

Danfoss VFD FC102 Setup and Startup Report

This document is based on information provided by
Danfoss Programming Guide (130R0318) and Installation Manual (130R0083) which prevail.

Job Name _____ Location _____ Date _____

Boiler # _____ Technician _____

Material Number _____ Drive S/N _____

Notice! Prior to powering the drive for the first time, remove the covers and snug all 3 phase electrical connections on the Drive and Bypass. ALWAYS check for power on terminals prior to tightening!

Procedure: See Page 3, and set the 2 slide switches prior to programming Press Main Menu, and then scroll through the options. Press OK to select, OK to highlight, and OK to accept changes. Press back to return to previous layer of options

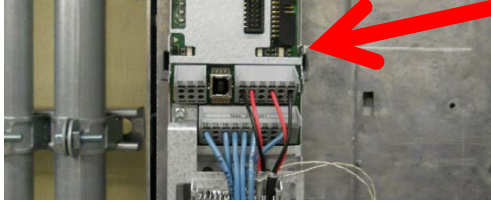
Main Menu	Option	Function
0-01	Language	English US
0-03	Regional Settings	North America
0-20	Display Line 1.1	[1662] Small Analog Input 53
0-21	Display Line 1.2	[1665] Small Analog Output 42 [mA]
0-22	Display Line 1.3 Small	[1613] Frequency
0-23	Display Line 2 Large	[1611] Power [hp]
0-24	Display Line 3 Large	[1614] Motor Current
0-41	[Off] Key on LCP	Enabled
1-03	Torque Characteristics	VT
1-21	Motor Horse Power	_____
1-22	Motor Voltage	_____
1-23	Motor Frequency	_____
1-24	Motor Current	_____
1-25	Motor Speed	_____
1-28	Motor Rotation Check	See page 53*
1-29	Motor Adaptation (cold motor)(17 steps)	See page 53*
1-73	Flying Start	Disabled
2-02	DC Braking Time	2.0 s
3-02	Minimum Reference	0.000 Hz
3-03	Maximum Reference	60.000 Hz
3-04	Reference Function	External/Preset
3-15	Reference 1 Source	Analog input 53
3-16	Reference 2 Source	No function
3-41	Ramp 1 Ramp Up Time	30.00 s

*See Page 53 of the Danfoss Setup Guide 130R0318 Rev. 2007-02-22 Note: Bulletin page 53 is PDF page 54
ALSO see page 3 of this document for procedure to change rotation.

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3-42	Ramp 1 Ramp Down Time	30.00 s
4-12	Motor Speed Low Limit	[Hz] 0.0 Hz
4-14	Motor Speed High Limit [Hz]	60.0 Hz
4-19	Max Output Frequency	66.0 Hz
5-02	Terminal 29 Mode	Output
5-10	Terminal 18 Digital Input	No operation
5-11	Terminal 19 Digital Input	No operation
5-12	Terminal 27 Digital Input	No operation
5-31	Terminal 29 Digital Output	[160] No alarm
5-40 Relay 1	Function Relay	[0] No operation
Note: Relay 2 is for use with VFD w/o Bypass. Use terminals 04,05,06		
5-40 Relay 2	Function Relay	[9] Lockout
6-12	Terminal 53 Low Current	4.00 mA
6-13	Terminal 53 High Current	20.00 mA
6-14	Terminal 53 Low Ref./Feedback Value	0.0
6-15	Terminal 53 High Ref./Feedback Value	60.00
6-50	Terminal 42 Output	[130] Out frq 0-100 4-20mA
6-51	Terminal 42 Output Min Scale	0.00 %
6-52	Terminal 42 Output Max Scale	60.00 %
13-00	SL Controller Mode	On
13-01	Start Event	[22] Comparator 0
13-02	Stop Event	[23] Comparator 1
13-10.0	Comparator Operand	[12] Analog input AI53
13-10.1	Comparator Operand	[12] Analog input AI53
13-11.0	Comparator Operator	[2] >
13-11.1	Comparator Operator	[0] <
13-12.0	Comparator Value	30.000
13-12.1	Comparator Value	26.000
Note: 13-51.0, and 13-52.0 are State 1		
13-51.0	SL Controller Event	[1] True
13-52.0	SL Controller Action	[22] Run
Note: 13-51.1, and 15-52.1 are State 2		
13-51.1	SL Controller Event	[0] False
13-52.1	SL Controller Action	[24] Stop
14-20	Reset Mode	[0] Manual reset
22-60	Broken Belt Function	Trip
22-61	Broken Belt Torque	2 %
22-62	Broken Belt Delay	3 s
0-40	[Hand on] Key on LCP	Disabled
0-60	Main Menu Password	903
0-61	Access to Main Menu w/o Pass	Read Only
0-50	LCP Copy	[1]copy all TO LCP or [3] size independent of LCP

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Remove the display first, and then with or without bypass, gently move the 2 white slide switches to the RIGHT for 4-20 mA

NOTES:

Rotation Check: it is necessary to check both the drive and bypass rotation. To Change rotation, first disconnect power from the drive. Change the drive rotation at the outlet of the drive. The bypass rotation can be changed by changing the wiring at the main disconnect, which has no effect on the VFD.

VFD With Bypass Notes:

The contacts shown below are for use with a PPC 4000 or 6000 control to facilitate a single switch action to move from VFD to Bypass, and simultaneously change profiles. The NX6100 profile select is done on the display. To move to bypass on the NX6100, the profile will need to be selected, and then switch the VFD to bypass.

Drives 10 HP and under with 3 contactor bypass will require replacement of the M2 contactor block, with GE P/N MACN431AT, WW Grainger P/N 6CKZ2 also available at Greenberg Supply

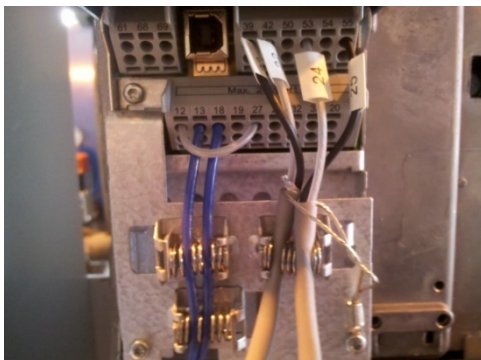


Install Jumper on terminals 1 & 2.



Install M2 & M3 contacts and wire to FSG or Integrated Control Contact shown.
GE P/N BCLF10 (N.O.)

Without Bypass:



Place jumper between Terminals 12 & 27
(See Installation Manual Page 38)

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Notes: