

Danfoss FC102 Modbus



Bell & Gossett

a xylem brand

Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
	0 - 0	Basic Settings					
03	0-01	Language	[0] English	0009	-	Uint8	N/A
03	0-02	Motor Speed Unit	[1] Hz	0019	-	Uint8	Hz
03	0-03	Regional Settings	[0] International	0029	-	Uint8	N/A
03	0-04	Operating State at Power-up	[0] Resume	0039	-	Uint8	N/A
03	0-05	Local Mode Unit	[0] As Motor Speed Unit	0049	-	Uint8	N/A
	0 - 1	Set-up Operations					
03	0-10	Active Set-up	[1] Set-up 1	0099	-	Uint8	N/A
03	0-11	Programming Set-up	[9] Active Set-up	0109	-	Uint8	N/A
03	0-12	This Set-up Linked to	[0] Not linked	0119	-	Uint8	N/A
03	0-13	Readout: Linked Set-ups	0 N/A	0129	0	Uint16	N/A
03	0-14	Readout: Prog. Set-ups / Channel	0 N/A	0139	0	Int32	N/A
	0 - 2	LCP Display					
03	0-20	Display Line 1.1 Small	1602	0199	-	Uint16	N/A
03	0-21	Display Line 1.2 Small	1614	0209	-	Uint16	N/A
03	0-22	Display Line 1.3 Small	1610	0219	-	Uint16	N/A
03	0-23	Display Line 2 Large	1613	0229	-	Uint16	N/A
03	0-24	Display Line 3 Large	1502	0239	-	Uint16	N/A
03	0-25	My Personal Menu	ExpressionLimit	0249	0	Uint16	N/A
	0 - 3	LCP Cust. Readout					
03	0-30	Custom Readout Unit	[1] %	0299	-	Uint8	N/A
03	0-31	Custom Readout Min Value	ExpressionLimit	0309	-2	Int32	N/A
03	0-32	Custom Readout Max Value	100.00 CustomReadoutUnit	0319	-2	Int32	N/A
03	0-37	Display Text 1	0 N/A	0369	0	VisStr[25]	N/A
03	0-38	Display Text 2	0 N/A	0379	0	VisStr[25]	N/A
03	0-39	Display Text 3	0 N/A	0389	0	VisStr[25]	N/A
	0 - 4	LCP Keypad					
03	0-40	[Hand on] Key on LCP	[1] Enabled	0399	-	Uint8	N/A
03	0-41	[Off] Key on LCP	[1] Enabled	0409	-	Uint8	N/A
03	0-42	[Auto on] Key on LCP	[1] Enabled	0419	-	Uint8	N/A
03	0-43	[Reset] Key on LCP	[1] Enabled	0429	-	Uint8	N/A
03	0-44	[Off/Reset] Key on LCP	[1] Enabled	0439	-	Uint8	N/A
03	0-45	[Drive Bypass] Key on LCP	[1] Enabled	0449	-	Uint8	N/A
	0 - 5	Copy/Save					
03	0-50	LCP Copy	[0] No copy	0499	-	Uint8	N/A
03	0-51	Set-up Copy	[0] No copy	0509	-	Uint8	N/A
	0 - 6	Password					
03	0-60	Main Menu Password	100 N/A	0599	0	Uint16	N/A
03	0-61	Access to Main Menu w/o Password	[0] Full access	0609	-	Uint8	N/A

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03	0-65	Personal Menu Password	200 N/A	0649	0	Uint16	N/A
03	0-66	Access to Personal Menu w/o Password	[0] Full access	0659	-	Uint8	N/A
	0 - 7	Clock Settings					
03	0-70	Set Date and Time	ExpressionLimit	0699	0	TimeOfDay	N/A
03	0-71	Date Format	null	0709	-	Uint8	N/A
03	0-72	Time Format	null	0719	-	Uint8	N/A
03	0-74	DST/Summertime	[0] OFF	0739	-	Uint8	N/A
03	0-76	DST/Summertime Start	ExpressionLimit	0759	0	TimeOfDay	N/A
03	0-77	DST/Summertime End	ExpressionLimit	0769	0	TimeOfDay	N/A
03	0-79	Clock Fault	null	0789	-	Uint8	N/A
03	0-81	Working Days	null	0809	-	Uint8	N/A
03	0-82	Additional Working Days	ExpressionLimit	0819	0	TimeOfDay	N/A
03	0-83	Additional Non-Working Days	ExpressionLimit	0829	0	TimeOfDay	N/A
03	0-89	Date and Time Readout	0 N/A	0889	0	VisStr[25]	N/A
	1 - 0	General Settings					
03	1-00	Configuration Mode	null	0999	-	Uint8	N/A
03	1-03	Torque Characteristics	[3] Auto Energy Optim. VT	1029	-	Uint8	N/A
	1 - 2	Motor Data					
03	1-20	Motor Power [kW]	ExpressionLimit	1199	1	Uint32	N/A
03	1-21	Motor Power [HP]	ExpressionLimit	1209	-2	Uint32	N/A
03	1-22	Motor Voltage	ExpressionLimit	1219	0	Uint16	N/A
03	1-23	Motor Frequency	ExpressionLimit	1229	0	Uint16	N/A
03	1-24	Motor Current	ExpressionLimit	1239	-2	Uint32	N/A
03	1-25	Motor Nominal Speed	ExpressionLimit	1249	67	Uint16	N/A
03	1-28	Motor Rotation Check	[0] OFF	1279	-	Uint8	N/A
03	1-29	Automatic Motor Adaptation (AMA)	[0] OFF	1289	-	Uint8	N/A
	1 - 5	Load-Indep. Setting					
03	1-50	Motor Magnetization at Zero Speed	100%	1499	0	Uint16	%
03	1-51	Min Speed Normal Magnetizing [RPM]	ExpressionLimit	1509	67	Uint16	N/A
03	1-52	Min Speed Normal Magnetizing [Hz]	ExpressionLimit	1519	-1	Uint16	N/A
	1 - 7	Start Adjustments					
03	1-71	Start Delay	0.0 s	1709	-1	Uint16	sec
03	1-73	Flying Start	[0] Disabled	1729	-	Uint8	N/A
	1 - 8	Stop Adjustments					
03	1-80	Function at Stop	[0] Coast	1799	-	Uint8	N/A
03	1-81	Min Speed for Function at Stop [RPM]	ExpressionLimit	1809	67	Uint16	N/A
03	1-82	Min Speed for Function at Stop [Hz]	ExpressionLimit	1819	-1	Uint16	N/A
03	1-86	Trip Speed Low [RPM]	0 RPM	1859	67	Uint16	RPM
03	1-87	Trip Speed Low [Hz]	0.0 Hz	1869	-1	Uint16	Hz
	1 - 9	Motor Temperature					
03	1-90	Motor Thermal Protection	[4] ETR trip 1	1899	-	Uint8	N/A
03	1-91	Motor External Fan	[0] No	1909	-	Uint16	N/A

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03	1-93	Thermistor Source	[0] None	1929	-	Uint8	N/A
	2 - 0	DC Brake					
03	2-00	DC Hold/Preheat Current	50%	1999	0	Uint8	%
03	2-01	DC Brake Current	50%	2009	0	Uint16	%
03	2-02	DC Braking Time	10.0 s	2019	-1	Uint16	sec
03	2-03	DC Brake Cut-in Speed [RPM]	ExpressionLimit	2029	67	Uint16	N/A
03	2-04	DC Brake Cut-in Speed [Hz]	ExpressionLimit	2039	-1	Uint16	N/A
	2 - 1	Brake Energy Funct.					
03	2-10	Brake Function	[0] Off	2099	-	Uint8	N/A
03	2-11	Brake Resistor (ohm)	ExpressionLimit	2109	0	Uint16	N/A
03	2-12	Brake Power Limit (kW)	ExpressionLimit	2119	0	Uint32	N/A
03	2-13	Brake Power Monitoring	[0] Off	2129	-	Uint8	N/A
03	2-15	Brake Check	[0] Off	2149	-	Uint8	N/A
03	2-16	AC Brake Max. Current	100.00%	2159	-1	Uint32	%
03	2-17	Over-voltage Control	[2] Enabled	2169	-	Uint8	N/A
	3 - 0	Reference Limits					
03	3-02	Minimum Reference	ExpressionLimit	3019	-3	Int32	N/A
03	3-03	Maximum Reference	ExpressionLimit	3029	-3	Int32	N/A
03	3-04	Reference Function	null	3039	-	Uint8	N/A
	3 - 1	References					
03	3-10	Preset Reference	0.00%	3099	-2	Int16	%
03	3-11	Jog Speed [Hz]	ExpressionLimit	3109	-1	Uint16	N/A
03	3-13	Reference Site	[0] Linked to Hand / Auto	3129	-	Uint8	N/A
03	3-14	Preset Relative Reference	0.00%	3139	-2	Int32	%
03	3-15	Reference 1 Source	[1] Analog input 53	3149	-	Uint8	N/A
03	3-16	Reference 2 Source	[20] Digital pot.meter	3159	-	Uint8	N/A
03	3-17	Reference 3 Source	[0] No function	3169	-	Uint8	N/A
03	3-19	Jog Speed [RPM]	ExpressionLimit	3189	67	Uint16	N/A
	3 - 4	Ramp 1					
03	3-41	Ramp 1 Ramp-up Time	ExpressionLimit	3409	-2	Uint32	N/A
03	3-42	Ramp 1 Ramp-down Time	ExpressionLimit	3419	-2	Uint32	N/A
	3 - 5	Ramp 2					
03	3-51	Ramp 2 Ramp-up Time	ExpressionLimit	3509	-2	Uint32	N/A
03	3-52	Ramp 2 Ramp-down Time	ExpressionLimit	3519	-2	Uint32	N/A
	3 - 8	Other Ramps					
03	3-80	Jog Ramp Time	ExpressionLimit	3799	-2	Uint32	N/A
03	3-81	Quick Stop Ramp Time	ExpressionLimit	3809	-2	Uint32	N/A
	4 - 1	Motor Limits					
03	4-10	Motor Speed Direction	[2] Both directions	4099	-	Uint8	N/A
03	4-11	Motor Speed Low Limit [RPM]	ExpressionLimit	4109	67	Uint16	N/A
03	4-12	Motor Speed Low Limit [Hz]	ExpressionLimit	4119	-1	Uint16	N/A
03	4-13	Motor Speed High Limit [RPM]	ExpressionLimit	4129	67	Uint16	N/A
03	4-14	Motor Speed High Limit [Hz]	ExpressionLimit	4139	-1	Uint16	N/A
03	4-16	Torque Limit Motor Mode	110.00%	4159	-1	Uint16	%
03	4-17	Torque Limit Generator Mode	100.00%	4169	-1	Uint16	%

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03	4-18	Current Limit	ExpressionLimit	4179	-1	Uint32	N/A
03	4-19	Max Output Frequency	ExpressionLimit	4189	-1	Uint16	N/A
	4 - 5	Adj. Warnings					
03	4-50	Warning Current Low	0.00 A	4499	-2	Uint32	N/A
03	4-51	Warning Current High	ImaxVLT (P1637)	4509	-2	Uint32	N/A
03	4-52	Warning Speed Low	0 RPM	4519	67	Uint16	N/A
03	4-53	Warning Speed High	outputSpeedHighLimit (P413)	4529	67	Uint16	N/A
03	4-54	Warning Reference Low	-999999.999 N/A	4539	-3	Int32	N/A
03	4-55	Warning Reference High	999999.999 N/A	4549	-3	Int32	N/A
03	4-56	Warning Feedback Low	-999999.999 ProcessCtrlUnit	4559	-3	Int32	N/A
03	4-57	Warning Feedback Low	999999.999 ProcessCtrlUnit	4569	-3	Int32	N/A
03	4-58	Missing Motor Phase Function	[1] On	4579	-	Uint8	N/A
	4 - 6	Speed Bypass					
03	4-60	Bypass Speed From [RPM]	ExpressionLimit	4599	67	Uint16	N/A
03	4-61	Bypass Speed From [Hz]	ExpressionLimit	4609	-1	Uint16	N/A
03	4-62	Bypass Speed to [RPM]	ExpressionLimit	4619	67	Uint16	N/A
03	4-63	Bypass Speed To [Hz]	ExpressionLimit	4629	-1	Uint16	N/A
03	4-64	Semi-Auto Bypass Set-up	[0] OFF	4639	-	Uint8	N/A
	5 - 0	Digital I/O mode					
03	5-00	Digital I/O Mode	[0] PNP - Active at 24 V	4999	-	Uint8	N/A
03	5-01	Terminal 27 Mode	[0] Input	5009	-	Uint8	N/A
03	5-02	Terminal 29 Mode	[0] Input	5019	-	Uint8	N/A
	5 - 1	Digital Inputs					
03	5-10	Terminal 18 Digital Input	[8] Start	5099	-	Uint8	N/A
03	5-11	Terminal 19 Digital Input	[0] No operation	5109	-	Uint8	N/A
03	5-12	Terminal 27 Digital Input	null	5119	-	Uint8	N/A
03	5-13	Terminal 29 Digital Input	[14] Jog	5129	-	Uint8	N/A
03	5-14	Terminal 32 Digital Input	[0] No operation	5139	-	Uint8	N/A
03	5-15	Terminal 33 Digital Input	[0] No operation	5149	-	Uint8	N/A
03	5-16	Terminal X30/2 Digital Input	[0] No operation	5159	-	Uint8	N/A
03	5-17	Terminal X30/3 Digital Input	[0] No operation	5169	-	Uint8	N/A
03	5-18	Terminal X30/4 Digital Input	[0] No operation	5179	-	Uint8	N/A
	5 - 3	Digital Outputs					
03	5-30	Terminal 27 Digital Output	[0] No operation	5299	-	Uint8	N/A
03	5-31	Terminal 29 digital Output	[0] No operation	5309	-	Uint8	N/A
03	5-32	Term X30/6 Digi Out (MCB 101)	[0] No operation	5319	-	Uint8	N/A
03	5-33	Term X30/7 Digi Out (MCB 101)	[0] No operation	5329	-	Uint8	N/A
	5 - 4	Relays					
03	5-40	Function Relay	null	5399	-	Uint8	N/A
03	5-41	On Delay, Relay	0.01 s	5409	-2	Uint16	sec
03	5-42	Off Delay, Relay	0.01 s	5419	-2	Uint16	sec
	5 - 6	Pulse Output					
03	5-60	Terminal 27 Pulse Output Variable	[0] No operation	5599	-	Uint8	N/A

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
03	5-62	Pulse Output Max Freq #27	5000 Hz	5619	0	Uint32	Hz
03	5-63	Terminal 29 Pulse Output Variable	[0] No operation	5629	-	Uint8	N/A
03	5-65	Pulse Output Max Freq #29	5000 Hz	5649	0	Uint32	Hz
03	5-66	Terminal X30/6 Pulse Output Variable	[0] No operation	5659	-	Uint8	N/A
03	5-68	Pulse Output Max Freq #X30/6	5000 Hz	5679	0	Uint32	Hz
	5 - 9	Bus Controlled					
03	5-90	Digital & Relay Bus Control	0 N/A	5899	0	Uint32	N/A
03	5-93	Pulse Out #27 Bus Control	0.00%	5929	-2	N2	%
03	5-94	Pulse Out #27 Timeout Preset	0.00%	5939	-2	Uint16	%
03	5-95	Pulse Out #29 Bus Control	0.00%	5949	-2	N2	%
03	5-96	Pulse Out #29 Timeout Preset	0.00%	5959	-2	Uint16	%
03	5-97	Pulse Out #X30/6 Bus Control	0.00%	5969	-2	N2	%
03	5-98	Pulse Out #X30/6 Timeout Preset	0.00%	5979	-2	Uint16	%
	6 - 0	Analog I/O Mode					
03	6-00	Live Zero Timeout Time	10 s	5999	0	Uint8	sec
03	6-01	Live Zero Timeout Function	[0] Off	6009	-	Uint8	N/A
03	6-02	Fire Mode Live Zero Timeout Function	[0] Off	6019	-	Uint8	N/A
	6 - 1	Analog Input 53					
03	6-10	Terminal 53 Low Voltage	0.07 V	6099	-2	Int16	Volt
03	6-11	Terminal 53 High Voltage	10.00 V	6109	-2	Int16	Volt
03	6-12	Terminal 53 Low Current	4.00 mA	6119	-5	Int16	mA
03	6-13	Terminal 53 High Current	20.00 mA	6129	-5	Int16	mA
03	6-14	Terminal 53 Low Ref./Feedb. Value	0.000 N/A	6139	-3	Int32	N/A
03	6-15	Terminal 53 High Ref./Feedb. Value	ExpressionLimit	6149	-3	Int32	N/A
03	6-16	Terminal 53 Filter Time Constant	0.001 s	6159	-3	Uint16	sec
03	6-17	Terminal 53 Live Zero	[1] Enabled	6169	-	Uint8	N/A
	6 - 2	Analog Input 54					
03	6-20	Terminal 54 Low Voltage	0.07 V	6199	-2	Int16	Volt
03	6-21	Terminal 54 High Voltage	10.00 V	6209	-2	Int16	Volt
03	6-22	Terminal 54 Low Current	4.00 mA	6219	-5	Int16	mA
03	6-23	Terminal 54 High Current	20.00 mA	6229	-5	Int16	mA
03	6-24	Terminal 54 Low Ref./Feedb. Value	0.000 N/A	6239	-3	Int32	N/A
03	6-25	Terminal 54 High Ref./Feedb. Value	100.000 N/A	6249	-3	Int32	N/A
03	6-26	Terminal 54 Filter Time Constant	0.001 s	6259	-3	Uint16	sec
03	6-27	Terminal 54 Live Zero	[1] Enabled	6269	-	Uint8	N/A
	6 - 5	Analog Output 42					
03	6-50	Terminal 42 Output	null	6499	-	Uint8	N/A

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03	6-51	Terminal 42 Output Min Scale	0.00%	6509	-2	Int16	%
03	6-52	Terminal 42 Output Max Scale	100.00%	6519	-2	Int16	%
03	6-53	Terminal 42 Output Bus Control	0.00%	6529	-2	N2	%
03	6-54	Terminal 42 Output Timeout Preset	0.00%	6539	-2	Uint16	%
	8 - 0	General Settings					
03	8-01	Control Site	null	8009	-	Uint8	N/A
03	8-02	Control Source	null	8019	-	Uint8	N/A
03	8-03	Control Timeout Time	ExpressionLimit	8029	-1	Uint32	N/A
03	8-04	Control Timeout Function	[0] Off	8039	-	Uint8	N/A
03	8-05	End-of-Timeout Function	[1] Resume set-up	8049	-	Uint8	N/A
03	8-06	Reset Control Timeout	[0] Do not reset	8059	-	Uint8	N/A
03	8-07	Diagnosis Trigger	[0] Disable	8069	-	Uint8	N/A
	8 - 1	Control Settings					
03	8-10	Control Profile	[0] FC profile	8099	-	Uint8	N/A
03	8-13	Configurable Status Word STW	[1] Profile Default	8129	-	Uint8	N/A
	8 - 3	FC Port Settings					
03	8-30	Protocol	null	8299	-	Uint8	N/A
03	8-31	Address	ExpressionLimit	8309	0	Uint8	N/A
03	8-32	Baud Rate	null	8319	-	Uint8	N/A
03	8-33	Parity / Stop Bits	null	8329	-	Uint8	N/A
03	8-35	Minimum Response Delay	ExpressionLimit	8349	-3	Uint16	N/A
03	8-36	Max Response Delay	ExpressionLimit	8359	-3	Uint16	N/A
03	8-37	Max Inter-Char Delay	ExpressionLimit	8369	-5	Uint16	N/A
	8 - 4	FC MC protocol set					
03	8-40	Telegram selection	[1] Standard telegram 1	8399	-	Uint8	N/A
	8 - 5	Digital/Bus					
03	8-50	Coasting Select	[3] Logic OR	8499	-	Uint8	N/A
03	8-52	DC Brake Select	[3] Logic OR	8519	-	Uint8	N/A
03	8-53	Start Select	[3] Logic OR	8529	-	Uint8	N/A
03	8-54	Reverse Select	null	8539	-	Uint8	N/A
03	8-55	Set-up Select	[3] Logic OR	8549	-	Uint8	N/A
03	8-56	Preset Reference Select	[3] Logic OR	8559	-	Uint8	N/A
	8 - 7	BACnet					
03	8-70	BACnet Device Instance	1 N/A	8699	0	Uint32	N/A
03	8-72	MS/TP Max Masters	127 N/A	8719	0	Uint8	N/A
03	8-73	MS/TP Max Info Frames	1 N/A	8729	0	Uint16	N/A
03	8-74	Startup I am	[0] Send at power-up	8739	-	Uint8	N/A
03	8-75	Initialization Password	ExpressionLimit	8749	0	VisStr[20]	N/A
	8 - 8	FC Port Diagnostics					
03	8-80	Bus Message Count	0 N/A	8799	0	Uint32	N/A
03	8-81	Bus Error Count	0 N/A	8809	0	Uint32	N/A
03	8-82	Slave Message Count	0 N/A	8819	0	Uint32	N/A
03	8-83	Slave Error Count	0 N/A	8829	0	Uint32	N/A
03	8-89	Diagnostics Count	0 N/A	8889	0	Uint32	N/A

