

xD1000 VFD complete parameters list



Reference menu	Reference mode 402 External reference value 403 Integrated display jog dial reference 801 Speed reference 59.1.1 Internal PID reference 806 PID reference value Monitoring mode 402 External reference value 403 Integrated display jog dial reference 801 Speed reference 802 Output frequency 803 Motor current 804 PID error 805 PID Feedback 806 PID reference 807 Main voltage 808 Motor thermal state 809 Drive thermal state 810 Output power 811 Product status [-00] Drive ready [-01] Drive running [-02] Acceleration [-03] Deceleration [-04] DC injection braking in progress [-05] Current limitation state [-06] Freewheel stop control or freewheel state [-07] Auto-adapted deceleration [-08] Controlled stop on mains phase loss [-09] Auto-tuning in progress [-10] Fast stop state [-11] No line power state [-12] Drive in back state [-13] Remote control mode [-14] Local control mode 900- MAINTENANCE MENU 901 State of logic inputs L11 to L14 902 State of the logic output LO1 and relay R1 903 Display of high speed value 904 Drive Power rating 037 075 U15 U22 U30 U40 U55 U75 D11 D15 D18 D22 905 Drive voltage rating N4 906 Specific Product Number 907 Card 1 Software Version 908 Card 2 Software Version 909 Run elapsed time display 910 Power On time display 911 Fan time display 912 Process Elapsed time 913 Modbus communication status 914 Last fault 1 915 State of drive at fault 1 916 Last fault 2 917 State of drive at fault 2 918 Last fault 3 919 State of drive at fault 3 920 Last fault 4 921 State of drive at fault 4 999 HMI Password F000 Fault list F001 Precharge F002 Unknown drive rating
Monitoring parameter	
Drive status	
Maintenance menu	

Detected fault codes	F003 Unknown or incompatible power board F004 Internal serial link F005 Invalid industrialization zone F006 Current measurement circuit F007 Internal thermal sensor fault F008 Internal CPU F009 Overbraking F010 Overcurrent F011 Drive overheat F012 Process overload F013 Motor overload F014 1 Output phase loss F015 3 Output phases loss F016 Main overvoltage F017 Input phase loss F018 Motor short-circuit F019 Ground short-circuit F020 IGBT short circuit F021 Load short circuit F022 Modbus interruption F024 HMI communication F025 Overspeed F026 PI feedback fault F027 IGBT overheat F028 Autotuning fault F029 Process underload fault F030 Undervoltage F031 Incorrect configuration F032 Invalid configuration F033 A11 current loss F034 Download invalid configuration F035 Pre-charge resistor protection fault Configuration mode 301 Standard motor frequency [00] 50Hz IEC [01] 60Hz NEMA 401 Reference channel 1 [01] Terminal [163] Remote display [164] Modbus [183] Integrated display with Jog dial 501.0 Acceleration 0.0 s to 999.9s (3.0s*) 501.1 Deceleration 0.0 s to 999.9s (3.0s*) 512.0 Low speed 0.0Hz to High speed (0Hz*) 512.2 High speed Low speed to Max frequency (50/ 60Hz determined by 301 parameter value) 302 Rated Motor Power NCV -5 to NCV +2 (as per drive rating*) 305 Rated motor current (0.25-1.5In) (depending on drive rating) 204.0 A11 type [5U]* 0-5V [10U] 0-10V [0A] x-y mA [LIU] Logic inputs 101 Store customer parameter set [00]* Disabled [01] Stores current configuration 102 Factory/recall customer parameter set [00]* Disabled [02] Customer configuration [64] Factory set configuration COMPLETE MENU 100 Macro-configuration [00] Start/stop [04] PID regulation [09] Speed 200- I/O MENU 201 Type of control [00]* 2-wire control [01] 3-wire control 202 2-wire type control
Short menu	
Macro	
I/O menu	

I/O menu (cont.)	[00] Level [01]* Transition [02] Forward priority 203 Logic inputs type [00]* Positive [01] Negative internal supply [02] Negative external supply 204- A11 CONFIGURATION MENU 204.0 A11 type [5U]* Voltage: 0-5Vdc [10U] Voltage: 0-10Vdc [0A] Current: x-y mA [LIU] Logic inputs 204.1 A11 current scaling parameter of 0% 0-20mA (4mA*) 204.2 A11 current scaling parameter of 100% 0-20mA (20mA*) 204.3 A11 filter time 0 s - 10 s (0 s*) 205 R1 Assignment [00] Not assigned [01]* No error detected [02] Drive run [04] Frequency threshold reached [05] HSP reached [06] I threshold reached [07] Frequency reference reached [08] Motor thermal reached [21] Process underload fault [22] Process overload fault [123] Loss of 4-20mA signal 206- LO1 CONFIGURATION MENU 206.0 LO1 Assignment [00]* Not assigned [01] No error detected [02] Drive run [04] Frequency threshold reached [05] HSP reached [06] I threshold reached [07] Frequency reference reached [08] Motor thermal reached [21] Process underload fault [22] Process overload fault [123] A11 alarm 4-20mA [126] Auxiliary pump active 206.1 LO1 status (output active level) [00]* Positive : hight activation level [01] Negative : low activation level 207 Process overload time delay 0 to 100 s (0 s*) 208 Process overload threshold 70-150% of nominal motor current (90%*) 209 Process overload fault duration 0 to 6 min (0 min*) 210 Process underload time delay 0 to 100 s (0 s*) 211 Process underload threshold 20-100% of nominal motor current (60%*) 212 Process underload fault duration 0 to 6min (0min*) 213 Motor frequency threshold 0 to 400Hz (50Hz* or 60Hz) 214 Motor current threshold 0 to 1.5In (In*) 215 Motor thermal state threshold 0 to 118% (100%*) 216.0 AOI assignment [00]* Not assigned [129] Motor current [130] Output frequency [131] Ramp output [135] PID reference [136] PID feedback [137] PID error
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I/O menu (cont.)	[139] Output power [140] Motor thermal state [141] Drive thermal state 216.1 AO1 type [10U] Voltage: 0-10 Vdc [0A]* Current: 0-20 mA [4A] Current: 4-20 mA 217 Speed Template [BSD]*Standards [BLS] Pedestal [BNS] Deadband [BNS0] Deadband at 0% 300- MOTOR CONTROL MENU 301 Standard motor frequency [00]* 50Hz [01] 60Hz 302 Rated motor power Drive power (-5 to +2) depending on drive rating 303 Rated motor cos phi 0.51 (depending on drive rating) 304 Rated motor voltage 360 to 460V (380V*) 305 Rated motor current 0.25 to 1.5In (depending on drive rating) 306 Rated motor frequency 10 to 400Hz (50Hz*) 307 Rated motor speed 0-24000rpm (depending on drive rating) 308 Maximum frequency 10 to 400Hz (60Hz*) 309 Motor control type [00] Performance: Vector control [03]* Standard: U/F 2 points [06] Pump: U ² /F 310 IR compensation 25 to 200% (100%*) 311 Slip compensation 0 to 150% (100%*) 312 Frequency loop stability 0 to 100% (20%*) 313 Frequency loop gain 0 to 100% (20%*) 314 Flux Profile 0 to 100% (20%*) 315 Switching frequency 2 to 12kHz (4kHz*) 317 Motor noise reduction [00]* No [01] Yes 318 Auto-tuning [00]* No: Use factory parameters of standard motors [01] Yes: Request auto-tuning [02] Done: Auto-tuning has already been performed 319 Motor parameter choice [00]* Nominal motor power [01] Nominal motor cos phi 320 Vector control 2 points [00]* No [01] Yes 321 Max voltage of constant power 360 to 460V (380V*) 322 Max frequency of constant power 50 to 400Hz (50Hz*) 323 Dual Rating [00] Normal duty [01]* Heavy duty 400- CONTROL MENU 401 Reference channel 1 [01] Terminal [163] Remote display [164] Modbus [183] Integrated display with Jog dial 402 External reference value -400 to 400Hz
Motor control menu	
Control menu	

