE:

Nicotra Gebhardt worldwide

SPAIN

Ctra. Alcalá-Villar del Olmo, Km. 2,830
28810 Villalbilla-Madrid
Phone +34 918-846110
Fax +34 918-859450
E-mail info@nicotra.es

c/.Coso, 67-75, esc. 1.a,1.oB
50001 Zaragoza
Phone +34 976-290550
Fax +34 976-298127
E-mail gebhardt@teleline.es

BELGIUM

Haeghensgoed, 13 - 00/01
9270 Laarne
Phone +32 (0)9-336-00-01
Fax +32 (0)9-336-00-05
E-mail info.nicotra@nicotra.be

FRANCE

Leader's Park Bat A1
3 chemin des Cytises
69340 Francheville
Phone +33 (0)4 72 79 01 20
Fax +33 (0)4 72 79 01 21
E-mail g.cauche@nicotra-gebhardt.com

SWEDEN

Box 237
Krakatorpsgratan 30
43123 Mölndal
Phone 0046 31-874540
Fax 0046 31-878590
E-mail info.se@nicotra-gebhardt.com

GREAT BRITAIN

Unit D, Rail Mill Way
Parkgate Business Park
Rotherham
South Yorkshire
S62 6JQ
Phone +044 01709-780760
Fax +044 01709-780762
E-mail sales@nicotra.co.uk

UNITED STATES

PO BOX 900921
Sandy, Utah 84090
Phone 001(801) 733-0248
Fax 001(801) 315-9400
Mobile 001(801) 682 0898
E-mail mike.sehgal@gebhardtffans.com
<http://www.gebhardtffans.com/>



MALAYSIA

Lot 1799, Jalan Balakong
Taman Perindustrian Bukit Belimbing
43300 Seri Kembangan
Selangor
Phone +603 8961-2588
Fax +603 8961-8337
E-mail info_malaysia@nicotra-gebhardt.com

THAILAND

6/29 Soi Suksawadi 2, Moo 4, Suksawadi Road,
Kwang Jomthong, Khet Jomthong,
Bangkok 10150
Phone +662 476-1823-6
Fax +662 476-1827
E-mail sales@nicotra.co.th

SINGAPORE

No. 15 West Coast Highway
04-08 Pasir Panjang Building
Singapore 117861
Phone (065) 6265-1522
Fax (065) 6265-2400
E-mail info@gebhardt-singapore.com

AUSTRALIA

65 Yale Drive,
Epping, VIC 3076
Phone +61 3 9017 5333
Fax +61 3 8401 3969
E-mail info@nicotra.com.au

INDIA

Plot no 28F & 29, Sector-31,Kasna,
Greater Noida-201 308 U.P (India)
Phone +91 120 4783400
Phone +91 22 65702056 (Mumbai)
Phone +91 80 25727830 (Bangalore)
E-mail info@nicotraindia.com

CHINA

88 Tai'An Road, XinQiao, ShiJi, Panyu
Guangzhou 511450
PR CHINA
Phone +86 (0)20-39960570
Fax +86 (0)20-39960569
E-mail sales@nicotra-china.com

Nicotra Gebhardt Germany

Nicotra Gebhardt GmbH
Gebhardtstraße 19-25
74638 Waldenburg
Phone +49 (0)7942 101 0
Fax +49 (0)7942 101 170
E-mail info@nicotra-gebhardt.com

Nicotra Gebhardt Italy

Nicotra Gebhardt S.p.A
Via Modena, 18
24040 Zingonia (BG)
Phone +39 035 873 111
Fax +39 035 884 319
E-mail info@nicotra-gebhardt.com

nicotra-gebhardt.com