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	8 - 9	Bus Jog					
03	8-90	Bus Jog 1 Speed	100 RPM	8899	67	Uint16	RPM
03	8-91	Bus Jog 2 Speed	200 RPM	8909	67	Uint16	RPM
03	8-94	Bus Feedback 1	0 N/A	8939	0	N2	N/A
03	8-95	Bus Feedback 2	0 N/A	8949	0	N2	N/A
03	8-96	Bus Feedback 3	0 N/A	8959	0	N2	N/A
	11 - 0	LonWorks ID					
03	11-00	Neuron ID	0 N/A	10999	0	OctStr[6]	N/A
	11 - 1	LON Functions					
03	11-10	Drive Profile	[0] VSD profile	11099	-	Uint8	N/A
03	11-15	LON Warning Word	0 N/A	11149	0	Uint16	N/A
03	11-17	XIF Revision	0 N/A	11169	0	VisStr[5]	N/A
03	11-18	LonWorks Revision	0 N/A	11179	0	VisStr[5]	N/A
	11 - 2	LON Param. Access					
03	11-21	Store Data Values	[0] Off	11209	-	Uint8	N/A
	14 - 0	Inverter Switching					
03	14-00	Switching Pattern	[0] 60 AVM	13999	-	Uint8	AVM
03	14-01	Switching Frequency	null	14009	-	Uint8	N/A
03	14-03	Overmodulation	[1] On	14029	-	Uint8	N/A
03	14-04	PWM Random	[0] Off	14039	-	Uint8	N/A
	14 - 1	Mains On/Off					
03	14-10	Line Failure	[0] No function	14099	-	Uint8	N/A
03	14-11	Line Voltage at Line Fault	ExpressionLimit	14109	0	Uint16	N/A
03	14-12	Function at Mains Imbalance	[0] Trip	14119	-	Uint8	N/A
	14 - 2	Reset Functions					
03	14-20	Reset Mode	null	14199	-	Uint8	N/A
03	14-21	Automatic Restart Time	10 s	14209	0	Uint16	sec
03	14-22	Operation Mode	[0] Normal operation	14219	-	Uint8	N/A
03	14-23	Typecode Setting	null	14229	-	Uint8	N/A
03	14-25	Trip Delay at Torque Limit	60 s	14249	0	Uint8	sec
03	14-26	Trip Delay at Inverter Fault	ExpressionLimit	14259	0	Uint8	N/A
03	14-28	Production Settings	[0] No action	14279	-	Uint8	N/A
03	14-29	Service Code	0 N/A	14289	0	Int32	N/A
	14 - 3	Current Limit Ctrl.					
03	14-30	Current Lim Cont, Proportional Gain	100%	14299	0	Uint16	%
03	14-31	Current Lim Contr, Integration Time	0.020 s	14309	-3	Uint16	sec
	14 - 4	Energy Optimizing					
03	14-40	VT Level	66%	14399	0	Uint8	%
03	14-41	AEO Minimum Magnetization	ExpressionLimit	14409	0	Uint8	N/A
03	14-42	Minimum AEO Frequency	10 Hz	14419	0	Uint8	Hz
03	14-43	Motor Cos-Phi	ExpressionLimit	14429	-2	Uint16	N/A
	14 - 5	Environment					
03	14-50	RFI 1	[1] On	14499	-	Uint8	N/A
03	14-52	Fan Control	[0] Auto	14519	-	Uint8	N/A
03	14-53	Fan Monitor	[1] Warning	14529	-	Uint8	N/A

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
	15 - 0	Operating Data					
03	15-00	Operating Hours	0 h	14999	74	Uint32	Hour
03	15-01	Running Hours	0 h	15009	74	Uint32	Hour
03	15-02	kWh Counter	0 kWh	15019	75	Uint32	kWh
03	15-03	Power-ups	0 N/A	15029	0	Uint32	N/A
03	15-04	Over Temps	0 N/A	15039	0	Uint16	N/A
03	15-05	Over Volts	0 N/A	15049	0	Uint16	N/A
03	15-06	Reset kWh Counter	[0] Do not reset	15059	-	Uint8	N/A
03	15-07	Reset Running Hours Counter	[0] Do not reset	15069	-	Uint8	N/A
03	15-08	Number of Starts	0 N/A	15079	0	Uint32	N/A
	15 - 1	Data Log Settings					
03	15-10	Logging Source	0	15099	-	Uint16	N/A
03	15-11	Logging Interval	ExpressionLimit	15109	-3	TimD	N/A
03	15-12	Trigger Event	[0] FALSE	15119	-	Uint8	N/A
03	15-13	Logging Mode	[0] Log always	15129	-	Uint8	N/A
03	15-14	Samples Before Trigger	50 N/A	15139	0	Uint8	N/A
	15 - 2	Historic Log					
03	15-20	Historic Log: Event	0 N/A	15199	0	Uint8	N/A
03	15-21	Historic Log: Value	0 N/A	15209	0	Uint32	N/A
03	15-22	Historic Log: Time	0 ms	15219	-3	Uint32	N/A
03	15-23	Historic Log: Date and Time	ExpressionLimit	15229	0	TimeOfDay	N/A
	15 - 3	Alarm Log					
03	15-30	Alarm Log: Error Code	0 N/A	15299	0	Uint8	N/A
03	15-31	Alarm Log: Value	0 N/A	15309	0	Int16	N/A
03	15-32	Alarm Log: Time	0 s	15319	0	Uint32	sec
03	15-33	Alarm Log: Date and Time	ExpressionLimit	15329	0	TimeOfDay	N/A
	15 - 4	Drive Identification					
03	15-40	FC Type	0 N/A	15399	0	VisStr[6]	N/A
03	15-41	Power Section	0 N/A	15409	0	VisStr[20]	N/A
03	15-42	Voltage	0 N/A	15419	0	VisStr[20]	N/A
03	15-43	Software Version	0 N/A	15429	0	VisStr[5]	N/A
03	15-44	Ordered Typecode String	0 N/A	15439	0	VisStr[40]	N/A
03	15-45	Actual Typecode String	0 N/A	15449	0	VisStr[40]	N/A
03	15-46	Adj Freq Dr Ordering No.	0 N/A	15459	0	VisStr[8]	N/A
03	15-47	Power Card Ordering No.	0 N/A	15469	0	VisStr[8]	N/A
03	15-48	LCP ID Num.	0 N/A	15479	0	VisStr[20]	N/A
03	15-49	SW ID Control Card	0 N/A	15489	0	VisStr[20]	N/A
03	15-50	SW ID Power Card	0 N/A	15499	0	VisStr[20]	N/A
03	15-51	Adj Freq Dr Serial No.	0 N/A	15509	0	VisStr[10]	N/A
03	15-53	Power Card Serial Number	0 N/A	15529	0	VisStr[19]	N/A
	15 - 9	Parameter Info					
03	15-92	Defined Parameters	0 N/A	15919	0	Uint16	N/A
03	15-93	Modified Parameters	0 N/A	15929	0	Uint16	N/A
03	15-98	Drive Identification	0 N/A	15979	0	VisStr[40]	N/A
03	15-99	Parameter Metadata	0 N/A	15989	0	Uint16	N/A
	16 - 0	General Status					
03	16-00	Control Word	0 N/A	15999	0	V2	N/A

