

Fan Configurator Operating Manual



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System requirements

The Regal Rexnord Fan Configuration is a Labview software, and it runs only on a Windows operating system from 10 version onwards with a hard disk available space of 500MB. If the Labview runtime is already present, the installer will copy only the software requiring only 50Mb of hard disk space.

The communication protocol is Modbus RTU and an USB to 485 converter is necessary to connect the software to the fan. 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:\.**

Alarms and Warnings

The alarm and Warnings vertical cluster is always present, and it indicates the status of the driver.



Connection and Selection

Regal Rexnord Fan Configurator	- 🗆 X
Connection and Selection Holding Registers and Customization Input Registers and Performance Record LOG File Production Information Exit	
Connection General Information	
Disconnected Fan Address COM Port Cable Type Baud Rate Stop Bits and Parity Fan Model Read Fan Model Set	ected
1 Image: RS-485 Image: P600 I	Ĵ
NO Selected Fan Fan Size Read Fan Size Read Fan Size Sele	cted
Connect Clock Clock Configuration Clear the Selection Power OUT Read Power OUT Se	↓ lected
Select the Fan	
Driver Alarm Input Phases Read Input Phases Se	elected
Filter by Fan Model	Û
Wrong Driver DDWith Fain RDP Fain PPP Fain Motor Code Read Motor Code So Software Software Image: Software	lected
Firmware Version Read Firmware Version Read	Selected
Other Filters Driver Model Read Driver Model S	elected
Easibles Fan Size Driver Power OUT Power Supply Phases	
Driver Code Read Driver Code Read Driver Code Sector Code Read	lected
Active Derating	
RFC.lvproj/My Computer <	>

Connection

Connection				
Fan Address COM Port Cable Type Baud Rate Stop Bits and Parity				
1 -	[₭] COM24 -	RS-485 🔽	9600 -	2 Stop bits, No parity 👻

Connect the Modbus USB to 485 converter cable to the port A, B and ground of the driver or the OFFLINE to the Molex connector.





For more details refer to the fan product manual.

Once the cable drivers are correctly installed on the computer, the COM Port should appear in the list and can be selected for connecting to the driver and choose the used cable in the menu.



Note:

Since the OFFLINE cable MUST be used with the driver POWERED OFF and in that condition the driver is in Input Voltage alarm, the software automatically correct the error status.



Select the remaining Modbus parameters basing on the cable type and when different from the factory default.

Find the communication parameters.



It is possible to search the communication parameters if they are not known by pressing the related button. The software will take several minutes depending on how many options are chosen to be checked.

Find the communication paramet	ers		×
Unplug and plug the Select the Baudrate, Press SEARCH	USB Cable the Parity and th	e Stop Bits	
COM2	4 сом	Port Found	XIT
Baud Rate to Check	Parity to Check 2 Stop Bits - No Parity 1 Stop Bit - Odd Parity 1 Stop Bit - Even Parity	STAI STO	RT
			54 %
			20 % Address
			50 % Baudrate
			33 % Parity
Comn	nunication Paramete	rs Found	
COM Port	Fan Address	Baudrate Pari	ty/Stop Bits

Fan Selection

The user can read from the label on the side plate of the fan all the information and select the fan he bought from the combo box, or he can filter the search to restrict the fan list.



The "Clear the Selection" button clears the selected fan and all the filters.

General Information

Both when the fan is connected and selected the General Information cluster populates with all the fan information. And when the information matches the text color is white and when they are different is in red or orange.