Control menu (cont.)	403 Integrated display jog dial reference 0 to 100% 404 Reverse inhibition [00]* No [01] Yes 405 Stop key priority [00]* No: Stop inactive [01]* Yes: Stop active 406 Channel configuration [01]* Combined mode [02] Separate mode 407 Command channel 1 [01]* Terminals [02] Local [03] Remote display [10] Modbus 408 Forced local assignment [00]* No: Function inactive [11H]L11 active High [12H]L12 active High [13H]L13 active High [14H]L14 active High [1UH]LIU active High 409 Forced local reference [00]* Not assigned [01] Terminal [163] Remote display [183] Integrated jog dial 500- FUNCTION MENU 501- RAMP MENU 501.0 Acceleration 0.0 to 999.9s (3.0s*) 501.1 Deceleration 0.0 to 999.9s (3.0s*) 501.2 Ramp shape assignment [00]* Linear [01] S shape [02] U shape 501.3 Ramp switching commutation [00]* Not assigned [11H]L11 active High [12H]L12 active High [13H]L13 active High [14H]L14 active High [1UH]LIU active High [1L1]L11 active low [1L2]L12 active low [1L3]L13 active low [1L4]L14 active low [1UL]LIU active low 501.4 Acceleration 2 0.0 to 999.9s (5.0s*) 501.5 Deceleration 2 0.0 to 999.9s (5.0s*) 501.6 Decel Ramp Adaptation assignment [00] Function deactivated [01]* Function activated [02] Motor brake 502- STOP CONFIGURATION MENU 502.0 Type of stop [00]* Ramp stop [03] DC injection stop [08] Fast stop [13] Free wheel stop 502.1 Freewheel stop assignment [00]* Not assigned [1L1]L11 active Low to stop [1L2]L12 active Low to stop [1L3]L13 active Low to stop [1L4]L14 active Low to stop [1UL]LIU active Low to stop 502.2 Fast stop assignment [00]* Not assigned [1L1]L11 active Low to stop [1L2]L12 active Low to stop [1L3]L13 active Low to stop [1L4]L14 active Low to stop [1UL]LIU active Low to stop 502.3 Ramp divider 1 to 10 (4*)
Function / Ramp menu	
Function / Stop configuration menu	

The (+) indicates a parameter factory setting.

xD1000 VFD complete parameters list

Function reverse direction	502.4DC injection assignment [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High
	502.5DC injection level 0.1 to 1.41In (0.64 In*)
DC injection function	502.6IDC injection time for DCLI 0.1 to 30 s (0.5 s*)
	502.7DC injection level 2 0.1 to 1.41In (0.5 In*)
Jog function	502.8Injection standstill braking time 0.1 to 30 s (0.5 s*)
	503 Reverse direction [00]* Not assigned [L1H] L1 active High [L2H] L2 active High [L3H] L3 active High [L4H] L4 active High [LUH] LIU active High
Motor potentiometer function	504-AUTO DC INJECTION MENU 504.0Automatic DC injection [00] Function inactive, no DC injected current. [01]* Time limited DC injection [02] Continuous DC injection
	504.1Automatic DC injection current 0 to 120% of nominal motor current (70%*)
Preset speed function	504.2Automatic DC injection time 0.1 to 30s (0.5s*)
	505.0Jog assignment [00]* Not assigned [L1H] L1 active High [L2H] L2 active High [L3H] L3 active High [L4H] L4 active High [LUH] LIU active High
Motor thermal protection	505.1Jog frequency 0 to 10Hz (*5Hz)
	506-Speed up and down 506.0Up speed command [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High
Phase loss	506.1Down speed command [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High
	506.2Store [00]* No [01] RAM [02] ROM
Speed limitation function	506.3Clear the function [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH] LIU active High [159] Acceleration and deceleration with command active high
	506.4Reactivity of +/- speed around ref. 0 to 100% (0%*)
Speed limitation function	507-PRESET SPEED MENU 507.02 Preset speeds [00]* Not assigned [L1H] L1 active High [L2H] L2 active High [L3H] L3 active High [L4H] L4 active High [LUH] LIU active High
	507.14 Preset speeds same as 2 Preset speeds
Speed limitation function	507.28 Preset speeds same as 2 Preset speeds
	507.3 Preset speed 2 0 to 400Hz (10Hz*)

Jump frequency	507.4 Preset speed 3 0 to 400Hz (15Hz*)
	507.5 Preset speed 4 0 to 400Hz (20Hz*)
PID Control function	507.6 Preset speed 5 0 to 400Hz (25Hz*)
	507.7 Preset speed 6 0 to 400Hz (30Hz*)
PID Control function	507.8 Preset speed 7 0 to 400Hz (35Hz*)
	507.9 Preset speed 8 0 to 400Hz (40Hz*)
PID Control function	508 Skip frequency 0 to 400Hz (0Hz*)
	59-PID MENU 59.00 PID feedback assignment [00]*Not assigned [01] Terminal
PID Control function	59.01 PID proportional gain 0.01 to 100 (1*)
	59.02 PID integral gain 0.01 to 100 (1*)
PID Control function	59.03 PID derivative gain 0.00 to 100.0 (0*)
	59.04 PID feedback scale factor 0.1 to 100.0 (1.0*)
PID Control function	59.05 Activation internal PID reference [00]*No [01] Yes
	59.06 2 preset PID assignment [00]*Not assigned [L1H]L1 active High [L2H]L2 active High [L3H]L3 active High [L4H]L4 active High [LUH]LIU active High
PID Control function	59.07 4 preset PID assignment [00]*Not assigned [L1H]L1 active High [L2H]L2 active High [L3H]L3 active High [L4H]L4 active High [LUH]LIU active High
	59.08 2 preset PID reference 0 to 100% (25%*)
PID Control function	59.09 3 preset PID reference 0 to 100% (50%*)
	59.10 4 preset PID reference 0 to 100% (75%*)
PID Control function	59.11 Internal PID reference 0 to 100% (0%*)
	59.12 PID reference ramp 0 to 99.9s (0s*)
PID Control function	59.13 PID min value reference 0 to 100% (0%*)
	59.14 PID max value reference 0 to 100% (100%*)
PID Control function	59.15 PID predictive speed 0.1 to 400Hz (0.0*)
	501.4 Acceleration 2 0.0 to 999.9s (5s*)
PID Control function	59.16 PID correction reverse [00]*No, no negative speed [01] Yes, no negative speed [02] No, allow negative speed [03] Yes, allow negative speed
	59.17 PID auto/manual assignment [00]*Not assigned [L1H] to [L4H] L1 to L4 active High [LUH]LIU active High
PID Control function	59.18 PID manual reference [00]*No [01] Terminal [183]Integrated jog dial
	512.1 Low speed operating time 0.1 to 999.9s (0s*)
PID Control function	59.19 PID: wake up level 0 to 100% (0%*)