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
03	16-01	Reference [Unit]	0.000 ReferenceFeedbackUnit	16009	-3	Int32	N/A
03	16-02	Reference %	0.00%	16019	-1	Int16	N/A
03	16-03	Status Word	0 N/A	16029	0	V2	N/A
03	16-05	Main Actual Value [%]	0.00%	16049	-2	N2	N/A
03	16-09	Custom Readout	0.00 CustomReadoutUnit	16089	-2	Int32	N/A
	16 - 1	Motor Status					
03	16-10	Power [kW]	0.00 kW	16099	1	Int32	kW
03	16-11	Power [hp]	0.00 hp	16109	-2	Int32	hp
03	16-12	Motor voltage	0.0 V	16119	-1	UInt16	volt
03	16-13	Frequency	0.0 Hz	16129	-1	UInt16	Hz
03	16-14	Motor Current	0.00 A	16139	-2	Int32	Amp
03	16-15	Frequency [%]	0.00%	16149	-2	N2	%
03	16-16	Torque [Nm]	0.0 Nm	16159	-1	Int32	Nm
03	16-17	Speed [RPM]	0 RPM	16169	67	Int32	RPM
03	16-18	Motor Thermal	0%	16179	0	UInt8	%
03	16-22	Torque [%]	0%	16219	0	Int16	%
	16 - 3	Drive Status					
03	16-30	DC Link Voltage	0 V	16299	0	UInt16	volt
03	16-32	Brake Energy /s	0.000 kW	16319	0	UInt32	kW
03	16-33	Brake Energy /2 min	0.000 kW	16329	0	UInt32	kW
03	16-34	Heatsink Temp.	0 °C	16339	100	UInt8	°C
03	16-35	Inverter Thermal	0%	16349	0	UInt8	%
03	16-36	Inv. Nom. Current	ExpressionLimit	16359	-2	UInt32	N/A
03	16-37	Inv. Max. Current	ExpressionLimit	16369	-2	UInt32	N/A
03	16-38	SL Controller State	0 N/A	16379	0	UInt8	N/A
03	16-39	Control Card Temp.	0 °C	16389	100	UInt8	°C
03	16-40	Logging Buffer Full	[0] No	16399	-	UInt8	N/A
	16 - 6	Inputs & Outputs					
03	16-60	Digital Input	0 N/A	16599	0	UInt16	N/A
03	16-61	Terminal 53 Switch Setting	[0] Current	16609	-	UInt8	N/A
03	16-62	Analog Input 53	0.000 N/A	16619	-3	Int32	N/A
03	16-63	Terminal 54 Switch Setting	[0] Current	16629	-	UInt8	N/A
03	16-64	Analog Input 54	0.000 N/A	16639	-3	Int32	N/A
03	16-65	Analog Output 42 [mA]	0.000 N/A	16649	-3	Int16	N/A
03	16-66	Digital Output [bin]	0 N/A	16659	0	Int16	N/A
03	16-67	Pulse Input #29 [Hz]	0 N/A	16669	0	Int32	N/A
03	16-68	Pulse Input #33 [Hz]	0 N/A	16679	0	Int32	N/A
03	16-69	Pulse Output #27 [Hz]	0 N/A	16689	0	Int32	N/A
03	16-70	Pulse Output #29 [Hz]	0 N/A	16699	0	Int32	N/A
03	16-71	Relay Output [bin]	0 N/A	16709	0	Int16	N/A
03	16-72	Counter A	0 N/A	16719	0	Int32	N/A
03	16-73	Counter B	0 N/A	16729	0	Int32	N/A
03	16-75	Analog In X30/11	0.000 N/A	16749	-3	Int32	N/A
03	16-76	Analog In X30/12	0.000 N/A	16759	-3	Int32	N/A
03	16-77	Analog Out X30/8 [mA]	0.000 N/A	16769	-3	Int16	N/A
	16 - 9	Diagnosis Readouts					
03	16-90	Alarm Word	0 N/A	16899	0	UInt32	N/A