Holding Registers and Customization

DRIVER Configuration	Reg	Description	DRIVER	LISER	Reg	Description	DRIVER	LISE
RDP 280 1kW 1Ph M6A8 DC1	Neg.	Description	OKIVER	OJEK	22	Description	20000	20000
USER Configuration	1	MIN SPEED	500	500	22		20000	20000
RDP 280 1kW 1Ph M6A8 DC1	2	MAX SPEED	2600	2600	24		20000	1
	2	Acceleration	120	12000	25		20000	20000
	4	Deceleration	60	60	26	MAX DOWER	1050	1050
Registers Unlock	5	Pole Couples	4	4	27	Rower Kn	1000	1000
	5	Startup Current	4000	4000	20	Power Ki	14000	14000
	7		5000	5000	20		0	0
Copy the configuration (DRIVER> USER)	0	Stator Posistance	142	142	40		0	0
/	0	Sunch Inductance	60	60	40		0	0
Save the configuration	10		1645	1645	41		0	0
TAG	11	Current Kn	645	645	42		0	0
	12	Current Ki	610	610	45		1	1
	12	Speed Kn	20000	20000	44		1	1
Clear the USER modifications	14	Speed Ki	50	50	46		0	0
	15	Flux Fb Gain	10	10	40	MODBUS SPEED	96	96
Delete the colorised configuration	16		0	0	48	MODBUS STOP BITS	0	0
Delete the selected configuration	17	Startun Time	800	800	40		0	0
	18	Flux est filter tau	10	10	50	EXTERNAL PID SET	0	0
Save a configuration 710 file	10	Sampling Frequency	13600	13600	51	KP FXT PID	0	0
Save a configuration ZIP file	20	Fred Ratio	1	1	52		0	0
	21	FIXED SPEED SETTING	0	0	53	KD EXT PID	0	0
Restore all the configurations	22	Max. Blocking Current	1000	1000	54	PID TIME	0	0
	23	Min. Blocking Current	150	150	55	THRESHOLD SPEED	0	0
	24	Blocking Time	200	200	56	COMM. TIMEOUT	0	0
Upload the configuration (USER> DRIVER)	25	Alignment current	4000	4000	57	Limit RPM min	500	500
	26	Alignment time	800	800	58	Limit RPM max	2600	2600
	27	Id Fall time	50	50	59	Limit I OUT	5000	5000
Motor Control Firmware Update	28	ld ref	0	0	60	Limit P MAX	1050	1050
	29	MAX TEMPERATURE	750	750	61		0	0
Communication Firmware Update	30		0	0	62		0	0
None Under to 171	31	PID POS/NEG	0	0	63		0	0

The user can compare the Holding Registers read from the driver and the selected one.

When the registers description is highlighted in white with the text in blue it means that the registers can be changed by the customer.

INPUT TYPE	1	1

When the value of the registers is highlighted in light blue, it means that the value of the modifiable registers of the read register is different from the selected one.

INPUT TYPE	1	6

When the value of the registers is highlighted in light red, it means that the value of the NON modifiable registers of the read register is different from the selected one.

	P.M. Flux	1645	56
--	-----------	------	----

Holding Registers changing

The user can directly modify the registers by writing the value in the corresponding cell of the table. The user must click the cell first and then click again to modify it.

If the changed value is a DRIVER value, the software will write it directly into the driver memory.

Description	DRIVER	USER
MIN SPEED	500	500
If the changed value is a LU	SER value, the user of	an cavo tho fin

If the changed value is a USER value, the user can save the final custom configuration.

Description	DRIVER	USER
MIN SPEED	500	500

Option Buttons

On the top part the window the DRIVER and USER selection fan description are shown.

DRIVER Configuration	
RDP 280 1kW 1Ph M6A8 DC1	
USER Configuration	
PFP 280 2.6kW 3Ph M6F8 DF3	

Below there is the description of all the option buttons.

Unlock Registers



This button can be used by the Regal Rexnord R&D technician only and it is protected by password.

🔁 Reg	alRexnord R&D Access	×
	Decimord	
	Password	
	ОК	

It can allow the technician to access the protected registers and modify their value.

Copy the configuration.



With this button the user can copy all the register value read from the driver inside the USER cell to be modified.

Note:

When this button is pressed the eventual previously selected fan is cleared.

Copy the configuration.



