

Parameter settings for Danfoss VLT[®] FCM 300

4–20 mA signal from pressure transmitter



The parameters used to control the frequency converters may be easily programmed by the user. The **[QUICK MENU]** button provides a list with a some of the most common parameters. The **[MENU]** button allows the user to program all parameters.

Johnson Pump Horticulture provides you with this Quick Start guide for optimizing your pump performance.

This guide assumes you are using the Display in *Read-out state II*.

Parameter settings

Group 0 - Operation & Display

Param. no.	Description	Window text	Setting	Serial port value
002	Local/remote control	OPERATION SITE	REMOTE	0
009	Display line 2	DISPLAY LINE 2	FREQUENCY [Hz]	4
010	Display line 1.1	DISPLAY LINE 1.1	REFERENCE %	1
011	Display line 1.2	DISPLAY LINE 1.2	FEEDBACK [UNIT]	3
012	Display line 1.3	DISPLAY LINE 1.3	ANALOG INPUT 1 [mA]	30

Group 1 - Load & Motor

Param. no.	Description	Window text	Setting	Serial port value
100	Configuration	CONFIG. MODE	PROCESS CLOSED LOOP	3
101	Torque characteristics	TORQUE CHARACT	VAR. TORQUE: LOW	2

Group 2 - References & Limits

Param. no.	Description	Window text	Setting	Serial port value
200	Rotation direction	ROTATION	132 Hz CLOCKWISE	0
201	Min. output frequency	MIN OUTPUT FREQ	0.0 Hz	0
202	Max. output frequency	MAX OUTPUT FREQ	50 Hz	50000
204	Min. reference	MIN. REFERENCE	0 HZ	0
205	Max. reference	MAX. REFERENCE	50 Hz	50000
207	Ramp-up time 1	RAMP UP TIME 1	15.00 sec.	1500
208	Ramp-down time	RAMP DOWN TIME 1	15.00 sec.	1500
215*	Preset reference 1	PRESET REF. 1	16.67%	1667

* Parameter 215: 16.67% is approx. 100 mbar (0% = 0 mbar, 100% = 600 mbar)

more...

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...Parameter settings, continued

Group 3 - Inputs & Outputs

Param. no.	Description	Window text	Setting	Serial port value
331	Terminal 1, analogue input current	AI [mA] 1 FUNCT	FEEDBACK	2
332	Terminal 2, analogue/digital input	DIGITAL INPUT 2	NO OPERATION	0
334	Terminal 4, digital input	DIGITAL INPUT 4	START	7
336	Terminal 1, min. scaling	AI 1 SCALE LOW	4.0 mA	40
337	Terminal 1, max. scaling	AI 1 SCALE HIGH	20.0 mA	200
340	Terminal 9, output functions (output is activated by Alarm 24 V DC signal)	OUTPUT FUNC.	FAULT	6

Group 4 - Special Functions

Param. no.	Description	Window text	Setting	Serial port value
414	Minimum feedback	MIN. FEEDBACK	0.000	0
415	Maximum feedback	MAX. FEEDBACK	600.000	600000
416	Reference/feedback unit	REF/FEEDB. UNIT	bar	4
440	Process PID proportional gain	PROC. PROP. GAIN	1.00	100
441	Process PID integral time	PROC. INTEGR. T.	10.00 sec.	1000

All other parameter settings --> factory default settings

Troubleshooting

Not working?

Parameter 620 [OPERATION MODE]/[INITIALIZE] can be used to reset all parameters to the default factory settings.

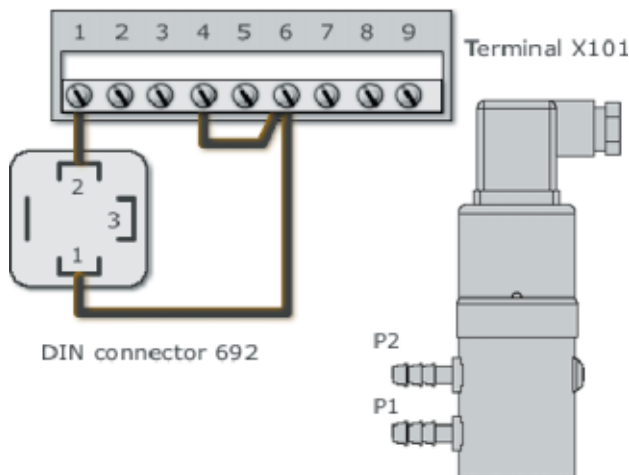
Procedure for initialisation:

1. Select initialisation (parameter 620)
2. Press **[OK]**
3. Disconnect mains power supply and wait for the light in the display to go out
4. Reconnect to mains
5. Initialisation of all parameters will be carried out
6. Reprogram the above parameters

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Wiring diagram



The pressure transmitter must be connected as showed in the diagram.

The connection between terminal 4 and 6 can be replaced by a contact from the controller.

Attention!

P1 of the transmitter is connected to the Supply.

P2 of the transmitter has to be connected to the Return.

To check if the transmitter is connected correctly:

1. Press **[DISPLAY / STATUS]**
2. Three values are shown in the display; parameter settings 010, 011 and 012.
3. The value to the right must be 3,8/3,9 mA while the pump is not running. When this value is 0 mA while the pump is not running, the transmitter is connected wrong or the parameter setting 315 is on 0 mA. When the value is 21 mA while the pump is not running, the pressure difference is more then 600 mbar or the transmitter is not working.

When the transmitter is connected correctly, press **[START]**.

1. The pump wil run and the value to the right will increase till 6,5 mA (100 mbar).
2. The value in the middle will swing around 100 mbar (measured value transmitter).
3. The value to the left will be 100 (PRESET REF 215).