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
03	16-91	Alarm word 2	0 N/A	16909	0	Uint32	N/A
03	16-92	Warning Word	0 N/A	16919	0	Uint32	N/A
03	16-93	Warning word 2	0 N/A	16929	0	Uint32	N/A
03	16-94	Ext. Status Word	0 N/A	16939	0	Uint32	N/A
03	16-95	Ext. Status Word 2	0 N/A	16949	0	Uint32	N/A
03	16-96	Maintenance Word	0 N/A	16959	0	Uint32	N/A
	18 - 0	Maintenance Log					
03	18-00	Maintenance Log: Item	0 N/A	17999	0	Uint8	N/A
03	18-01	Maintenance Log: Action	0 N/A	18009	0	Uint8	N/A
03	18-02	Maintenance Log: Time	0 s	18019	0	Uint32	sec
03	18-03	Maintenance Log: Date and Time	ExpressionLimit	18029	0	TimeOfDay	N/A
	20 - 0	Feedback					
03	20-00	Feedback 1 Source	[2] Analog input 54	19999	-	Uint8	N/A
03	20-01	Feedback 1 Conversion	[0] Linear	20009	-	Uint8	N/A
03	20-02	Feedback 1 Source Unit	null	20019	-	Uint8	N/A
03	20-03	Feedback 2 Source	[0] No function	20029	-	Uint8	N/A
03	20-04	Feedback 2 Conversion	[0] Linear	20039	-	Uint8	N/A
03	20-05	Feedback 2 Source Unit	null	20049	-	Uint8	N/A
03	20-06	Feedback 3 Source	[0] No function	20059	-	Uint8	N/A
03	20-07	Feedback 3 Conversion	[0] Linear	20069	-	Uint8	N/A
03	20-08	Feedback 3 Source Unit	null	20079	-	Uint8	N/A
03	20-12	Reference/Feedback Unit	nul	20119	-	Uint8	N/A
03	20-13	Minimum Reference/Feedb.	0.000 ProcessCtrlUnit	20129	-3	Int32	N/A
03	20-14	Maximum Reference/Feedb.	100.000 ProcessCtrlUnit	20139	-3	Int32	N/A
	20 - 2	Feedback & Setpoint					
03	20-20	Feedback Function	[3] Minimum	20199	-	Uint8	N/A
03	20-21	Setpoint 1	0.000 ProcessCtrlUnit	20209	-3	Int32	N/A
03	20-22	Setpoint 2	0.000 ProcessCtrlUnit	20219	-3	Int32	N/A
03	20-23	Setpoint 3	0.000 ProcessCtrlUnit	20229	-3	Int32	N/A
	20 - 9	PID Controller					
03	20-91	PID Anti Windup	[1] On	20909	-	Uint8	N/A
03	20-93	PID Proportional Gain	0.50 N/A	20929	-2	Uint16	N/A
03	20-94	PID Integral Time	20.00 s	20939	-2	Uint32	sec
03	20-95	PID Differentiation Time	0.00 s	20949	-2	Uint16	sec
03	20-96	PID Diff. Gain Limit	5.0 N/A	20959	-1	Uint16	N/A
	21 - 1	Ext. CL 1 Ref./Fb.					
03	21-10	Ext. 1 Ref./Feedback Unit	[1] %	21099	-	Uint8	%
03	21-11	Ext. 1 Minimum Reference	0.000 ExtPID1Unit	21109	-3	Int32	N/A
03	21-12	Ext. 1 Maximum Reference	100.000 ExtPID1Unit	21119	-3	Int32	N/A
03	21-13	Ext. 1 Reference Source	[0] No function	21129	-	Uint8	N/A
03	21-14	Ext. 1 Feedback Source	[0] No function	21139	-	Uint8	N/A
03	21-15	Ext. 1 Setpoint	0.000 ExtPID1Unit	21149	-3	Int32	N/A
03	21-17	Ext. 1 Reference [Unit]	0.000 ExtPID1Unit	21169	-3	Int32	N/A
03	21-18	Ext. 1 Feedback [Unit]	0.000 ExtPID1Unit	21179	-3	Int32	N/A
03	21-19	Ext. 1 Output [%]	0%	21189	0	Int32	%