Once the user has completed its own customization, it can be saved and found in the Fan Selection combo box.



Clear the USER modifications.



The user can restore the values in the USER cell and clear all the modification done.

Delete the selected configuration.



The user can delete only the custom configuration.



A popup message appears in case of wrong pressing and trying to delete a std. configuration.

	\times
The standard configurations can't be dele	ted!
OK	

Save a configuration ZIP file.



All the configurations can be saved in a ZIP file and stored in the C:\RegalRexnord Fan Configurator\Backup

Backup 27-09-2023 17.16.zip

27/09/2023 17:16

Restore all the configurations.



If for some reason some custom configuration are accidentally deleted, they can be restored.

Upload the configuration.



When this button is pressed all the values in the USER cells that are different from that of the DRIVER are uploaded into the driver.



Note:

All the locked registers can't be written unless the ULOCK button is previously pressed.

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Motor Control Firmware Update



This function can be accessed by the Regal Rexnord R&D technicians.

Communication Firmware Update

1777	Communication Firmware Upd	ate
1444	Nicotra_PFP_Atmel_20220622.hex	Uploaded File

This function can be accessed by the Regal Rexnord R&D technicians.

Input Registers and Performance



Operating Modes

From this combo box it is possible to change the value of the Operating Modes Holding Register 34.



Note:

The Operating Modes combo box displays only the available operating modes for each fan model.

Holding Register 66

The Holding Register 66 value can be modified basing on the Operating Mode selected.



Fan Alarms and Input Registers

While the fan is running all the Input Registers values can be read from the related table and the alarms are displayed through a cluster of LEDs. Please refer to the fan operating manual for detailed information.



Fan Performance

For the DDMP fans it is possible to estimate the working point and it is displayed in the graph, while for the RDP and PFP fans it is only possible to determine the curve basing on the speed.



Measured Speed and Reference Speed

It is possible to monitor at the same time the behavior of both the value of the read (red) and reference (yellow) speed.



Reco	ord LOG File	e															
Main-RRFC.	vi Selection Holding Registers and Custo	mization Input	Registers a	nd Performa	nce Record I	OG File P	roduction	Informat	ion Fxit		MP 7-7 1kW					- C	×
								L	.OG Tab	1 De 23-1	Ph M6A0 0G8_LOG 11-2023 12						1
Disconnected	Add Record	Measured Speed	Read Speed	Motor Current	Driver Power OUT	Module Temp.	BUS Voltage	Analog Signal	Transd. Signal	ENABLE Signal	Fan Airflow IVI	Static Pressure	Alarm Code 1	Alarm Code 2	Switching Frequency	Local Time	<u>*</u>
	Delete Record	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.53.11	
Fan	Clear Records																
Wrong Configuration																	
Driver Alarm																	
	Auto Logging																
Wrong Driver	1 Set Time [s]																
Software Obsolete																	
Firmware Obsolete																	
Custom Registers	Save LOG File																
Active Derating	Save Fan Info																T
RRFC.lvproj/My C	Computer <																>

Option Buttons

It is possible to record a LOG file, adding manually or automatically the points and save them in a file.



Delete Record

 Delete Record

It deletes the last saved point.

Clear Record

It deletes all the saved points.

Auto Logging



It automatically saves a working point every N second defined by the Set Time [s] value inserted

Save LOG File
Save LOG File

It saves the LOG file in the folder C:\RegalRexnord Fan Configurator\Save

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It saves the Fan Information in a file in the folder C:\RegalRexnord Fan Configurator\Save

Save file format.