PID Control function (cont.)	59.20 PID: Wake up threshold 0 to 100% (0%*)
	59.21 Sleep offset threshold 0 to High speed (0Hz*)
PID Control function (cont.)	59.22 PID feedback supervision threshold 0 to 100% (0%*)
	59.23 PID supervision function time delay 0 to 600s (0s*)
PID Control function (cont.)	59.24 Max. frequency detection Hysteresis 0 to 50Hz (0Hz*)
	59.25 PID feedback supervision [00]*Not assigned [01] Free wheel [04] fallback speed
PID Control function (cont.)	59.26 Fallback speed 0 to High speed (0Hz*)
	510-PUMP SUB-MENU 207 Process overload time delay 0 to 100 s (0 s*)
PID Control function (cont.)	208 Process overload threshold 70-150% of nom. motor current (90%*)
	209 Process overload fault duration 0 to 6 min (0 min*)
PID Control function (cont.)	210 Process underload time delay 0 to 100 s (0 s*)
	211 Process underload threshold 20-120% of nom. motor current (60%*)
PID Control function (cont.)	212 Process underload fault duration 0 to 6min (0min*)
	510.0 Selecting operating mode [00]*Single frequency conversion mode [01]Single frequency conversion combined with auxiliary pump mode
PID Control function (cont.)	510.1 Starting frequency of auxiliary pump 0 to 60Hz (50Hz*)
	510.2 Time delay before starting aux.pump 0 to 999.9s (2s*)
PID Control function (cont.)	510.3 Auxiliary pump ramp reaching 0 to 999.9s (2s*)
	510.4 Auxiliary pump stop frequency 0 to 60Hz (0Hz*)
PID Control function (cont.)	510.5 Auxiliary pump stop time delay 0 to 999.9s (2s*)
	510.6 Auxiliary pump stop ramp 0 to 999.9s (2s*)
PID Control function (cont.)	510.7 Zero flow detection period 0 to 20min (0min*)
	510.8 0 flow detection activation threshold 0 to 400Hz (0Hz*)
PID Control function (cont.)	510.9 Zero flow detection offset 0 to 400Hz (0Hz*)
	511-CURRENT LIMITATION MENU 511.0 2nd current limitation commutation [00]*Not activated [L1H]L1 active High [L2H]L2 active High [L3H]L3 active High [L4H]L4 active High [LUH]LIU active High [L1L]L1 active Low [L2L]L2 active Low [L3L]L3 active Low [L4L]L4 active Low [LUL]LIU active Low
PID Control function (cont.)	511.1 Current limitation 0.25 to 1.5In (1.5In*)
	511.2 Current limitation 2 0.25 to 1.5In (1.5In*)
PID Control function (cont.)	512-SPEED LIMIT MENU 512.0 Low speed 0Hz to high speed (0Hz*)
	512.1 Low speed operating time 0.1 to 999.9s (0s*)
PID Control function (cont.)	512.2 High speed Low speed to Max frequency (50/60Hz determined by 301 parameter value)

Speed limitation function (cont.)	512.3 High speed assignment [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH]LIU active High
	512.4 High speed assignment [00]* Not assigned [L1H] to [L4H] L1 to L4 active High [LUH]LIU active High
Speed limitation function (cont.)	512.5 High speed 2 Low speed to Max.frequency(50/60Hz*)
	512.6 High speed 3 Low speed to Max frequency (50 or 60Hz*)
Speed limitation function (cont.)	512.7 High speed 4 Low speed to Max.frequency (50 or 60Hz*)
	513 Cooling fan control [00] Fan runs when drive runs [01]* Thermal control
Speed limitation function (cont.)	600-FAULT DETECTION MANAGEMENT MENU 601 Detected fault reset assignment [00]* Not assigned [L1H]L1 active High [L2H]L2 active High [L3H]L3 active High [L4H]L4 active High [LUH]LIU active High
	602-AUTOMATIC RESTART MENU 602.0 Automatic restart [00]* No [01] Yes
Speed limitation function (cont.)	602.1 Max. automatic restart [00]* 5 min [01] 10 min [02] 30 min [03] 1 hour [04] 2 hours [05] 3 hours [06] Infinite
	603 Catch on the fly [00]* Function inactive [01] Function active
Speed limitation function (cont.)	604-MOTOR THERMAL PROTECTION MENU 604.0 Motor thermal current 0.2-1.5In (According to drive rating*)
	604.1 Motor protection type [01]* Self-ventilated [02] Motor-ventilated
Speed limitation function (cont.)	604.2 Overload fault management [00] Detected fault ignored [01]* Free wheel stop [08] DC injection stop
	604.3 Motor thermal state memo [00]* thermal state not stored at power-off [01]thermal state is stored at power-off
Speed limitation function (cont.)	605 Output Phase loss [00] Deactivated [01]* Tripping then freewheel stop
	606 Input Phase loss [00] Detected fault ignored [01]* Detected fault with freewheel stop [08] DC injection stop
Speed limitation function (cont.)	607-UNDERVOLTAGE MENU 607.0 Undervoltage detected fault management [00]* Detected fault and R1 relay set 0 [01] Detected fault and R1 relay set 1
	607.1 Undervoltage prevention [00]* No action (freewheel) [02] Stop following an adjustable ramp
Speed limitation function (cont.)	607.2 Undervoltage ramp deceleration time 0.0 to 10.0s (1.0s*)
	607.3 Precharge resistor protection level 430-560VDC (0 V* with protection removed)
Speed limitation function (cont.)	608 IGBT test