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
	21 - 2	Ext. CL 1 PID					
03	21-20	Ext. 1 Normal/Inverse Control	[0] Normal	21199	-	Uint8	N/A
03	21-21	Ext. 1 Proportional Gain	0.01 N/A	21209	-2	Uint16	N/A
03	21-22	Ext. 1 Integral Time	10000.00 s	21219	-2	Uint32	sec
03	21-23	Ext. 1 Differentiation Time	0.00 s	21229	-2	Uint16	sec
03	21-24	Ext. 1 Dif. Gain Limit	5.0 N/A	21239	-1	Uint16	N/A
	21 - 3	Ext. CL 2 Ref./Fb.					
03	21-30	Ext. 2 Ref./Feedback Unit	[1] %	21299	-	Uint8	%
03	21-31	Ext. 2 Minimum Reference	0.000 ExtPID1Unit	21309	-3	Int32	N/A
03	21-32	Ext. 2 Maximum Reference	100.000 ExtPID1Unit	21319	-3	Int32	N/A
03	21-33	Ext. 2 Reference Source	[0] No function	21329	-	Uint8	N/A
03	21-34	Ext. 2 Feedback Source	[0] No function	21339	-	Uint8	N/A
03	21-35	Ext. 2 Setpoint	0.000 ExtPID1Unit	21349	-3	Int32	N/A
03	21-37	Ext. 2 Reference [Unit]	0.000 ExtPID1Unit	21369	-3	Int32	N/A
03	21-38	Ext. 2 Feedback [Unit]	0.000 ExtPID1Unit	21379	-3	Int32	N/A
03	21-39	Ext. 2 Output [%]	0%	21389	0	Int32	%
	21 - 4	Ext. CL 2 PID					
03	21-40	Ext. 2 Normal/Inverse Control	[0] Normal	21399	-	Uint8	N/A
03	21-41	Ext. 2 Proportional Gain	0.01 N/A	21409	-2	Uint16	N/A
03	21-42	Ext. 2 Integral Time	10000.00 s	21419	-2	Uint32	sec
03	21-43	Ext. 2 Differentiation Time	0.00 s	21429	-2	Uint16	sec
03	21-44	Ext. 2 Dif. Gain Limit	5.0 N/A	21439	-1	Uint16	N/A
	22 - 2	No-Flow Detection					
03	22-20	Low Power Auto Set-up	[0] OFF	22199	-	Uint8	N/A
03	22-21	Low Power Detection	[0] Disabled	22209	-	Uint8	N/A
03	22-22	Low Speed Detection	[0] Disabled	22219	-	Uint8	N/A
03	22-23	No-Flow Function	[0] OFF	22229	-	Uint8	N/A
03	22-24	No-Flow Delay	10 s	22239	0	Uint16	sec
03	22-26	Dry Pump Function	[0] OFF	22259	-	Uint8	N/A
03	22-27	Dry Pump Delay	10 s	22269	0	Uint16	sec
	22 - 6	Broken Belt Detection					
03	22-60	Broken Belt Function	[0] OFF	22599	-	Uint8	N/A
03	22-61	Broken Belt Torque	10%	22609	0	Uint8	%
03	22-62	Broken Belt Delay	10 s	22619	0	Uint16	sec
	23 - 0	Timed Actions					
03	23-00	ON Time	ExpressionLimit	22999	0	TimeOfDayWoDate	N/A
03	23-01	ON Action	[0] DISABLED	23009	-	Uint8	N/A
03	23-02	OFF Time	ExpressionLimit	23019	0	TimeOfDayWoDate	N/A
03	23-03	OFF Action	[0] DISABLED	23029	-	Uint8	N/A
03	23-04	Occurrence	[0] All days	23039	-	Uint8	N/A
	21 - 1	Maintenance					
03	23-10	Maintenance Item	[1] Motor bearings	23099	-	Uint8	N/A
03	23-11	Maintenance Action	[1] Lubricate	23109	-	Uint8	N/A
03	23-12	Maintenance Time Base	[0] Disabled	23119	-	Uint8	N/A
03	23-13	Maintenance Time Interval	1 h	23129	74	Uint32	Hour
03	23-14	Maintenance Date and Time	ExpressionLimit	23139	0	TimeOfDay	N/A

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Function Code	Parameter No.	Parameter Description	Default Value	ModBus Address	Conversion Index	Type	Unit
	23 - 1	Maintenance Reset					
03	23-15	Reset Maintenance Word	[0] Do not reset	23149	-	Uint8	N/A
03	23-16	Maintenance Text	0 N/A	23159	0	VisStr[20]	N/A
	23 - 5	Energy Log					
03	23-50	Energy Log Resolution	[5] Last 24 Hours	23499	-	Uint8	N/A
03	23-51	Period Start	ExpressionLimit	23509	0	TimeOfDay	N/A
03	23-53	Energy Log	0 N/A	23529	0	Uint32	N/A
03	23-54	Reset Energy Log	[0] Do not reset	23539	-	Uint8	N/A
	23 - 6	Trending					
03	23-60	Trend Variable	[0] Power [kW]	23599	-	Uint8	kW
03	23-61	Continuous Bin Data	0 N/A	23609	0	Uint32	N/A
03	23-62	Timed Bin Data	0 N/A	23619	0	Uint32	N/A
03	23-63	Timed Period Start	ExpressionLimit	23629	0	TimeOfDay	N/A
03	23-64	Timed Period Stop	ExpressionLimit	23639	0	TimeOfDay	N/A
03	23-65	Minimum Bin Value	ExpressionLimit	23649	0	Uint8	N/A
03	23-66	Reset Continuous Bin Data	[0] Do not reset	23659	-	Uint8	N/A
03	23-67	Reset Timed Bin Data	[0] Do not reset	23669	-	Uint8	N/A
	23 - 8	Payback Counter					
03	23-80	Power Reference Factor	100%	23799	0	Uint8	%
03	23-81	Energy Cost	1.00 N/A	23809	-2	Uint32	N/A
03	23-82	Investment	0 N/A	23819	0	Uint32	N/A
03	23-83	Energy Savings	0 kWh	23829	75	Int32	kWh
03	23-84	Cost Savings	0 N/A	23839	0	Int32	N/A

NOTE :

1. Function Code 03 is for read single or multiple register.
2. Function Code 06 is for write single register.
3. Function Code 10 is for write multiple register.
4. Function Code 06 or 10 can be used instead of 03 in above table for the parameters which are allowed to change from danfoss drive.

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