The files are tabulated text files that can be exported in an Excel sheet. Here below the two examples:

File Modif	ica Formato Visualizza	?		
Informati	on	Read Data	3	Selected Data
Fan Mode		DDMP		DDMP
Fan Impe	lier Size	/-/		/-/
Driver Po	wer Out	1KW		1kW
Driver Inp	ut Phases	1Ph		1Ph
Motor Co	de	M6A0		MBAU
Firmware	Version	3		3
Driver Mic	bael	61988		61988
Driver Co	de	DG8		DG8
Register	Description		Read	Selected
0	Reset		0	0
1	MIN SPEED		400	400
2	MAX SPEED		2000	2000
3	Acceleration		200	200
4	Deceleration		150	150
5	Pole Couples		4	4
6	Blocking Curren		4	4
7	MAX CURRENT		4500	4500
8	Stator Resisten		318	318
9	Synch. Inductan		165	165
10	P.M. Flux		2068	2068
11	Current Kp		494	494
12	Current Ki		278	278
13	Speed Kp		1000	1000
14	Speed Ki		100	100
15	Id Ref		500	500
16	LOW THRESHOLD S		0	0
17	Kp AF		1000	1000
18	KI AF		500	500
19	Sampling Freque		14000	14000
20	Freq. Ratio		1	1
21	FIXED SPEED SET		0	0
22	Num Failures Tr		15	15
23	Max err rpm		30	30
	ALC: 1 ALC: 100		10.00	300

leasured	dRead	Motor	Driver	Module	BUS	Analog	Transd.	ENABLE	Fan	Static	Alarm	Alarm	Switching	Local	
peed	Speed	Current	Power O	UT	Temp.	Voltage	Signal	Signal	Signal	Airflow	Pressure	Code 1	Code 2	Frequency	Tin
pm]	(rpm)	[mA]	[W]	[°C]	[V]	[V]	[V]	[V]	[V]	[Pa]	[#]	[#]	[Hz]	[s]	
99.00	1000.00	1066.00	139.00	28.00	379.80	0.00	0.00	10.00	1415.25	100.15	0.00	0.00	14010.00	14.51.31	
99.00	1000.00	1065.00	139.00	28.10	379.80	0.00	0.00	10.00	1414.06	100.26	0.00	0.00	14010.00	14.51.30	
00.00	1000.00	1052.00	138.00	28.00	379.80	0.00	0.00	10.00	1397.79	102.17	0.00	0.00	14010.00	14.51.29	
99.00	1000.00	1061.00	139.00	28.00	379.80	0.00	0.00	10.00	1409.30	100.72	0.00	0.00	14010.00	14.51.28	
99.00	1000.00	1060.00	139.00	28.00	379.80	0.00	0.00	10.00	1408.11	100.83	0.00	0.00	14010.00	14.51.27	
99.00	1000.00	1058.00	138.00	27.90	379.80	0.00	0.00	10.00	1405.73	101.06	0.00	0.00	14010.00	14.51.26	
00.00	1000.00	1056.00	138.00	27.90	379.80	0.00	0.00	10.00	1402.55	101.71	0.00	0.00	14010.00	14.51.25	
99.00	1000.00	1059.00	138.00	27.90	379.80	0.00	0.00	10.00	1406.92	100.95	0.00	0.00	14010.00	14.51.23	
99.00	1000.00	1055.00	138.00	27.90	379.80	0.00	0.00	10.00	1402.15	101.40	0.00	0.00	14010.00	14.51.22	
98.00	1000.00	1056.00	138.00	27.80	379.80	0.00	0.00	10.00	1404.13	100.87	0.00	0.00	14010.00	14.51.21	
28.00	956.00	1025.00	124.00	27.80	379.80	0.00	0.00	10.00	1422.58	74.88	0.00	0.00	14010.00	14.51.20	
98.00	900.00	867.00	102.00	27.70	379.80	0.00	0.00	10.00	1253.77	79.60	0.00	0.00	14010.00	14.51.19	
23.00	851.00	851.00	92.00	27.70	379.80	0.00	0.00	10.00	1290.69	53.42	0.00	0.00	14010.00	14.51.18	
99.00	800.00	693.00	73.00	27.60	379.80	0.00	0.00	10.00	1102.84	62.80	0.00	0.00	14010.00	14.51.17	
97.00	800.00	715.00	75.00	27.60	379.80	0.00	0.00	10.00	1133.72	59.86	0.00	0.00	14010.00	14.51.16	
99.00	700.00	547.00	51.00	27.50	379.80	0.00	0.00	10.00	981.40	45.76	0.00	0.00	14010.00	14.51.14	

DDMP 7-7 1kW 1Ph M6A0 DG8_INFO 23-11-2023 12...

LOG Table

The LOG array is displayed in the LOG Table here below.

LOG Table															
Measured Speed [rpm]	Read Speed [rpm]	Motor Current [mA]	Driver Power OUT [W]	Module Temp. [°C]	BUS Voltage [V]	Analog Signal [V]	Transd. Signal [V]	ENABLE Signal [V]	Fan Airflow [V]	Static Pressure [Pa]	Alarm Code 1 [#]	Alarm Code 2 [#]	Switching Frequency [Hz]	Local Time [s]	*
1000.00	1000.00	1058.00	138.00	28.00	379.80	0.00	0.00	10.00	1404.94	101.49	0.00	0.00	14010.00	14.51.27	
999.00	1000.00	1060.00	139.00	28.00	379.80	0.00	0.00	10.00	1408.11	100.83	0.00	0.00	14010.00	14.51.27	
999.00	1000.00	1058.00	138.00	27.90	379.80	0.00	0.00	10.00	1405.73	101.06	0.00	0.00	14010.00	14.51.26	
1000.00	1000.00	1056.00	138.00	27.90	379.80	0.00	0.00	10.00	1402.55	101.71	0.00	0.00	14010.00	14.51.25	
999.00	1000.00	1059.00	138.00	27.90	379.80	0.00	0.00	10.00	1406.92	100.95	0.00	0.00	14010.00	14.51.23	
999.00	1000.00	1055.00	138.00	27.90	379.80	0.00	0.00	10.00	1402.15	101.40	0.00	0.00	14010.00	14.51.22	
998.00	1000.00	1056.00	138.00	27.80	379.80	0.00	0.00	10.00	1404.13	100.87	0.00	0.00	14010.00	14.51.21	
928.00	956.00	1025.00	124.00	27.80	379.80	0.00	0.00	10.00	1422.58	74.88	0.00	0.00	14010.00	14.51.20	
898.00	900.00	867.00	102.00	27.70	379.80	0.00	0.00	10.00	1253.77	79.60	0.00	0.00	14010.00	14.51.19	
823.00	851.00	851.00	92.00	27.70	379.80	0.00	0.00	10.00	1290.69	53.42	0.00	0.00	14010.00	14.51.18	
799.00	800.00	693.00	73.00	27.60	379.80	0.00	0.00	10.00	1102.84	62.80	0.00	0.00	14010.00	14.51.17	
797.00	800.00	715.00	75.00	27.60	379.80	0.00	0.00	10.00	1133.72	59.86	0.00	0.00	14010.00	14.51.16	
699.00	700.00	547.00	51.00	27.50	379.80	0.00	0.00	10.00	981.40	45.76	0.00	0.00	14010.00	14.51.14	
699.00	700.00	552.00	51.00	27.50	379.80	0.00	0.00	10.00	988.66	45.25	0.00	0.00	14010.00	14.51.13	
622.00	650.00	570.00	48.00	27.40	379.90	0.00	0.00	10.00	1081.81	19.14	0.00	0.00	14010.00	14.51.12	
599.00	600.00	419.00	33.00	27.40	379.90	0.00	0.00	10.00	884.43	29.62	0.00	0.00	14010.00	14.51.11	
599.00	600.00	423.00	34.00	27.40	379.90	0.00	0.00	10.00	890.91	29.19	0.00	0.00	14010.00	14.51.10	
521.00	549.00	458.00	32.00	27.30	379.90	0.00	0.00	10.00	1032.80	0.60	0.00	0.00	14010.00	14.51.09	
500.00	500.00	309.00	21.00	27.30	379.90	0.00	0.00	10.00	838.97	12.80	0.00	0.00	14010.00	14.51.08	
495.00	500.00	368.00	25.00	27.30	379.90	0.00	0.00	10.00	943.70	3.37	0.00	0.00	14010.00	14.51.07	
400.00	400.00	219.00	12.00	27.30	379.90	0.00	0.00	10.00	NaN	0.00	0.00	0.00	14010.00	14.51.06	
399.00	400.00	220.00	12.00	27.30	380.00	0.00	0.00	10.00	NaN	0.00	0.00	0.00	14010.00	14.51.04	
400.00	400.00	218.00	11.00	27.30	380.00	0.00	0.00	10.00	NaN	0.00	0.00	0.00	14010.00	14.51.03	