Modbus/Det. fault inter-inhibit	[00]* No test [01] Starting test
	609 4-20mA loss Behaviour [00]* Detected fault ignored [01] Freewheel stop [08] DC injection stop
Modbus/Det. fault inter-inhibit	610 Detected fault inhibition assignment [00]* Function inactive [L1H] to [L4H] L1 to L4 active High [LUH]LIU active High
	611 Modbus detected fault management [00]* Detected fault ignored [01] Freewheel stop [08] DC injection stop
Modbus/Det. fault inter-inhibit	612 Degraded line supply operation [00]* No [01] Yes
	613 Reset power run [00]* No [03] Reset drive running time [04] Reset power-on time [07] Reset fan operation time
Modbus/Det. fault inter-inhibit	614 Reset all previous detected faults via Run key of HMI [00]* Deactivated [01] Active
	700-COMMUNICATION MENU 701 Modbus address Off to 247 (off*)
Modbus/Det. fault inter-inhibit	702 Modbus baud rate [24] 4.8 kbps [28] 9.6 kbps [32]* 19.2 kbps [36] 38.4 kbps
	703 Modbus format [02] 801 [03]* 8E1 [04] 8n1 [05] 8n2
Modbus/Det. fault inter-inhibit	704 Modbus time out 0.1 to 30s (10s*)
	705-INPUT SCANNER MENU 705.0 Com scanner read address parameter 1 0C81*
Modbus/Det. fault inter-inhibit	705.1 Com scanner read address parameter 2 219C*
	705.2 Com scanner read address parameter 3 0000
Modbus/Det. fault inter-inhibit	705.3 Com scanner read address parameter 4 0000
	706-OUTPUT SCANNER MENU 706.0 Com scanner write address parameter 1 2135*
Modbus/Det. fault inter-inhibit	706.1 Com scanner write address parameter 2 219A*
	706.2 Com scanner write address parameter 3 0000
Modbus/Det. fault inter-inhibit	706.3 Com scanner write address parameter 4 0000
	707-INPUT SCANNER ACCESS MENU 707.0 Com scanner read address value 1 0C81*
Modbus/Det. fault inter-inhibit	707.1 Com scanner read address value 2 219C*
	707.2 Com scanner read address value 3 8000
Modbus/Det. fault inter-inhibit	707.3 Com scanner read address value 4 8000
	708-OUTPUT SCANNER ACCESS MENU 708.0 Com scanner write address value 1 CMD value*
Modbus/Det. fault inter-inhibit	708.1 Com scanner write address value 2 LFRD value*
	708.2 Com scanner write address value 3 8000
Modbus/Det. fault inter-inhibit	708.3 Com scanner write address value 4 8000

The (*) indicates a parameter factory setting.