Production



This area can be accessed by Production and R&D Technician.

Notes

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"

All Control Panel Items ← → → ↑ 🔛 > Control Panel > Al	Control Panel It	lems >						~ O
Adjust your computer's settings								
Administrative Tools	Auto	oPlay	*	Backup and Restore (Windows 7)		BitLocker Drive Encryption	2	Color Management
Credential Manager	🔐 Date	e and Time	6	Default Programs		Dell Touchpad		Device Manager
Devices and Printers	🛞 Ease	e of Access Center		File Explorer Options		File History	1	Flash Player (32-bit)
A Fonts	🚕 Inde	exing Options	•	Intel(R) Rapid Storage Technology	P	Internet Options		Java
Keyboard	Mai 201	l (Microsoft Outlook 6) (32-bit)	0	Mouse	-	Network and Sharing Center	4	Phone and Modem
Power Options	Prog	grams and Features	P	Recovery	0	Region	-	RemoteApp and Desktop Connections
Security and Maintenance	Sou	nd	₿	Speech Recognition		Storage Spaces	0	Sync Center
System	3 Task	bar and Navigation	1	Troubleshooting	82	User Accounts	4	Windows Defender Firewall
Windows Mobility Center	🐚 Wor	k Folders						

2) Select the "Region"

🔗 Region		×
Formats Administrative		
Format:		
Italian (Italy)	~	
Language preferencer		
Date and time forma	ts	
Short date:	dd/MM/yyyy ~	
Long date:	dddd d MMMM yyyy	
Short time:	HH:mm ~	
Long time:	HH:mm:ss ~	
First day of week:	lunedì 🗸 🗸	
Examples Short date:	10/02/2021	
Long date:	mercoledi 10 febbraio 2021	
Short time:	12:31	
Long time:	12:31:32	
	Additional settings	
	OK Cancel Apply	

3) Select "Additional settings..."

pers Currency Time Date			Numbers Currency Time Date	
cample ositive: 123.456.789,00	Negative: -123.456.7	89,00	Example Positive: 123,456.789,00	Negative: -123.456.789,00
hange with DOT			Decimal symbol:	· · · ·
No. of digits after decimal:	2	~	Change with SPACE	2 ~
Digit grouping symbol:	*	~	Digit grouping symbol:	· ·
Digit grouping:	123.456.789	~	Digit grouping:	123.456.789 ~
Negative sign symbol:	-	~	Negative sign symbol:	- ~
Negative number format:	-1,1	~	Negative number format:	-1,1 ~
Display leading zeros:	0,7	~	Display leading zeros:	0,7 ~
List separator:	:	~	List separator:	; ~
Measurement system:	Metric	~	Measurement system:	Metric ~
Standard digits:	0123456789	~	Standard digits:	0123456789 ~
Use native digits:	Never	~	Use native digits:	Never ~
ck Reset to restore the system de mbers, currency, time, and date.	fault settings for	Reset	Click Reset to restore the system del numbers, currency, time, and date.	ault settings for Reset

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